

Docket No. 50-289

DEC 11 1979

MEMORANDUM FOR: Harley Silver, Project Manager
Three Mile Island - 1 RESTART

FROM: Frank G. Pagano, Chief
Emergency Preparedness Task Force Teams

SUBJECT: EMERGENCY PLANNING SAFETY EVALUATION FOR THREE MILE ISLAND -
UNIT ONE RESTART

The emergency preparedness review team has conducted a review of the Emergency Plan for Three Mile Island Nuclear Station Unit 1 in order to address the issues contained in the restart order dated August 9, 1979. Enclosed is the safety evaluation of the review to comply with the August 9, 1979 order. A supplement to this safety evaluation will be needed to address all generic emergency planning issues now under review for upgrading.

Frank G. Pagano, Chief
Emergency Preparedness Task Force Teams

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As stated

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ITEM 3

It was ordered that the licensee take the following action:

"3. The licensee shall improve his emergency preparedness in accordance with the following:

- (a) Upgrade emergency plans to satisfy Regulatory Guide 1.101 with special attention to action level criteria based on plant parameters.
- (b) Establish an Emergency Operations Center for Federal, State and Local Officials and designate a location and an alternate location and provide communications to plant.
- (c) Upgrade offsite monitoring capability, including additional thermoluminescent dosimeters or equivalent.
- (d) Assess the relationship of State/Local plans to the licensee plans so as to assure the capability to take emergency actions.
- (e) Conduct a test exercise of its emergency plan."

The licensee submitted an upgraded emergency plan, "Metropolitan Edison Company Emergency Plan for Three Mile Island Nuclear Station Unit 1, Revision 0, October 1979, Revision 1, November 1979." The emergency plan conforms to the recommendations set forth in Regulatory Guide 1.101, Emergency Planning for Nuclear Power Plants, Revision 1, March 1977, except that the emergency plan conforms to the more recent recommendations set forth in NUREG-0610, Draft Emergency Action Level Guidelines For Nuclear Power Plants, September 1979.

The upgraded emergency plan consists of ten sections and ten appendices. Included in the appendices are supporting emergency plans for the Commonwealth of Pennsylvania

and Cumberland, Dauphin, Lancaster, Lebanon, and York counties. These are the only counties within the 10 mile EPZ.

The emergency plan describes the relationship of the State and related county plans to the facility emergency plan. The development of facility emergency plan was coordinated with the State and local government officials and is consistent with State and local plans.

The emergency plan for the facility describes the program for coping with emergencies within and beyond the site boundary. The emergency plan identifies an emergency planning zone of a radius of 10 miles around the facility for which emergency planning consideration for the plume exposure pathway has been given.

A classification system of four classes of emergency action levels has been established for the spectrum of emergency situations. These classes are: (1) Notification of Unusual Event, (2) Alert, (3) Site Emergency, and (4) General Emergency. Each class is associated with examples of initiating conditions.

The notification and alert classes are to provide early and prompt notification of minor events which could lead to more serious consequences given additional operator error or additional equipment failure or which might be indicative of more serious conditions which are not yet fully realized. A gradation is provided to assure fuller response preparation for more serious indicators. The site emergency class reflects conditions where some significant releases are likely or are occurring but where a core melt situation is not indicated based on current information. In this situation full mobilization of emergency personnel in the near site environs is indicated as well as dispatch of monitoring teams and associated upgraded communications. The general emergency class involves actual or imminent substantial core degradation or melting with the potential for loss of containment.

The initiation of emergency measures offsite will be provided through communications on a round-the-clock basis with the Dauphin County Emergency Operations Center and the Pennsylvania Emergency Management Agency (PEMA) Emergency Operations Center. The means of notification will be provided by telephone and/or radio communication systems. The notification of other local, State and Federal authorities (other than the NRC) which may have a supportive response role will be provided by PEMA.

For radiological incidents, in-plant monitors together with environmental dose determinations will be used for evaluating the release of radioactive materials. The instrumentation for determining the extent and magnitude of accidental releases that originate within the plant is listed in the emergency plan. Assessment techniques will employ the indications provided by the above instrumentation together with meteorological data for estimating projected doses to the environs. Criteria have been established for notification and participation of offsite agencies which are in accordance with NUREG-0610. Also, specific criteria have been selected for implementing protective measures both within and outside the site boundary for the protection of the public health and safety which are consistent with EPA protective action guides for direct exposure and consistent with draft FDA guidance for the food pathway.

The emergency plan provides for facilities and equipment for offsite monitoring. The licensee uses a thermoluminescent dosimeter (TLD) program. The TLD's are located such that at least two are located in each 22 1/2^o sector surrounding the facility, with one on the site boundary and the other 4 to 5 miles out from the site. Other TLD's are located in areas of interest (i.e. near more densely populated areas). The NRC has a similar number of TLD's surrounding the facility.

The licensee's plans provide for coordinating with outside agencies. Written agreements have been reached with the following organizations: General Public Utilities Corporation; United States Coast Guard; Department of the Army; Commonwealth of

Pennsylvania Bureau of Radiological Health; Pennsylvania State Police; Middletown Police Department; Bainbridge Fire Company; Liberty Fire Company; Londonderry Township Fire Company; Union Hose Company; Rescue Hose Company No.3; Civil Defense of Dauphin County; Civil Defense of York County; Civil Defense of Lancaster County; Pennsylvania Emergency Management Agency; Consolidated Rail Corporation; U.S. Nuclear Regulatory Commission; Miles Newman, M.D.; William Albught III, M.D.; John Barnoski, M.D.; Hershey Medical Center; Radiation Management Corporation; and the U.S. Department of Energy.

PEMA is the lead State Agency for the coordination of radiological emergency response plans prepared by the State and local governments. PEMA is also the lead State Agency for coping with the offsite consequences resulting from a radiological incident at the facility. PEMA will exercise coordination and control; however, the Governor retains directional control. The Department of Environmental Resources, Bureau of Radiation Protection (BRP) is responsible for gathering and evaluating technical information in a radiological incident. The BRP will provide technical advice and recommendations on protective actions to PEMA and the Governor.

An onsite emergency organization has been established including specific assignments and responsibilities for the unit personnel. The Shift Supervisor has been designated as the individual responsible for execution of the emergency plan. In the event of his absence, a specific line of succession is provided to ensure that continuous coverage is provided onsite by a senior plant staff member.

An offsite emergency support organization staffed by personnel from the normal station

organization, the normal technical support group, and consultants has been established to provide technical and logistics support in the event of a radiological incident. Also, the plan identifies other persons not employed by the licensee, such as area physicians, with whom arrangements and agreements have been made for providing specialized assistance if needed to cope with emergency situations.

In order to ensure effective coordination and control of activities among the various parties involved in response operations, a near site, primary, Emergency Operating Center (EOC) will be established at the TMI Observation Center. The backup location for the Operations Center will be the Crawford Station which is located approximately three miles north of the facility. This center would be manned by the licensee and representatives of the State Bureau of Radiation Protection.

The State emergency operations center (State EOC) is located in Harrisburg. During an emergency representatives from all State Agencies assemble in the State EOC to manage the State support efforts. A communications system ties all area and county emergency operations centers into the State EOC. The State EOC has telephone communications with the near site EOC at the TMI Observation Center.

The plant emergency facilities provide first aid and decontamination capability for the medical treatment of contaminated personnel. Monitoring equipment, decontamination supplies, and medical supplies are available at strategic locations within the plant. Examples of specific equipment and supplies are detailed in the plan. All unit personnel are instructed in radiation protection procedures. Various members of the plant organization have received first aid training and at least one person with such training will be onsite at all times. Arrangements have been made with several

physicians for medical assistance and/or special consultation services pertaining to radiological injuries. In the event it is necessary to transfer accident victims to offsite medical facilities, written agreements have been made with local fire and rescue groups for emergency transportation services. Written agreements have been made with the Hershey Medical Center in Hershey, Pennsylvania for the offsite treatment of individuals affected by radiological emergencies, and also with the Radiation Management Corporation as a backup for medical treatment in the event such services are required.

The emergency plan includes measures for coping with fire emergencies that conform with the applicable provisions of Regulatory Guide 1.701. In particular, satisfactory written agreements are in effect with several fire companies which assures the availability of additional personnel and equipment for fire fighting support when called upon. In addition, the licensee has provided for annual training of these personnel to assure their necessary familiarity with the plant, access procedures, and radiation precautions, and for their participation in an annual drill or test exercise.

All facility personnel will receive initial training and annual retraining on the emergency plan and the implementing procedures as well as radiation protection. Specialized training will be provided for the directors of the plant emergency organization, personnel responsible for accident assessment, radiological monitoring teams, fire brigade, repair and damage control teams, first aid and rescue teams and other support personnel. Offsite support groups whose assistance may be required in emergencies will be provided special training. Training will also be conducted for the offsite medical staff who may be involved in medical support activities.

The emergency plan will be tested by periodic drills covering various facets of emergency preparedness. Areas to be covered include radiological surveys, fire fighting, repair and damage control, communication and emergency treatment involving injury and rescue. An annual drill will be conducted which involves the entire onsite emergency organization, headquarters staff, and offsite agencies. Provisions also exist for annual exercises involving the participation of offsite service support groups and State and local agencies.

The plan provides criteria for the protection of personnel involved in recovery following an accident. A long term recovery organization has been established that will be implemented according to the specific nature of the emergency situation.

The emergency plan and procedures will be reviewed by the Emergency Planning Coordinator annually and audited by an independent group at least once every two years. Provisions are incorporated into the plan for dissemination of plan revisions and/or applicable procedure changes to the appropriate offsite emergency support organizations. All written agreements with offsite support groups will be reviewed and updated at least every year.

Procedures to implement the facility emergency plan must be reviewed and approved by the NRC including the capability to implement such procedures prior to restart of the facility.

Based on our review of the licensee's upgraded emergency plan we conclude that the licensee is in compliance with Items 3 a, b, c, & d of the Order. A test exercise of the emergency plan must be made prior to restart of the facility to meet the requirement of Item 3e of the Order.

ITEM 4.

It was ordered that the licensee make reasonable progress toward satisfactory completion of the following action:

"4. Improve emergency preparedness in accordance with the following:

- (a) modify emergency plans to address changing capabilities of plant instrumentation,
- (b) extend the capability to take appropriate emergency actions for the population around the site to a distance of ten miles."

The licensee's emergency plan is consistent with the recommendations of NUREG-0610, "Draft Emergency Action Level Guidelines For Nuclear Power Plants, September 1979." The emergency plan has established four classes of emergency action levels, each with associated examples of initiating conditions. The examples of initiating conditions for each class will form the basis for the determination of specific plant instrumentation readings which will initiate the emergency class. The licensee is currently conducting engineering analyses to determine the design and installation requirements for equipment required by NUREG-0578. The plan and procedures will be modified when the new instrumentation is available.

The plan has established a 10 mile emergency planning zone. The plan contains response plans of certain State and local agencies, including arrangements with the appropriate agencies, for coping with the consequences of a radiological incident out to a minimum distance of 10 miles from the site. The response plans of the State and local agencies have provisions for protective actions, including evacuation, for the 10 mile emergency planning zone.

Based on our review of the licensee's upgraded emergency plan we conclude that the licensee has demonstrated reasonable progress toward completion of this item of the Order. The staff will issue a safety evaluation supplement on additional upgrading actions concerning emergency planning prior to restart of the facility. This will

include conformance with the provisions of the final NRC rule on Emergency Planning which will be issued in Proposed form in December 1979.