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UNITED STATES OF AMERICA
NUCLEAR REGULATORY COMMISSION

BEFORE THE ATOMIC SAFETY AND LICENSING BOARD

In the Matter of	)	
	)	
METROPOLITAN EDISON COMPANY	)	Docket No. 50-289
	)	(Restart)
(Three Mile Island Nuclear Station, Unit No. 1)	)	

LICENSEE'S MOTION FOR CLARIFICATION, OR IN THE ALTERNATIVE FOR RECONSIDERATION, OF THE BOARD'S RULINGS ON THE FUEL HANDLING BUILDING ESF FILTER SYSTEM

In its Partial Initial Decision ("PID") of December 14, 1981, the Board reviewed the adequacy of Licensee's efforts to comply with the Commission's order that the TMI Unit 1 and 2 fuel handling areas and ventilation systems be separated. The Board found that, on the basis of practical considerations, it was not feasible to physically separate the Unit 1 and Unit 2 fuel handling areas through installation of a floor-to-ceiling barrier wall. See PID ¶ 1261. Instead, the Board evaluated Licensee's proposal to physically isolate the Unit 1 auxiliary building from the Unit 1 fuel handling building and to modify the ventilation and filtration systems in order to minimize the communication of air between the units. See PID ¶ 1262.

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In conjunction with its plans for isolation of the Unit 1 auxiliary building and modification of the ventilation and filtration systems, Licensee also committed to add a new engineered safety feature ("ESF") ventilation system to serve the Unit 1 fuel handling building operating floor. The purpose of the new filter system, which simply filters effluents prior to discharge to the atmosphere, is not to provide further separation between Units 1 and 2 but to provide a filter system meeting the design guidance of Regulatory Guide 1.52 and to further limit offsite exposures which might result from a Unit 1 fuel handling accident. In this regard, the Board found that "the purpose of the ESF filter system is not protection against accidents in the Unit 2 fuel handling building, but rather to protect against Unit 1 fuel handling accidents * * *." See PID ¶ 1266. Since the Staff had reasoned that there would be no fuel movements in the TMI-1 fuel handling area until the first Unit 1 refueling outage after restart, the Board concurred in the Staff's assessment that the ESF filter system modification need not be installed until that time. Id.

Recent events at TMI-1 now make it likely that there may be a need to move Unit 1 fuel prior to restart and therefore prior to the first refueling outage after restart. Because neither Licensee nor the Staff foresaw this possibility, Licensee now seeks clarification, or in the alternative reconsideration, of the Board's requirement that "whenever Unit 1 fuel movements are in progress the engineered

safety feature filtration system for Unit 1 will be in operation." See PID ¶ 1326(a). In particular, Licensee requests the Board to clarify the applicability of this condition limiting it to movements in the Unit 1 fuel handling building subsequent to the restart of TMI-1. Attached to this motion is the affidavit of Robert W. Keaten. Set forth in Mr. Keaten's affidavit is a brief factual summary of the previously unforeseen circumstances at TMI-1 which may require defueling of the reactor and the results of the offsite dose calculation performed in support of this motion. Licensee requests the Board to receive into evidence Mr. Keaten's affidavit.

Based on the probable cause of the Unit 1 steam generator problems, Licensee has identified a need to inspect for potential chemical attack equipment located in the reactor vessel fabricated from materials of a type similar to that of the steam generator tubes. Licensee is currently planning to undertake this inspection by removing the reactor vessel head and making progressively more detailed inspections, possibly leading to the defueling of the Unit 1 reactor core. Although no definite date has yet been set for removal of the reactor vessel head, for planning purposes Licensee has set April 2, 1982 as the date for head removal. At this time Licensee does not know if it will be necessary to defuel part or all of the reactor core, although prudent planning dictates that Licensee plan for and consider the possibility of such a defueling.

If a substantial number of the fuel assemblies are removed from the reactor vessel it will be necessary to temporarily store the assemblies in the Unit 1 spent fuel pool. This will require the submerged movement of Unit 1 fuel in the Unit 1 fuel handling building. Read literally, the condition required by the Board at paragraph 1326(a) of the PID might be viewed as precluding such fuel movements unless an ESF filter system were in operation in the Unit 1 fuel handling building. Such an ESF filter system has not been installed and could not be installed on a schedule consistent with Licensee's plan to remove the reactor vessel head on April 2, 1982. Therefore, in order to provide for the capability to defuel the Unit 1 reactor and store the fuel in the Unit 1 spent fuel pool, Licensee seeks clarification of the condition set forth at paragraph 1326(a) of the PID.

Licensee doubts that the Board intended to prescribe operating limitations applicable to operations at TMI-1 prior to restart even assuming the Board's decision is made effective by the Commission prior to restart. In any event, there is nothing in the record to suggest that the Board or any of the parties was concerned with the present movement of TMI-1 fuel after a decay time of more than three years. Though unstated in the Staff evaluation of Licensee's proposed ESF filter system, the Staff's concern must have revolved around possible hazards associated with refueling after startup and reirradiation of TMI-1 fuel.

Current licensing guidelines for evaluating the system design features for mitigating the consequences of fuel handling accidents are set forth in Section 15.7.4 of the Standard Review Plan ("SRP"). That section of the SRP provides in part:

> The plant site and dose mitigating ESF systems are acceptable with respect to the radiological consequences of a postulated fuel handling accident if the calculated whole-body and thyroid dose at the exclusion area and the low population zone boundaries are well within the exposure guideline values of 10 CFR Part 100, paragraph 11. "Well within" means 25% or less of the 10 CFR Part 100 exposure guideline values, i.e., 75 rem for the thyroid and 6 rem for the whole-body doses.

In order to assess the potential hazard posed by a fuel handling accident at TMI-1 prior to restart, Licensee has calculated the results of a postulated fuel handling accident without taking credit for any filtering of the discharge from the fuel handling building. For purposes of the calculation it was assumed that TMI-1 had been shut down and that fuel activity has decayed for a period of two-and-a-half years. All other assumptions and methodology used in the analysis were in accordance with the guidelines of SRP 15.7.4 and Regulatory Guide 1.25. The results of the calculation are as follows:

	Exclusion Boundary	LPZ	10 CFR 100 Limit	25% of Limit
Thyroid dose (rem)	8.7×10^{-5}	1.7×10^{-5}	300	75
Whole-body dose (rem)	6.5×10^{-4}	1.3×10^{-4}	25	6.25

On the basis of this analysis, Licensee requests the Board to clarify its condition by requiring operation of a Unit 1 fuel handling building ESF filter system only during the movement of fuel after restart. In addition, Licensee believes three other changes to the Board's wording are appropriate. First, Licensee requests that the condition require the ESF filter system to be "operable" rather than "in operation." This is because actual operation of the ESF filter system is initiated only during accident conditions. The term "operable" is defined in the Unit 1 Technical Specifications and assures that if it becomes necessary to operate the ESF filter system during fuel movements, the system will be available. Second, Licensee believes it more appropriate to require the ESF filter system to be operable only when fuel is in transit within the fuel handling building. Obviously, the ESF filter system serves no purpose if fuel movements are confined to the reactor building. Third, Licensee proposes restricting the condition to movements involving irradiated fuel. If fresh, unirradiated fuel is stored in the fuel handling building, there simply is no need for any filter system to protect against possible fuel handling accidents.

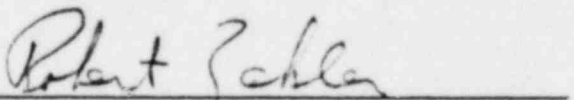
In accordance with this clarification of the PID, Licensee suggests that the license condition recommended by the Staff in its 45-day report at Proposed Finding 2031.9 be modified as follows:

> After the restart of Unit 1 and prior to the movement within the Unit 1 fuel handling building of any irradiated Unit 1 fuel, Licensee shall install, and have operable, an engineered safety features (ESF) filtration system for the Unit 1 fuel handling building. The ESF filtration system for Unit 1 shall be operable whenever irradiated Unit 1 fuel is moved within the Unit 1 fuel handling building.

This change to the Staff's proposed condition will not increase the risk to the public health and safety and will permit Licensee to inspect the Unit 1 reactor vessel for possible degradation in a timely manner.

Respectfully submitted,

SHAW, PITTMAN, POTTS & TROWBRIDGE



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Dated: March 12, 1982