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UNITED STATES OF AMERICA
NUCLEAR REGULATORY COMMISSION

COMMISSIONERS:

Nunzio J. Palladino, Chairman
Thomas M. Roberts
James K. Asselstine
Frederick M. Bernthal
Lando W. Zech, Jr.

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

Docket No. 50-289SP
(Restart)

SERVED MAY 16 1985

MEMORANDUM AND ORDER

CLI-85-08

I. Background and Summary

On June 21, 1984, Marjorie and Norman Aamodt filed a motion with the Commission alleging that releases of airborne radioactive materials from the March 28, 1979 accident at TMI-2 were substantially greater than have been acknowledged and that these releases have lead to an unexpectedly high level of cancer in local residents. The Aamodts based their allegations on door-to-door interviews that Marjorie Aamodt and others conducted of residents of two areas near the TMI-2 facility. The Aamodts requested the Commission to investigate their allegations and to defer a decision on the restart of TMI-1 until the issues they raised had been studied further and fully resolved. On December 13, 1984 the Commission denied the Aamodts' motion to sponsor a new study of health-related issues arising from the TMI-2

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accident. The Commission stated that the "Aamodts had not presented sufficient reliable information to show that previous, more comprehensive and scientific surveys of TMI-2 accident radiation releases are erroneous." CLI-84-22, 20 NRC 1573.¹

On January 15, 1985 the Aamodts filed a motion asking the Commission to reconsider the December 13 denial of their request. They also requested the Commission to reopen the record in the TMI-1 restart proceeding, asserting that the issues raised by their survey were relevant to "the management competence, emergency planning and health issues" litigated in the restart proceeding. On April 13, 1985, the Aamodts amended their request by submitting additional information.

For the reasons which follow, the motions to reopen the record and to defer a decision on TMI-1 restart are denied.²

II. Analysis of Motion to Reopen the Record

The Aamodts claim that the record of the restart proceeding should be reopened to examine health-related issues arising from the TMI-2 accident. The Aamodts allege that death certificates obtained from the Pennsylvania

¹Commissioners Asselstine and Bernthal dissented. They would have provided NRC funding to ongoing studies being conducted by the Commonwealth of Pennsylvania's Department of Health.

²Should the Commission in the future acquire information regarding the need for any further studies along the lines requested by the Aamodts, it will, of course, make its views known along with any appropriate recommendations. The NRC staff is currently evaluating this matter and will be providing recommendations to the Commission shortly. The Commission is also assessing whether the Commission's Advisory Panel for the Decontamination of TMI-2 could provide a useful forum for citizens to raise health-related concerns. These matters are not relevant to the restart proceeding because health effects resulting from the TMI-2 accident are not related to a determination whether TMI-1 can be safely operated today. See II.C, infra.

Department of Health establish that: (1) there is an elevated cancer mortality rate in certain areas surrounding TMI-2; (2) an increased rate of neonatal hypothyroidism in Lancaster County in 1979 resulted from the TMI-2 accident; (3) serious post-accident health effects within and beyond the ten-mile radius of TMI demonstrates the presently-approved emergency plans are inadequate; (4) residents near TMI are suffering adverse health effects from high levels of radiation currently in the environment; and (5) the 5100 degree Fahrenheit temperatures reached within the TMI-2 core during the accident produced elevated levels of fission products and transuranics which have escaped to the environment and could be harmful to the public.

The Aamodts also believe the record should be reopened on an issue relating to the integrity of licensee's management. The Aamodts allege that information developed in the restart proceeding on the Dieckamp mailgram issue demonstrates that licensee personnel lied to the Pennsylvania Bureau of Radiation Protection on the morning of March 28, 1979. The Aamodts maintain that after the Commonwealth had been warned of projected radiation releases of ten (10) rems per hour over Goldsboro, TMI personnel discounted this information by claiming, contrary to fact, that the surveillance teams had been dispatched and had verified that a significant release had not occurred.

Under established Commission practice three factors are considered in determining whether a motion to reopen should be granted: "(1) Is the motion timely; (2) does it address significant safety (or environmental) issues; and (3) might a different result have been reached had the newly preferred material been considered initially." In the Matter of Metropolitan Edison (Three Mile Island Nuclear Station, Unit No. 1), CLI-85-2, 21 NRC 282, 285, n.3 (1985).

The NRC staff opposed the request to reopen the record, arguing that the criteria for reopening the record had not been satisfied. The licensee also opposed reopening of the record on whether licensee personnel lied to Bureau of Radiation Protection, but did not take a position on whether the record should be reopened on the other issues raised by the Aamodts.

A. Timeliness

The central issue raised by the Aamodts relates to their allegation that there are elevated levels of cancer in the TMI area. Their request to reopen the record on that matter is untimely. The Aamodts first presented their concerns regarding cancer levels to the Commission in June of 1984, yet did not request reopening of the record until January of 1985. The Aamodts have not presented any justification for not requesting at that time a reopening of the record.³

B. Whether Claims Raise a Significant Safety or Environmental Issue

The Commission has reviewed the material presented by the Aamodts regarding alleged elevated cancer levels in the TMI area and continues to believe that the prior studies are correct in concluding that the number of health effects from radiation releases arising from the TMI-2 accident will be negligible. The Aamodts have not presented information which casts doubt on the previous studies. For example, the Aamodts have not reported when the cancers which form the basis for their allegations were diagnosed relative to

³The Aamodts also have not established when the information they rely on in support of their other claims became available and whether the facts could have been presented to the Commission at an earlier date.

the TMI-2 accident and have not shown that the cancers resulted from the TMI-2 accident. When the cancers arose or were first diagnosed is particularly significant, in light of the obvious fact that cancers which arose prior to the TMI-2 accident cannot be attributed to the accident, and the fact that, even for those cancers arising since the accident, the undisputed scientific evidence is that there is generally a latency period for cancer development following exposure to radiation. Even if additional information, such as date of diagnosis of the cancers, type of cancer, health, occupational, and personal histories of the deceased were available, we believe it is unlikely that statistically and scientifically valid conclusions could be reached regarding the causes of the cancers in the small population groups associated with the Aamodts' informal survey. The epidemiological evidence presented by the Aamodts is fragmentary and anecdotal. As a technical and logical matter, it is not sufficient to support a reasonable doubt as to the adequacy and correctness of the several detailed scientifically conducted studies on which the Commission relied. Therefore, under the circumstances, the Aamodts have not raised a significant safety or environmental concern.

Their other claims similarly fail to raise significant issues. With respect to their allegations that there was a higher rate of neonatal hypothyroidism in Lancaster County in 1979 than there was in the 1981-1983 period, the Pennsylvania Department of Health has analyzed the seven cases of hypothyroidism that arose in 1979 and concluded that they could not be attributed to radiation, but should be attributed instead to factors such as incomplete maturation of thyroid glands and lack of enzymes to synthesize thyroxine. In fact one of the seven cases occurred prior to the accident and another within three months following the accident, a time period too short

for the hypothyroidism to have resulted from the TMI-2 accident. The Aamodts have not provided information that would lead us to question the Department of Health's conclusions.

The Aamodts' allegation that health effects reported by TMI area residents, such as nausea and severe vomiting, resulted from radiation released from the TMI-2 accident that was higher than reported is not supported by available information. The NRC staff estimates that the average radiation dose to an individual within ten miles of the TMI site resulting from the TMI-2 accident was approximately 8 millirems, and the average dose received by individuals within 50 miles was approximately 2 millirems. Based on accepted scientific principles governing the effects of exposure to varying levels of radiation, these dose levels are far too low to be the cause of the kind of adverse health effects cited by the Aamodts. In the absence of other evidence demonstrating a link between the cited health effects and the TMI-2 accident, the Commission must continue to support the findings reached in earlier assessments of radiation releases from the TMI-2 accident.

With respect to the Aamodts' claim that there are currently unacceptably high levels of radiation in the environment near TMI, the NRC staff, the Environmental Protection Agency and the Pennsylvania Department of Environmental Resources conducted an informal field survey with sophisticated radiation monitoring equipment of sites selected by the Aamodts. The agencies concluded that the radiation levels were within the normal range.

The Aamodts also speculate that the high temperatures (in excess of 5000 degrees Fahrenheit) reached within the TMI-2 reactor core during the accident created a "high probability" that transuranic materials were released into the atmosphere. Transuranic materials emit alpha radiation and could be

another possible source of adverse health effects. The NRC staff has examined these allegations and concluded that the likelihood of measurable quantities of transuranic material becoming airborne and subsequently being released into the environment is low. The staff further noted that no measurable quantity of transuranic material other than that associated with normal background levels has been identified in any of the air or soil samples taken around the TMI site during or after the accident. Accordingly, again the Aamodts concerns do not raise a significant issue.

Finally, the Aamodts' claim that the licensee deceived the Pennsylvania Bureau of Radiation Protection concerning radiation measurements on the day of the TMI-2 accident is based on a draft document which was prepared in the course of an NRC investigation conducted in 1980, but before pertinent individuals had been interviewed by the NRC. After the interviews, the staff determined that the facts contained in the working draft were erroneous and concluded that the licensee had not provided erroneous information relating to the Goldsboro dose-rate prediction. The Commission has concluded on the basis of its review of the allegations and the staff's and licensee's responses that the Aamodts' claim of deception is not supported and accordingly does not raise a significant safety issue.

C. Likelihood of Reaching a Different Result

The Commission does not believe that the information presented by the Aamodts in their motion would have led to a different result. With the possible exception of the claim that Metropolitan Edison Company officials deceived Commonwealth officials on TMI-2 accident radiation releases and the

neonatal hypothyroidism issue,⁴ the Aamodts' concerns are not relevant to the restart proceeding because health effects resulting from the TMI-2 accident are not related to a determination whether TMI-1 can be safely operated today. As discussed above, the Commission finds that the Aamodts' claims of licensee deception to be without any foundation. With respect to the neonatal hypothyroidism, the information presented by the Aamodts does not form a basis for concluding that the Licensing Board erred in LBP-81-59, 14 NRC 1211, 1596 when it concluded that the alleged increased in neonatal hypothyroidism was not caused by the TMI-2 accident.

For these reasons the Aamodts' motion to reopen the record is denied, as well as its request that the Commission sponsor a health effects study prior to making a restart decision.

Commissioner Asselstine's separate views are attached.

It is so ORDERED.



For the Commission⁵

Samuel J. Chylek
 SAMUEL J. CHYLEK
 Secretary of the Commission

Dated at Washington, D.C.

this 16th day of May 1985.

⁴The Licensing Board addressed the hypothyroidism issue in the context of evaluating the protective action criteria used by the Commonwealth of Pennsylvania in emergency planning.

⁵Commissioner Roberts was not present for the affirmation of this item, if he had been present, he would have approved.