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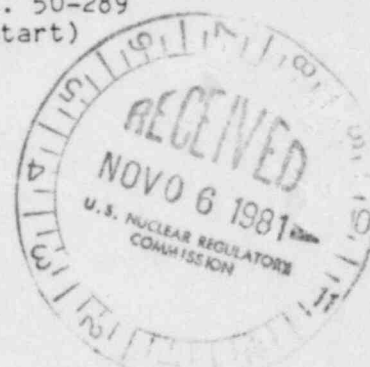
UNITED STATES OF AMERICA
NUCLEAR REGULATORY COMMISSION

BEFORE THE ATOMIC SAFETY AND LICENSING BOARD

In the Matter of)
)
METROPOLITAN EDISON COMPANY, ET AL.)
)
(Three Mile Island, Unit 1))

Docket No. 50-289
(Restart)

UNION OF CONCERNED SCIENTISTS
REPLY TO STAFF AND LICENSEE
OPPOSITION TO UCS MOTION TO
REOPEN THE RECORD



On September 10, 1981, the Intervenor Union of Concerned Scientists (UCS) and Steven Sholly filed separate motions to reopen the record based on newly discovered evidence contained in a document entitled "Recommendations of TMI-2 IE Investigation Team (Operational Aspects)." Both the Staff and Licensee opposed the motions.

By Order dated October 13, 1981, the Intervenor was directed to reply to several Board questions arising from the motion and responses thereto and permitted to reply to any other aspect of the responses. Following is UCS's reply.

Timeliness

In response to the Board's first question, UCS does believe that its motion is timely. Nothing in the Staff or Licensee responses causes us to

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change that conclusion. UCS's arguments on the subject follow accompanied by the attached affidavit of Robert D. Pollard.

The Staff refers to the IE Recommendations throughout its response as the "Martin Report" and suggests that a "name-related search" would have produced it.^{1/} This is disingenuous. Neither UCS nor Mr. Sholly had any way of knowing that the IE Recommendations were authored by Martin, nor who any of the members of the team were until after the document was finally obtained, since no reference to the document mentioned any authors.

Further, the Staff asserts that UCS should have become aware of the IE Recommendations because they were "considered explicitly as part of the basis for portions of the Action Plan's requirements." (Staff Response at 6.) It is true that the IE Recommendations were referenced at some points in the Action Plan, but never in a way that might indicate that they contained recommendations directly at odds with the measures contained in the Action Plan. The Action Plan items for which the IE recommendations are cited do not describe the substance of the recommendations.

This is compounded by the fact that, while Mr. [redacted] asserts in his affidavit (purportedly attempting to demonstrate that the IE Recommendations were considered by the Staff) that Draft 1 of the Action Plan was a complete listing of all recommendations by all groups investigating TMI,^{2/} including all IE groups, Draft 1 does not contain the substance of the specific recommendations which UCS has raised in its motion. The following table provides a cross-reference between the IE Operations Team Recommendations and the tasks in Draft 1 of the Task Action Plan which reference those recommendations.

^{1/} - All footnotes are on attached pages 24,25.

<u>IE Recommendation</u> (Number & Page)	<u>Subject</u>	<u>Task Action Plan</u> <u>Draft 1</u>
C.1.a(1) Pg. 12	Safety Grade Incore Thermocouples	Pg. II.F-6
C.1.a(17) Pg. 17	Safety Grade Pressurizer Level Inst.	Pg. II.F-6 Pg. II.G-3
C.1.b(6) Pg. 19-20	"Lock-in" feature on FSFAS	Pg. II.E.2-6
C.1.c(2) Pg. 21-22	Safety Grade PORV	Pg. II.D-5
C.1.c(3) Pg. 22-23	Safety Grade Block Valve	Pg. II.C.1-16 Pg. II.C.2-3 Pg. II.G-3

UCS has reviewed each of the task descriptions in Draft 1 of the Task Action Plan which reference the IE Operations Team Recommendations listed above. In every instance, the task description does not convey the substance of the IE Operations Team Recommendation. The task description conveys the substance of other recommendations, such as those in NUREG-0578, but does not indicate that the IE Operations Team Recommendations differ from those in NUREG-0578.

Nor does Draft 2 contain a list of these recommendations although Kellogg states that the task force of which he was a member met again to review Draft 1 "to ensure that the listing of requirements from the individual lists supplied by each office had been accurately transcribed into Draft 1 of the Three Mile Island Task Plan. Following this review, Draft 2 of the Three Mile Island Task Action Plan was issued." (Kellogg Affidavit at 2).

Thus, despite Kellogg's assertions, no one reading any draft of the Action Plan could discern that any NRC investigating group had at any time made recommendations along the lines of the IE investigation (which

recommendations, in the pertinent instances, parallel UCS's contentions). Certainly UCS had no idea that such recommendations existed, nor any reason to believe that they might, since they never appeared in the purportedly comprehensive listings contained in Drafts 1 and 2 of the Action Plan.

Draft 1 of the Action Plan did, as Kellogg asserts, purport to be a comprehensive listing of recommendations:

"The NRC draft action plan presented here contains changes suggested or programs to develop changes in regulatory requirements, research, procedures and practices that have been recommended as a result of studies of the accident at Three Mile Island Unit 2.

"This draft of the action plan is tentative, intended to provide a basis for early discussion among the Commissioners and their principal staff officers to obtain feedback from the staff. These discussions are expected to lead to changes in the plan over the coming weeks, including the subtraction, addition, or consolidation of individual tasks. With all of the significant TMI-related actions listed, categorized and described in one place, it is intended that the plan provide a comprehensive basis for balancing and prioritizing needed improvements in reactor safety.

"Thus far, most of the work has been in assembling, ordering, and formatting the task statements. Some culling of proposals believed to have minor significance has occurred, and some planning of implementation schedules has been accomplished; many more improvements are needed." (NUREG-0660, Draft, 12/10/79, Summary of Action Plan for Implementing Recommendations of the President's Commission and Other Studies of TMI-2 Accident, at 1,2, emphasis added)

Thus, the failure of Draft 1 or any successive draft to include the pertinent IE recommendations is fatal to the Staff's claim that UCS should

have been alerted to them. It should be noted that it is also fatal to the Staff's claim that these recommendations were "considered" by the Commission or the Screening Committee. This will be discussed further below.

As noted in our original motion, UCS relied, to our detriment, upon the answers given by the Staff to UCS Interrogatories 28, 42, 94 and 152, which go to UCS Contentions 3, 5, 10 and 14, respectively, to the effect that no member of the Staff dissented from the Staff position on these UCS contentions and upon the continuing obligation of the Staff to amend its responses if it discovered information indicating that these responses were incorrect when given or no longer correct.

The Staff attempts to explain its failure to disclose the views of the IE team on the matters covered by the pertinent UCS contentions by claiming that they did not represent dissenting views. (NRC Response at 14-15) Curiously, Counsel for the Staff never indicates whether Counsel were aware of the substance of the IE recommendations until UCS filed its motions. Without exception, the Staff witnesses state in their affidavits that they were not previously aware of them. The Staff's argument consists of a post hoc characterization of the recommendations. The fact is that at the time the interrogatories were answered (March 31, 1980), the Action Plan had not been published (it was not issued until May, 1980) and the pertinent IE team recommendations were and remain in disagreement with the positions of the Staff as reflected in its substantive answers to the UCS interrogatories and the positions it took at the hearings. No amount of parsing of the meaning of the word "dissent"^{3/} can change the following facts: 1. UCS contended that a) the pressurizer heaters should be safety grade (Contention 3); b) the PORV and block valve should be safety grade (Contention 5); c) the ECCS among other systems should be designed to

preclude improper operator termination (Contention 10); and d) some non-safety equipment should be classified as safety grade (contention 14).

2. The Staff for the TMI-1 restart hearings contended that none of the above was necessary or desirable.

3. The IE team recommendations agreed with the substance of each of the above-listed UCS contentions.

4. UCS asked interrogatories intended to elicit any Staff positions at variance with the Staff's position at the hearings.

5. The existence of the IE Recommendations was not disclosed to UCS.

UCS was misled by this into believing that no such recommendations existed.

Finally, Draft 1 of the Action Plan states that: "The designations IE: TMI-OPS, IE: TMI-HP, and similar entries, refer to NUREG-0600". (Draft 1 at 3) These are the references upon which the Staff relies so heavily, yet NUREG-0600, the main IE report entitled "Investigation into the March 26, 1979 Three Mile Island Accident by Office of Inspection and Enforcement," August 1979 is specifically limited in scope to an investigation of the licensee's actions during the first few days of the accident and contains no recommendations for changes in plant design nor anything resembling the IE recommendations at issue here. Thus, the above-quoted statement that citations to IE: TMI-OPS and IE: TMI-HP refer to NUREG-0600 would mislead any reader into believing that a NUREG-0600 would contain the material or at least cover the subjects of IE: TMI-OPS and IE: TMI-HP. Anyone seeking to locate differing Staff views on the issues raised by the UCS contentions could only conclude that they could not be contained in IE: TMI-OPS and IE: TMI-HP.

At this date, neither UCS Counsel nor Mr. Pollard has a clear recollection of the extent to which they specifically relied upon the quoted sentence from Draft 1 of the Action Plan, although both did read and consider the Plan when it was received, including all of the introductory material. Nevertheless, it is now clear that the sentence is both incorrect and misleading and may well have contributed to the fact that UCS did not seek to obtain the documents designated as IE: TMI-OPS and IE: TMI-HP.

In conclusion, UCS takes particular offense at the Staff's statement that had intervenors "been diligent in their discovery requests," they could have obtained the documents in question. This Board can take notice of the fact that UCS has been more than diligent throughout this hearing in its discovery requests and its preparation for hearing. On more than one occasion, we have discovered relevant documents of which NRC's witnesses were entirely unaware. This is another such case since NRC's own witnesses, whom one should have expected to be thoroughly familiar with the Action Plan and its antecedents before preparing testimony purporting to represent NRC's reasoning, were completely unaware of IE recommendations which are unquestionably related to the subject matter upon which they testified. Had UCS been given any reasonable indication that these documents might contain the material they do, the Board can be assured that we would have obtained them. Instead, we were repeatedly misled by a series of circumstances, including particularly 1) the Staff's failure to disclose their existence in response to our interrogatories,^{4/} 2) the failure of the recommendations to be included in Draft 1 or Draft 2 of the Action Plan, both of which are purported to be comprehensive listings of all recommendations of all TMI investigating groups both in and outside of NRC, and 3) the failure of the Action Plan or any other NRC document to

indicate that recommendations directly at odds with its conclusions existed.

The Staff Affidavits Do Not Affect
UCS's Views Considering the Standards
for Reopened Proceedings

The second Board question asks whether, assuming that the Staff appropriately used affidavits, these affect the intervenor's views, considering the standards for reopening proceedings other than timeliness (citing the Wolf Creek and Black Fox decisions, and cases cited therein.) They do not. As we will discuss more fully below, the Staff affidavits are largely a collection of conclusory statements devoid in the majority of cases of supporting facts or reasoning. In some cases, they are misleading, in others simply vague.

Indeed, the major thrust of the Staff's response with respect to the significance to plant safety of the issues in question can be characterized as follows: because the IE Recommendations would not cause the Staff's witnesses to change their testimony, there is no need to reopen the record. This, of course, misses the point. The issue is not whether one of the adversary parties in the case -- the NRC Staff -- is moved to change its position, but whether this document and evidence to be derived from it are directed toward a significant safety issue and whether they have the potential to affect the outcome of the case.

It is appropriate at the outset to briefly discuss the law on the standards for reopening records.

The Vermont Yankee cases, ALAB-124 and ALAB-138, are the seminal decisions in the area.^{5/} In Vermont Yankee, as here, the motion to reopen

the record was made prior to the issuance of the Initial Decision. The standards for reopening were held to be two: timeliness and the significance of the safety issue involved.

Later cases involving motions to reopen filed after the Initial Decision added as an additional criterion a showing that a different result would have been reached had the material been considered. See, Kansas City Gas & Electric Co. (Wolf Creek Generating Station, Unit No. 1) ALAB-462, 7 NRC 320, 337-338 (1978), Northern Indiana Public Service Co. (Bailly Generating Station Nuclear-1), ALAB-227, 8 AEC 416, 417-418 (1974). Obviously, this last standard is inappropriate in a situation where an Initial Decision has not been issued since there is no "result" yet.

In Public Service Co. of Oklahoma (Black Fox Station, Units 1 and 2), ALAB-573, 10 NRC 775, 803-804 (1979), an Initial Decision had not been issued and the Appeal Board held that the record would not be reopened absent a showing that "the outcome of the proceeding might be affected thereby." (Id. at 804 emphasis added). This is a significantly different standard than requiring a showing that the "result" would be "different". Indeed, it would appear to be essentially an elaboration on the criterion of significance in that new evidence bearing on significant issues can be expected to have a potential effect on the outcome of the case. It should also be noted that the standard requires only a showing that the outcome "might be affected", thus indicating that a motion should not be denied if there is a significant possibility that the evidence at issue has the potential to affect the proceeding. In this case, the Staff seeks to convince the Board, through conclusory and largely non-factual affidavits

that UCS has had no opportunity to probe, either through discovery or cross-examination, that the IE recommendations could not change the result (largely on the ground that the Staff witnesses do not feel the need to change their own testimony).

Denial of the UCS motion would require the Board to find that none of the following might affect the outcome of the proceeding:

1. Evidence concerning the technical bases for and reasoning behind the IE recommendations which parallel UCS contentions. No NRC Affidavit deals with this in other than the most superficial way, yet this is surely the most important aspect of the evidence surrounding the IE recommendations and that most likely to affect the outcome. Each of the relevant affidavits indicates that the affiant looked only at the face of the IE Recommendations - and then only after the filing of the UCS motion.^{6/} None appears to have attempted to communicate with the members of the IE team in order to learn the technical bases and reasoning behind the recommendations. Indeed, Mr. Sullivan states that the IE recommendation is "not significant with respect to [his] testimony" precisely because its meaning is not clear and no technical bases is given on the face of the document. (Sullivan affidavit, at 2) He has presumably made no effort to go beyond this, thus elevating ignorance to a virtue.

Nor do any of the IE team affiants discuss the technical bases for their recommendations. There is simply no factual record upon which this Board could find either the details of the reasoning behind the IE recommendations, or that they should be rejected on technical grounds.

2. The fact that the IE recommendations are in several cases directly in agreement with the UCS contentions. As noted in UCS's original motion, the impression was given throughout this proceeding that the Staff was monolithic (and in agreement with the Licensee) in its opposition to the

positions taken and the safety and engineering principles espoused by UCS. We believe that it is powerful evidence in itself that this was not the case and instead, that a major investigating group composed of persons directly involved in and with knowledge of the day-to-day working of nuclear plants reached conclusions paralleling those of UCS in the aftermath of the accident before the Staff positions had solidified into an "official" line admitting of no deviation.^{7/}

3. That the Staff witnesses presented their testimony in ignorance of the IE recommendations and the technical bases therefor. This point is related to that directly above. Not only does the fact that the Staff witnesses were totally unaware of the IE recommendations reflect poorly on their preparation and qualifications for giving the testimony they presented, it is also important that the Staff witnesses testified generally on the basis of a theoretical knowledge of plant design and/or computer analyses without being particularly knowledgeable of or influenced by the TMI-2 accident. In contrast, the IE Recommendations come from a group which deals on a day-to-day basis with plant operation and which had done a detailed analyses of the accident. (See note 7, supra.)

4. That the evidence suggests that neither the TMI Action Plan Steering Committee nor the Commission itself ever considered the IE Recommendations. The Staff affidavit which purports to demonstrate that the IE Recommendations were considered by the TMI Action Plan Steering Committee is the affidavit of Paul J. Kellogg, describing generally the process by which the Action Plan Drafts 1 and 2 were assembled. The facts indicate precisely the opposite.

The affidavit shows that Kellogg was not on the Steering Committee itself. He was on a task force charged to "generate a concise listing of recommendations which had been made by several investigative teams."

(Kellogg affidavit at 1-2). He asserts that his task force made "no attempt to delete any recommendations from the listing" but merely collected "all of the recommendations into a central document". (Id. at 2) According to Kellogg, this listing was then combined with those of other offices into "a document which later became known as Draft 1" of the Action Plan. The fact is, however, that the substance of the pertinent IE Recommendations do not appear in Draft 1 of the Action Plan. Nor do they appear in Draft 2, which Kellogg also asserts to have been comprehensive.

Thus, while Kellogg asserts that the "Martin report" recommendations were forwarded to the Steering Committee for review, there is no evidence that they were considered since they do not appear in Draft 1 or 2. Moreover, no member of the Steering Committee has been produced by the Staff to show that the pertinent IE Recommendations were considered or to discuss the technical bases upon which they were rejected if they were considered. The only clear and objective evidence is that the substance of the IE Recommendations are not included in the Drafts 1 and 2 listings of "all" recommendations. Thus, one should conclude on the basis of Kellogg's own description of the process that they were not considered.

Further, since the substance of the IE Recommendations appear in none of the drafts of the Action Plan, there is no evidence that they were considered by the Commission itself.

UCS believes that the record must be reopened in order to take evidence on the issues discussed above, all of which have the potential to affect the outcome of the case and relate to issues of safety significance. They cannot be resolved on the basis of the Staff's conclusory affidavits which either fail to address the issues or offer only self-serving conclusions which neither UCS nor the Board has been given an opportunity to probe.

The Staff makes several other arguments which we will briefly address. First, they argue that the IE Recommendations are not significant to plant safety because they were not final conclusions ready for implementation. (Staff Response at 7). This is apparently intended as support for the proposition that the recommendations are not "in and of themselves" safety significant. (Id. at 9). The Staff confuses the significance of the safety issue involved with the significance of a document "in and of itself". There can be no serious dispute as to the significance of these safety issues; indeed, they are central to the UCS contentions and to the issues which the Board must resolve. The significance of the IE Recommendations is that they indicate that the IE team, based upon an evaluation of the accident and its knowledge of the day-to-day operation of nuclear plants, made recommendations in some cases virtually identical to UCS's. It is of course true that the document does not itself go into detail concerning the bases for these recommendations and that the IE team had no authority to implement them (just as the authors of NUREG-0578 had no authority to implement their "recommendations"). That is also beside the point. What is important to the restart proceeding is the technical reasoning behind the recommendations precisely because they are at variance with the otherwise monolithic Staff line. If the Staff can stop UCS from putting this into the record on the grounds asserted, they will have been granted a license to suppress all but the official Staff position.

The Staff also asserts that the Staff witnesses "thoroughly considered matters covered by The Martin Report recommendations (though not necessarily The Martin Report recommendations themselves) in formulating their testimony..." (Staff Response at 10) The statement is disingenuous. First, by use of the phrase "not necessarily," the Staff suggests that at least some witnesses may have considered the recommendations. In fact,

each witness swears that he was not even aware of the recommendations. Therefore, the truth is unequivocally that none of the witnesses considered the pertinent IE recommendations in formulating their testimony.

Second, the assertion that the witnesses considered "matters covered by" The Martin Report is also not entirely forthright. The witnesses considered the UCS contentions. To the extent that these overlap, they presumably considered "matters covered by" the IE concerns as well. However, it is clear from their affidavits that the witnesses did not consider the IE team's technical reasoning nor now that reasoning related to the accident, since they were not aware of it. Moreover, they apparently remain unaware of the bases for the IE recommendations even today and at the time that they wrote their affidavits, which indicate that their knowledge of the IE Recommendations is limited to what can be gathered from the face of the document.

We have discussed generally throughout this filing the content of most of the conclusory Staff affidavits. Two of the affidavits - those by Robert D. Martin and Walton L. Jensen - contain factual assertions to which the following responses are directed.

Response to Affidavit of Robert D. Martin

Mr. Martin offers no basis for his assertion that the IE Operations Team Recommendations were given consideration during the formulation of the TMI Action Plan (NUREG-0660) other than vague references to "discussions" with unnamed staff members at unspecified times and to "a general knowledge" of unspecified "related agency actions." (Affidavit of Robert D. Martin, at 2, 4.) Mr. Martin then attempts to describe how the subject IE Operations Team Recommendations have been or will be resolved by the

tasks now in the Action Plan. (Id., at 3, 4) We will address each of his attempts sequentially.

First, Mr. Martin attempts to downplay the inconsistencies between the IE Recommendations and the positions taken by the staff in the TMI-1 hearings and incorporated into the Action Plan. He asserts that the recommendation concerning the pressurizer heaters "was primarily directed towards reliable power sources for their operation and is addressed in Task II.E.3 of NUREG-0660." (Id., at 3) This is apparently intended to convince the Board that all of the problems observed by the IE team concerning the pressurizer heaters can be cured by simply supplying onsite power to the heaters. A review of the actual recommendation and the description of the problem the recommendation was intended to resolve shows that this is not the case.

The IE Operations Team recognized the role of the pressurizer heaters in the control of reactor pressure and identified failure of the heaters during the accident as part of the problem. The recommendation was that "[t]he pressurizer heater system should be classified as safety grade which would assure emergency power availability and protection from failures due to environmental conditions." (IE Operations Team Recommendations, at 23; emphasis added) Action Plan Task II.E.3 has not and will not accomplish all or even most of the improvements encompassed by the recommendation.

Second, Mr. Martin asserts that the IE Operations Team Recommendations concerning "the PORV and its block valve were primarily directed towards a general upgrading of the reliability of those valves." (Affidavit of Robert D. Martin, at 3) The actual recommendations appear on pages 21-23 of the IE report and were partially quoted on page 5 of UCS's motion. Mr. Martin then references Task II.G and II.D of NUREG-0660 as "actions directed towards that end...." (Id.)

Task II.G directs that the PORV and its block valve should be powered from emergency power sources. It should be noted that Task II.G does not reference the IE Operations Team Recommendations.

Task II.D of NUREG-0660 specifies that the relief valve, safety valves, and block valve should be tested and analyzed to demonstrate that they are qualified for the full range of operating and accident conditions, that the NRC should monitor research on relief and safety valve test requirements, and that relief and safety valves should be equipped with a reliable valve position detection device or a reliable indication of flow in the discharge pipe. This last requirement was the subject of IE recommendation C.1.a(7) (IE Operations Team Recommendations, at 14) which is separate and distinct from IE recommendations C.1.c(2) and C.1.c(3) that the PORV and its block valve be upgraded to safety grade equipment. Thus, the IE team recommended both that the PORV and block valve should be safety grade and that other actions, such as installation of flow indicators, should be mandated.

Therefore, it is clear that Tasks II.D and II.G of NUREG-0660 have not and will not accomplish all that was recommended by the IE Operations Team since these do not require upgrading of the valves to safety grade.

Third, Mr. Martin asserts that the IE recommendation for a "lock-in" feature for [the] ESFAS was primarily directed towards precluding premature resetting of components important to safety by [the] operators." (Affidavit of Robert D. Martin, at 3; emphasis added) UCS agrees. Mr. Martin then references NUREG-0660, Tasks I.A.2, I.C.5, I.C.6, II.B.4, II.K.1, I.A.1.1, I.C.1, and II.E.5.2, as "agency actions directed toward precluding such premature manipulations by the operators...."^{8/} (Id.)

The IE Operations Team Recommendation which discussed the "lock-in" feature is number C.1.b(6) and appears on pages 19-20 of the Operations Team Recommendations. The fact is that not one of the eight Action Plan

Tasks^{9/} referred to by Mr. Martin bears the slightest resemblance to the original IE recommendation, nor would any of them "preclude" premature resetting of components important to safety by the operators -- the asserted goal of the recommendation.

Of the eight tasks, one, Task II.K.1, does not reference any of the IE Operations Team Recommendations. Five, Tasks I.A.2, I.C.5, I.C.6, II.B.4 and I.C.1, reference the IE Operations Team Recommendations, but the references are all to recommendations other than recommendation C.1.b(6) which concerns the "lock-in" feature for the ESFAS. The remaining two, Tasks I.A.1.1 and II.E.5.2, reference all of the C.1.b series of recommendations, of which there are seven. (IE Operations Team Recommendations, at 17-20) Task I.A.1.1 sets forth the requirements applicable to the shift technical advisor and the entire description of the Licensee Actions required is to "hire and train shift technical advisors." (NUREG-0660, at I.A.1-4) Task II.E.5.2 describes a task force to be established by NRR to provide a short-term assessment of the transient response of operating B&W reactors. Task II.E.5.2 requires no action by Licensees.

The "reasoning" that Mr. Martin relies upon to assert that these eight tasks form the basis for concluding that the IE recommendation for a "lock-in" feature for the ESFAS has been or will be resolved is impossible to discern from his affidavit or otherwise to deduce.

Finally, Mr. Martin asserts that the IE recommendations for safety grade incore thermocouples and pressurizer level and temperature instruments "were directed towards increasing the reliability and utility of these instrument systems under adverse accident conditions." (Affidavit of Robert D. Martin, at 3) This assertion appears to be consistent with the IE Operations Team Recommendations and the description of the problems,

-except in the case of the reliability of the incore thermocouples. "The licensee did not place confidence in the readings because the thermocouples are not safety grade designated. The thermocouples proved to be reliable and informative." (IE Operations Team Recommendations, at 12)

The six tasks of NUREG-0660 referred to by Mr. Martin as "agency actions toward that end" of increasing the reliability and utility of the instruments (Affidavit of Robert D. Martin, at 3) reference the C.1.a series of IE recommendations, of which there are a total of seventeen (17). (IE Operations Team Recommendations, at 12-17) Those tasks might arguably be used as a basis for concluding that the original IE recommendations will be satisfactorily resolved at some future date. However, they can not be used to support a conclusion that the original IE recommendations have been resolved. While Mr. Martin may be satisfied to speculate on whether the original IE recommendation may be resolved at some unknown future time, the Commission has instructed the Board to determine, in part, whether the modifications implemented at TMI-1 are sufficient to allow restart. Thus, Mr. Martin's affidavit does not answer the relevant question.

Finally, we note that Mr. Martin states that the IE investigation team "knew that [the IE recommendations] would, in many instances, duplicate specific or general actions already being considered or in progress." (Affidavit of Robert D. Martin, at 2) Mr. Martin's letter of October 10, 1979, transmitting the IE Operations Team Recommendations stated that "[t]hose recommendations which have been marked with an asterisk(*) are those which we believe are already in progress." All of the IE recommendations on which UCS based its motion to reopen, except one,^{10/} are designated as recommendations which Mr. Martin now swears were known to duplicate actions already being considered or in progress. This is an important point because the Staff attempts to make much of the assertions

that "no technical basis is given for the recommendation made" and that the IE Operations Team report "contains no significant information or argumentation." (Affidavit of Donald F. Sullivan, at 2; Affidavit of James H. Conran, at 3) If the IE Operations Team knew or believed, albeit erroneously, that their recommendations were duplicative of actions already being considered or in progress, there would have been little or no incentive to include an extended discussion of the technical basis or argumentation to support the recommendations.

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Response to Affidavit of Walton L. Jensen, Jr.

Two affidavits by Mr. Jensen were attached to the Staff's Response; we address here the affidavit concerning UCS Contention No. 5 regarding the PORV and its block valve.

Mr. Jensen states that he has examined the IE Operations Team Recommendations numbered C.1.c(2) and C.1.c(3) concerning the PORV and its block valve and that his previous testimony is 'unaffected by those recommendations. (Affidavit of Walton L. Jensen, Jr., at 2) Mr. Jensen gives only one specific reason for that conclusion - namely, that the IE Operations Team statement that "This valve [PORV] as attached to the pressurizer presents a potential single failure when need[ed] to protect against over pressurization at low temperatures (NDTT)," is not applicable to TMI-1. As support for this assertion, Mr. Jensen lifts one sentence out the NRC Safety Evaluation of Amendment No. 56 to the TMI-1 license^{11/}: "The TMI-1 [Overpressure Mitigating System] OMS is both redundant and functionally diverse." (Id.) Mr. Jensen seriously misleads by misrepresenting the Staff's evaluation of the OMS and by ignoring other statements in the IE Operations Team report.

The Staff's July 28, 1980 SER supporting License Amendment No. 56 differs significantly from the Staff's (and its consultant's) evaluation of the OMS. The evaluation of the TMI-1 OMS was performed by A.C. Udy, EG&G Idaho, Inc., and the Plant Systems Branch of NRC's Division of Operating Reactors. These two evaluations were transmitted to R. Reid, Chief, Operating Reactors Branch #4, DOR, by letter dated November 2, 1979. (A copy is attached because this was not provided to the Board and the parties by the Staff)

Among the significant differences between the November 2, 1979 and the July 28, 1980 SERs are the following:

1. The July 28, 1980 SER approves the TMI-1 OMS. In contrast, the November 2, 1979 SER states, on page 2, that

The Metropolitan Edison Company's proposal for a low temperature overpressure mitigation system for the Three Mile Island, Unit 1 does not meet the intent of the NRC criteria in the areas of electrical, instrumentation, and controls. It fails to meet the criteria on the basis that (a) operator action will be required within ten minutes after detection of one specific transient, (b) the system does not have redundant channels and may be susceptible to a single failure, and (c) the system does not satisfy the IEEE Std-279 and seismic requirements.

Thus, the PORV which is one half of the "redundant and diverse" OMS referred to by Mr. Jensen, does not meet the Staff's criteria.

2. In the July 28, 1980 SER, the "redundant and diverse" OMS consists of the single PORV and the nitrogen or steam bubble in the pressurizer in conjunction with operator action. Administrative controls are used in an attempt to preclude transients where operator action is needed in less than 10 minutes. In the November 2, 1979 SER, on page 1, a defense-in-depth approach is outlined, i.e., design and install plant systems to mitigate

the consequences of overpressure transients and implement administrative controls to guard against initiating overpressure transients.

3. The November 2, 1979 SER notes, on page 2, that pressure alarms should be installed to give the operator direct indication that a low temperature pressure transient is in progress and that the RCS pressure is on a trend to exceeding the 485 psig setpoint of the PORV. In contrast, the July 28, 1980 SER approves the installation of an alarm that will alert the operator only after reactor coolant pressure exceeds 485 psig. This is significant because, in accepting the use of operator action as a mitigation measure, the Staff criterion was purported to be that "No credit can be taken for operator action for ten minutes after the operator is aware of a transient." (July 28, 1980 SER, at 3, emphasis added) The times specified in both SERs are calculated from the time the transient begins (at an initial RCS pressure of 275 psig) until the time PORV action is needed (when RCS pressure reaches 550 psig). Thus, if the operator is not aware of the transient until RCS pressure exceeds 485 psig and the PORV does not open, there may be more than one transient where operator action is necessary in substantially less than 10 minutes, which violates the Staff's requirements.

Mr. Jensen made no attempt to explain these and other discrepancies between the two SERs which indicate that the TMI-1 OMS is not "redundant and diverse" within the correct meaning of those terms and, therefore, does present a single failure potential when needed to protect against overpressurization at low temperatures.

Mr. Jensen also ignored other statements and information in the IE Operations Team report. For example, in the description of the problem that led to the recommendation that the PORV (and all valves and attachments that constitute the reactor coolant pressure boundary

integrity) should be reevaluated for safety grade (functional and seismic) classification, the IE team noted the possible misapplication of the TMI-1 PORV in its usage for low pressure protection. "The vendor suggests that the block valve, RC-V2, upstream of the relief valve be kept closed and not opened until steam pressure is about 1000 psig." (IE Operations Team Recommendations, at 21) Thus, for the Board to accept the assertions in Mr. Jensen's affidavit, it must ignore the information provided by the IE team that the TMI-1 PORV may not be suitable for use as a low temperature overpressure protection device.

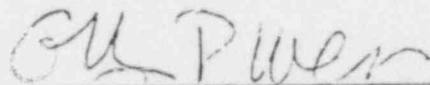
HOW UCS WOULD PROCEED IN A REOPENED PROCEEDING

The Board directed UCS to explain, in view of the Staff's affidavits, how UCS would proceed in a reopened proceeding and hypothecate a different result. (Memorandum and Order Directing Intervenor Responses Regarding Sholly and UCS Motions to Reopen Record, October 13, 1981, at 3). Our response to this Board direction is being served only on the Board members and Mr. Sholly. UCS believes that this response should be treated in the same manner as cross-examination plans were during this proceeding. The attached response can be served on the other parties after either the reopened proceeding is concluded or the Board decides not to reopen the proceeding. To disclose it to the other parties now, particularly the Staff, would seriously prejudice UCS' ability to proceed in the manner described therein.

CONCLUSION

For the reasons discussed herein and those in UCS' original motion, UCS urges the Board to reopen this record.

Respectfully submitted,



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FOOTNOTES

1. "NRC Response in Opposition to Sholly and UCS Motions to Reopen the Record and for Further Relief" n.15 at 6. (Hereinafter "Staff Response.")
2. "The task force obtained copies of all documents that could be identified as containing recommendations or commitments by IE. The recommendations were then placed into an outline which had been provided by the steering group for the Three Mile Island Task Action Plan. In the initial compiling of the outline, there was no attempt to delete any recommendations from the listing but merely an attempt to collect from available sources all of the recommendations into a central document. Following the completion of this listing, an initial screening of those commitments and recommendations was made by the task force to remove those items which did not appear to increase the health and safety of the public. An example of an item removed in this initial screening is an early retirement provision for investigators. Following the initial screening, the listing of commitments and recommendations was combined with other offices listings into a document which later became known as Draft 1 of the Three Mile Island Action Plan." (Kellogg Affidavit at 2.)
3. Defined in Webster's New Collegiate Dictionary, 1977, as "to differ in opinion."
4. The Board has asked for specificity with respect to issues and interrogatory responses. The pertinent questions and answers were attached to the "Union of Concerned Scientists Motion to Reopen Record, to Permit the Taking of Depositions, and for Costs Against the Staff." See also the UCS Motion, fn. at 11, which relates each interrogatory to the relevant UCS contention. Further discussion is provided in the attached affidavit of Robert D. Pollard.
5. Vermont Yankee Nuclear Power Corp. (Vermont Yankee Nuclear Power Station), ALAB-124, RAI-73-5, 358, n. 10 at 365 (1973); ALAB-138, RAI-73-7, 520 (1973).
6. See Affidavits of Jensen, Sullivan and Conran.
7. Both the Licensee and the Staff downgrade the significance of the IE team's views on the general grounds that they came from a division with responsibility over the operational aspects of nuclear plants rather than from NRR, which handles licensing. On the contrary, UCS views this as a virtue rather than a fault. In contrast to the theoretical testimony presented by

most of the staff witnesses on these contentions, the IE recommendations come from a group which is familiar with the manner with which design influences operational safety in a practical sense and whose recommendations came directly out of their investigation of the accident and the manner in which the operators performed in conjunction with the equipment during the accident. Neither Mr. Jensen nor Mr. Sullivan's testimony was based on an analysis of the accident; both would have given the same testimony before the accident as afterward.

8. Mr. Martin states that these tasks are "among others." Since Mr. Martin has not specified the "others," UCS has not identified them, especially since the examples given have little if any relationship to the original IE recommendation and are presumably the best Mr. Martin could cite.
9. Copies of the eight Action Plan Tasks are attached to the Board's copies of this pleading.
10. The one exception is recommendation C.1.a(17) concerning safety grade pressurizer level and temperature instruments.
11. "Safety Evaluation by the Office of Nuclear Reactor Regulation, Low Temperature Overpressure Mitigating System for Three Mile Island Nuclear Station, Unit No. 1 Supporting Amendment No. 56 to Facility Operating License No. DPR-50," July 28, 1980. The Staff provided the Board and parties with this SER by copy of a letter to Mr. R.C. Arnold from Robert W. Reid, dated July 28, 1980. Until now, the Staff has not referred to this SER during this proceeding. The quoted sentence appears on page 5 of the 11-page SER.