

UNITED STATES OF AMERICA
NUCLEAR REGULATORY COMMISSION

BEFORE THE ATOMIC SAFETY AND LICENSING BOARD

In the Matter of
METROPOLITAN EDISON COMPANY
(Three Mile Island Nuclear
Station, Unit No. 1)

Docket No. 50-289
(Restart)

AMENDMENT TO PETITION TO INTERVENE
IN RESPONSE TO THE REPORTS OF THE
PRESIDENT'S COMMISSION ON THE
ACCIDENT AT THREE MILE ISLAND

During the Special Prehearing Conference, the Board, without specifically ruling thereon, entertained discussion on a time limit for new contentions to be raised following publication of major investigative reports into the Three Mile Island Unit 2 accident. A limit of 30 days following publication was suggested by the Licensee.

Absent specific guidance from the Board, Steven C. Sholly, Petitioner, hereby submits the following additional contentions in keeping with the spirit of the discussion regarding the above-mentioned time limits. These contentions raise issues addressed in the Report of the President's Commission on the Accident at Three Mile Island and the various Technical Staff Analysis Reports. Petitioner requests approval of the Board to admit these contentions for review and comment by the Staff, the Licensee, and interested parties and Petitioners.

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Contention # 16

It is contended that Unit 1 is not adequately protected against sabotage by an "insider", i.e., someone working on the island. It is further contended that the so-called two-man rule requiring that no one person be allowed in a Type I vital area without another person accompanying him has not yet been implemented. It is further contended that under circumstances where the Unit 2 facility will be undergoing decontamination and restoration, and at least 1,500 persons have unescorted access to the island, the internal security situation is unmanageable and represents an undue risk to public health and safety because certain sabotage events have the potential for severe off-site consequences. It is contended that until an adequate internal security system is established, Unit 1 should not be permitted to restart.

Basis for Contention # 16

This contention is drawn from Technical Report Number 19, Pre and Post-Accident Security Status at Three Mile Island, in Technical Staff Analysis Report Summary, written by the Staff of the President's Commission on the Accident at Three Mile Island. The President's Commission apparently commissioned a study by the Los Alamos Scientific Laboratory, headed by Donald G. Rose, of the security status at Three

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Mile Island. The study is summarized in the Summary document with the following conclusions:

- A. External security has been enhanced, but internal security is poor.
- B. The internal security situation is made worse by the decontamination and restoration activities at Unit 2 because 1,500 persons have unescorted access to the island, with 500 of those assigned to Unit 1.
- C. The study considered sabotage to be any act resulting in the unplanned release of radioactivity or the compromise of plant radiological safety. The adversary was considered to be a knowledgeable insider possessing explosives. The study concluded "that successful sabotage can be performed at either Unit 1 or Unit 2."
- D. Although many successful sabotage acts would "probably not result in significant radiation release to the public", there are apparently several that would result in severe off-site consequences.

The likelihood of such sabotage attempts is unquantifiable in mathematical terms at present; however, there is a history of acts of sabotage at nuclear power plants, most recently occurring at the Surry facility at which several employees

poured caustic chemicals on fuel rods.

Further, to the best of the Petitioner's knowledge, the Licensee has not completed an evaluation of all personnel having access to the island in terms of stress fitness, psychological fitness, criminal records, and drug/alcohol abuse. It is clear from NUREG-0600 at page I-1-33 that the operational staff is under a high degree of emotional stress. It is quite probable that such stress is also present in other personnel categories, including maintenance, technicians, and supervisory personnel.

Finally, the unique circumstances surrounding the accident, the proximity of Units 1 and 2, the heightened sense of public distrust of the Licensee (and the NRC and state government, for that matter), and the likelihood of acts of civil disobedience should the Unit 1 reactor be restarted, all mitigate in favor of strengthened internal security at Three Mile Island. The conclusions of a security study done by a reputable organization such as LASL are not easily dismissed.

Licensee will possibly object to this contention as being outside the scope of this proceeding. In the interest of avoiding delay accompanied by filing answers to objections, Petitioner offers the following as the nexus between the accident and the restart hearing. The Commission's Order and

Notice of Hearing dated 9 August 1979 at page 4 discusses the unique circumstances at Three Mile Island which require the resolution of certain safety concerns prior to restart. While sabotage was not among those concerns listed in the Commission's Order, the Order stated that these safety concerns result from:

"(1) potential interaction between Unit 1 and the damaged Unit 2, (2) questions about the management capabilities and technical resources of Metropolitan Edison, including the impact of the Unit 2 accident on these, (3) the potential effect of operations necessary to decontaminate the Unit 2 facility on Unit 1, and (4) recognized deficiencies in emergency plans and station operating procedures."

It is clear from the LASL study summary that the situation at Unit 2 clearly impacts on the overall internal security situation at Three Mile Island, and that the existing security mechanisms in force will be greatly strained with the extra numbers of persons on the site as a result of the decontamination activities at Unit 2. In fact, the LASL study cites the current situation as unmanageable. There is a clear relationship between the Unit 2 accident at Three Mile Island and the issue of internal security.

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Contention # 17

It is contended that in the light of the Unit 2 accident, which has been declared by the NRC Staff to be a Class 9 accident, it is no longer credible to conclude that Class 9 accidents have an acceptably low frequency of occurrence. In addition to the specific circumstances of the Unit 2 accident, it is contended that there are many clear and close analogues to the Unit 2 accident which would be Class 9 accidents and could have environmental and radiological impacts in excess of those experienced in the case of the Unit 2 accident. It is therefore contended that the impact of Class 9 accidents, having been dealt with in a cursory manner in the Three Mile Island Environmental Impact Statement (NUREG-0552), must be thoroughly described and evaluated for environmental impact in a supplement to the Final Environmental Impact Statement, as provided for under the National Environmental Policy Act of 1969. Inasmuch as Class 9 accidents are by their very nature both quantitatively and qualitatively different and their effects on the public health and safety could by the NRC's own admission be severe, it is additionally contended that the evaluation of Class 9 accidents under NEPA must be completed prior to restart in order to assure adequate protection for public health and safety. The clear and close analogues to the Unit 2 accident which should,

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at a minimum, be evaluated as described heretofore in this contention are as follows. These accidents postulate a recurrence of a Unit 2 TMI-type Class 9 accident and then assume an additional action, malfunction, or circumstance.

- A. Deliberate venting of the containment building to control hydrogen gas concentrations, with the release, as a result, of the radioactivity in gaseous and particulate form which is in the containment. This venting could be assumed to be deliberate, or could be assumed to be necessary due to the failure of a hydrogen recombiner and the need for action before the second redundant recombiner could be installed. The deliberate venting of the containment could also be considered to be the result of a deliberate act of sabotage.
- B. Given the facts associated with diesel generator inoperability as presented in Section 4.17, pages I-4-74 through I-4-76, of NUREG-0600, assume loss of site power.
- C. Assume the accident occurs in the same manner, but at a time when the plant is approaching a refueling shutdown with a full core inventory of fission products such as would be found after the first part of the core had undergone its total exposure in the core.
- D. Begin with the accident as described in "C." immediately above and vent the containment as in "A." above.
- E. Assume the other reactor at the site is operating at full power when the accident occurs and assess the impact of the lack of additional personnel and facilities which were available because Unit 1 was shutdown at the time of the Unit 2 accident.
- F. Assume that the valve used to vent the make-up tank at 0700 hours on 30 March 1979 sticks and fails to close on remote command, thus venting radiation continuously to the environment.

Basis for Contention # 17

The discussion of Class 9 accidents in the Final Environmental Impact Statement on Three Mile Island (NUREG-0552) is contained on pages VI-2 and VI-3. NUREG-0552 notes that Class 9 accidents involve failures more severe than the design basis. It further states that although their consequences could be severe, the probability of their occurrence is so small that their environmental risk is extremely low. The reasons given for the confidence in this low environmental risk are defense in depth (multiple physical barriers), quality assurance, continued surveillance and testing, and conservative design.

It is now clear that the basis for this discussion and degree of confidence in the low probability of Class 9 accidents and their off-site consequences no longer exists as a result of the Unit 2 accident. Multiple physical barriers were defeated by operator actions during the Unit 2 accident resulting in the release of over 10 million curies of radioactivity to the environment. Design conservatism is certainly lacking in certain areas of the plant, particularly in those areas cited by the Commission in its Order and Notice of Hearing dated 9 August 1979 at page 3. The quality assurance and surveillance and testing programs at Three Mile Island have been brought under scrutiny

by the President's Commission on the Accident at Three Mile Island and have been found to be deficient.

In answers to other Class 9 contentions, the Licensee has objected to a re-evaluation of Class 9 accidents on the grounds that the consequences of the only existing Class 9 accident were less than certain unspecified accidents of lesser classes and that other accident sequences which might be classified as Class 9 are hypothetical and need not be considered. This response ignores the issue. Class 9 accidents are by their very nature unique--they are quantitatively and qualitatively different from other types of accidents. In other accident classes, plant safety systems are assumed to work as designed and only a single-failure event is considered credible. Only in a Class 9 accident is the plant assumed not to work as designed. The consequences of Class 9 accidents may well be equal to or less than certain lesser accidents, but this is no reason for failing to evaluate them. Clear and close analogues to the Unit 2 accident are hypothetical only to the extent that they have not yet occurred. The same could have been said of the Unit 2 accident prior to March 28, 1979. Labelling an accident sequence hypothetical does not lessen its chances of occurring.

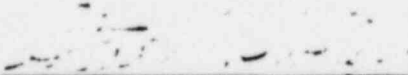
The Lessons Learned Task Force Status Report, NUREG-0578, states at page A-37, "It can also be shown, however

the potential releases from postulated accidents may be several orders of magnitude higher than was encountered at TMI." It is therefore clear that Class 9 accidents have the capability of producing more serious off-site consequences than were experienced at Three Mile Island. Such consequences should, as a result of their environmental importance, be evaluated in a supplement to the TMI EIS.

The Licensee has pointed out, without specific reference, that the Unit 2 accident resulted in lower doses to the public from radiation exposure than certain other lesser accidents, principally in Class 8. It is unclear exactly what accidents are being cited by the Licensee. In Table 20 of the TMI FES (NUREG-0552) on page VI-6, the man-rem dose to the population within 50 miles of TMI from the most serious accident, a large break LOCA, is given as 1000 man-rem. The man-rem dose to the same population from the Unit 2 accident is cited by the President's Commission Staff as being 2000 man-rem. It is clear that such an accident should be evaluated in terms of its environmental impact, and so should other similar accidents.

RESPECTFULLY SUBMITTED,

DATED: 29 November 1979


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NUCLEAR REGULATORY COMMISSION

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Station, Unit No. 1)

CERTIFICATE OF SERVICE

This is to certify that I have served upon the following individual a single copy of AMENDMENT TO PETITION TO INTERVENE IN RESPONSE TO THE REPORTS OF THE PRESIDENT'S COMMISSION ON THE ACCIDENT AT THREE MILE ISLAND this ²⁷~~30~~th day of November 1979 in accordance with the terms set forth in the Licensee's offer to the Board in its communication of 13 November 1979 regarding duplication and filing of documents in this proceeding:

Three Mile Island Observation Center
Middletown, Pennsylvania
Attention: Mr. John Wilson

Steven C. Sholly

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Date: November 30, 1979

UNITED STATES OF AMERICA
NUCLEAR REGULATORY COMMISSION

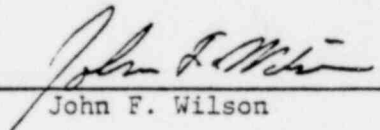
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CERTIFICATE OF SERVICE

I hereby certify that copies of Amendment To Petition To Intervene In Response To The Reports Of The President's Commission On The Accident At Three Mile Island of Steven C. Sholly, dated 29 November 1979, which was hand delivered to Licensee at Three Mile Island Observation Center, Middletown, Pennsylvania, on November 29, 1979, were served upon those persons on the attached Service List by deposit in the United States mail, postage paid, this 30th day of November, 1979.


John F. Wilson

Dated: November 30, 1979



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