

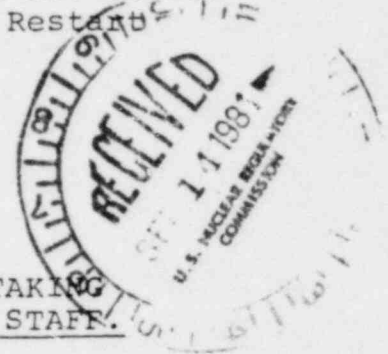
UNITED STATES OF AMERICA
NUCLEAR REGULATORY COMMISSION

BEFORE THE ATOMIC SAFETY AND LICENSING BOARD



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

Docket No. 50-289
Restart



UNION OF CONCERNED SCIENTISTS
MOTION TO REOPEN RECORD. TO PERMIT THE TAKING
OF DEPOSITIONS, AND FOR COSTS AGAINST THE STAFF.

Introduction

Approximately four (4) weeks ago, the Union of Concerned Scientists came into possession of a document entitled Recommendations of TMI-2 IE Investigation Team (Operational Aspects), dated September, 1979. This document was not in the Public Document Room. A copy is attached.

As its name suggests, the document contains the recommendations of the TMI-2 Investigation Team of the Office of Inspection and Enforcement with respect to changes in Plant design and operation needed as a result of the TMI-2 accident. In a number of cases enumerated more specifically below, these recommendations agree directly with UCS contentions in the restart proceeding and are contrary to the positions taken by the Staff in their testimony. Neither the existence of these

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recommendations nor their content was ever mentioned by the Staff either in its testimony or in its answers to interrogations posed by UCS, although discovery questions were asked which should have caused the Staff to disclose it.

RELATIONSHIP OF THE IE RECOMMENDATIONS TO UCS CONTENTIONS AND TC STAFF TESTIMONY

a. UCS CONTENTION NO. 3

UCS Contention No. 3 is as follows:

The Staff recognizes that pressurizer heaters and associated controls are necessary to maintain natural circulation at hot stand-by conditions. Therefore, this equipment should be classified as "components important to safety" and required to meet all applicable safety-grade design criteria, including but not limited to diversity (GDC 22), seismic and environmental qualification (GDC 2 and 4), automatic initiation (GDC 20), separation and independence (GDC 3 and 22), quality assurance (GDC 1), adequate, reliable on-site power supplies (GDC 17) and the single failure criterion. The Staff's proposal to connect these to the present on-site emergency power supplies does not provide an equivalent or acceptable level of protection.

The IE TMI-2 investigation team recommended the following:

"The pressurizer heater system should be classified as safety grade which would assure emergency power availability and protection from failures due to environmental conditions." (Recommendations of TMI-2 IE Investigation Team, at 23; emphasis added)

Thus, the investigation recommendation is virtually the same as the UCS contention.

In contrast, the Staff testified in the hearing that with respect to the pressure control function of the pressurizer heaters, the pressurizer heaters and associated controls should not be classified as components that are important to safety and need not be safety grade, (Jensen, ff. Tr. 8712 at 6). ^{*}/

In addition, Mr. Jensen testified in response to questions posed by Dr. Jordan and UCS that the sole consideration given by the Staff to the "need to consider the upgrading of those pressurizer heaters and associated controls required to maintain natural circulation at hot standby conditions to a safety-grade classification" (NUREG - 0578 at A-2, cited at Tr. 8731) was embodied in his testimony. (Tr. 8731-8732, 8735-8736, Jensen. See also UCS Proposed Findings, paras. 67 and 68 and Tr. 8959-8960, 8972-8973, Jensen.)

There is no question but that the Staff testified not only that there is no need to classify the heaters as safety-grade but also that, besides such consideration as might be embodied in the testimony of Mr. Jensen, the Staff had not considered the issue. Thus, the impression was deliberately given of a Staff monolithic in its opposition to the measures which UCS believes are required.

^{*}/There is no dispute that the heaters form part of the reactor coolant system pressure boundary and are "safety grade" for that purpose.

The IE investigation report clearly indicates that this is not the case - that some 6 months after the accident, the investigation team recommended precisely the action supported by UCS.

Had UCS known of this prior to the hearing we would have taken a series of steps including depositions to determine the reasons which the investigators had for the recommendations, the manner in which they were considered and disposed of by the Staff and to present this evidence to the Board either by subpoena of the appropriate persons or at the very least by cross-examination of the Staff witness.

This evidence would clearly have been - and remains - of substantial importance in evaluating the merits of UCS's contention. Had the Board known that one of the major NRC TMI-2 investigators came to the same conclusion as UCS, that would obviously lend significant additional weight to the UCS case. Moreover, it would tend to discredit the conclusions of Mr. Jensen, whose testimony in any case rested not on an analysis of the TMI-2 accident nor on any particular knowledge of plant systems, but rather on a computer analysis of plant response. (See UCS Proposed Findings, Para. 69).

b. UCS CONTENTION No. 5

UCS Contention No. 5 is as follows:

Proper operation of power operated relief valves, associated block valves and the instruments and controls for these valves is essential to mitigate the consequences of accidents. In addition, their

failure can cause or aggravate a LOCA. Therefore, these valves must be classified as components important to safety and required to meet all safety-grade design criteria.

The recommendations of the IE investigation include the following:

"This valve [the PORV], being a pressure boundary component, should receive review with performance tests conducted to demonstrate the use of this valve for low and high pressure boundary use. Apply as is appropriate 10 CFR 50, Appendix A, Criterion 1, 13, 14, 15 and 30.

"This valve [the PORV] as attached to the pressurizer presents a potential single failure when need [sic] to protect against over pressurization at low temperatures (NDTT).

"All valves and attachments that constitute the reactor coolant boundary integrity should be reevaluated for safety grade (functional and seismic) classification.

"The block valve should be upgraded to functional safety grade equipment." (Recommendations of TMI-2 IE Investigation Team, at 21-23)

In contrast, based again on the testimony of Mr. Jensen, (ff. Tr. 8821) the Staff took the position in the restart hearings that the PORV, associated block valve and the instruments and controls for these valves need not be classified as components important to safety (See NRC Staff Proposed Findings, para. 214)

Once again, because the existence of this document and the

position taken by the IE team were not disclosed to UCS, we were denied the ability to develop and present to this Board evidence which can substantially strengthen our case.

c. UCS CONTENTION NO. 10

UCS Contention No. 10 is as follows:

The design of the safety systems at TMI is such that the operator can prevent the completion of a safety function which is initiated automatically; to wit: the operator can (and did) shut off the emergency core cooling system prematurely. This violates section 4.16 of IEEE 279 as incorporated in 10 CFR 50.55 (a) (h) which states:

The protection system shall be so designed that, once initiated, a protection system action shall go to completion.

The design must be modified so that no operator action can prevent the completion of a safety function once initiated.

Contrary to the Staff's testimony (Sullivan, ff. Tr. 6602) and supportive of UCS's testimony (Pollard, ff. Tr. 6410), the recommendations of the Staff's TMI-2 investigating team include the following:

"Provide a 'lock-in' feature on the ESFAS such to prevent inappropriate operator defeat of the ESF equipment." (Recommendations of TMI-2 IE Investigation Team, at 20)

Although the meaning of this recommendation is less clear on its face than the previously quoted recommendations, it would appear to support UCS's contention that the ECCS and other engineered safety features should be designed with a lock-in system that prevents premature operator termination.

d. UCS CONTENTION NO. 14

UCS Contention No. 14 is as follows:

The accident demonstrated that there are systems and components presently classified as non-safety-related which can have an adverse effect on the integrity of the core because they can directly or indirectly affect temperature, pressure, flow and/or reactivity. This issue is discussed at length in Section 3.2, "System Design Requirements," of NUREG-0578, the TMI-2 Lessons Learned Task Force Report (Short Term). The following quote from page 18 of the report describes the problem:

"There is another perspective on this question provided by the TMI-2 accident. At TMI-2, operational problems with the condensate purification system led to a loss of feedwater and initiated the sequence of events that eventually resulted in damage to the core. Several non-safety systems were used at various times in the mitigation of the accident in ways not considered in the safety analysis; for example, long-term maintenance of core flow and cooling with the steam generators and the reactor coolant pumps. The present classification system does not adequately recognize either of these kinds of effects that nonsafety systems can have on the safety of the plant. Thus, requirements for non-safety systems may be needed to reduce the frequency of occurrence of events that initiate or adversely affect transients and accidents, and other requirements may be needed to improve the current capability for use of nonsafety systems during transient or accident situations. In its work in this area, the Task Force will include a more realistic assessment of the interaction between operators and systems."

The Staff proposes to study the problem further. This is not a sufficient answer. All systems and components which can either cause or aggravate an accident or can be called upon to mitigate an accident must be identified and classified as components important to safety and required to meet safety-grade design criteria.

UCS's testimony explained the significance in nuclear safety regulation of the distinction between safety-grade and non-safety-grade systems and components and took the position, inter alia that the TMI-2 accident showed that certain systems previously classified as not safety-related are, in fact, important to safety and should be safety grade. (Pollard, ff. Tr. 8091). In UCS's view, all systems which can in fact either cause or be called upon in the mitigation of an accident should be identified and required to meet safety-grade criteria to ensure the reliability of such systems and to prevent adverse systems interactions. (Id. See also UCS Proposed Findings, paras. 473-475, 491).

The Staff testimony in opposition to this contention was presented by Mr. Conran (ff. Tr. 8372), who testified that only systems performing "critical safety functions" need be safety grade and that none of the non-safety grade equipment which contributed to or was used in mitigation of the TMI-2 accident met these criteria. (Id. at 4-6, 8-11 and UCS Proposed Findings, paras. 504-507). Moreover, Mr. Conran was unaware of any analysis done by anyone on the Staff of the TMI systems to enable the Staff to determine whether any TMI-1 systems meet his criteria for upgrading; he was only able to cite the B&W computer analyses discussed in Mr. Jensen's testimony on UCS Contentions 1 & 2, (Tr. 8547, 8551-8554, & UCS Proposed Findings, paras. 518-520). Finally, while claiming that the Staff had struck a judgment as to whether previously non-safety grade equipment should be upgraded

as a matter of "prudence", the witness knew of no analysis done by the Staff as a basis for exercising that judgment. (Tr. 8613-8614, 8619-20. UCS Proposed Findings, paras. 522-224.)

In contrast, the IE investigation recommended not only that the pressurizer heaters, PORV and block valve should be safety-grade, but also that the incore thermocouples and pressurizer level and temperature instruments should likewise be upgraded to safety-grade. (IE Investigation at 12, 17). This evidence is supportive of the UCS position.

e. SUMMARY

In each of the cases described above, the IE investigation reached conclusions supportive of UCS and contrary to the Staff position taken at the restart hearings. This evidence shows that the conclusions of a major TMI-2 investigation were either ignored or overruled for undisclosed reasons.

THE RECORD SHOULD BE REOPENED

A motion to reopen a record prior to the issuance of an initial decision should be granted if it is timely presented and is addressed to a significant issue. The more significant is the safety issue presented, the less important is the timeliness factor. The proponent of the motion has what has been described as a "heavy burden" in meeting these standards. Vermont Yankee Nuclear Power Corp. (Vermont Yankee Nuclear Power Station), ALAB-124-RA1-73-5, 358, 365, n. 10 at 365 (1973); Vermont Yankee Nuclear Power Corp. (Vermont Yankee Nuclear Power Station) ALAB-

138, RAL-73-7, 520 (1973); Metropolitan Edison Co. et al. (Three Mile Island Nuclear Station, Unit. No. 2) ALAB - 486, 8 NRC 9, 21 (1978).

This request is timely. In connection with his preparation of a report on the development of the TMI Action Plan, Mr. Sholly of UCS began in mid-July to compile all of the documents cited therein. The IE investigation is cited, but no indication is given that the recommendations of the IE investigation are different from and inconsistent with the Action Plan requirements.

Mr. Sholly searched the Public Document Room for the IE investigation, including a search of the TMI-2 and TMI-1 dockets, the accession files, the files for Messrs. Allan, Moseley and Sniezek and a computer search. The document is not in the Public Document Room. Mr. Sholly then telephoned the Regional IE Office and Messrs. Mosely and Sniezek. The document was finally located in Region I and mailed to Mr. Sholly. It was received on August 7. On that day, Mr. Pollard left for a 3-week vacation. Counsel for UCS was also out of the office and ill during some of this period, including a stay in the hospital from August 19-21. UCS has been unable to prepare this motion until this time.

The IE investigation results are clearly related to significant safety issues which are central questions in this proceeding. Indeed, the recommendations place the UCS contentions in a dramatically different perspective. Until this time, the evidence has suggested that UCS stood alone in the technical and policy positions represented by its contentions. It was never disclosed or even

hinted that, in the immediate aftermath of the TMI-2 accident, an IE investigation reached the same conclusions as UCS.

The document in itself is not only important evidence in this case, but should lead to the development of additional significant evidence. In particular, through deposing the appropriate member(s) of the investigation team, UCS intends to learn the bases for the recommendations and the manner in which they were considered, if at all, by the Staff in reaching the positions which it took in the restart hearings.

BECAUSE OF THE STAFF'S FAILURE TO
INFORM UCS OF THE EXISTENCE OF THE IE
INVESTIGATION REPORT IN RESPONSE TO UCS
INTERROGATORIES, THE BOARD SHOULD PERMIT
UCS TO TAKE DEPOSITIONS AND SHOULD REQUIRE
THE STAFF TO PAY THE COSTS OF THESE
DEPOSITIONS AND THE COSTS TO UCS ASSOCIATED
WITH REOPENING THE HEARING.

With respect to each UCS contention, UCS asked the Staff to "identify any members of the Staff who dissent from the present Staff position on UCS Contention N. Explain the reasons for which any Staff members dissented from the present Staff position on UCS Contention N." (Union of Concerned Scientists Interrogatories to the Nuclear Regulatory Commission Staff, December 21, 1979 at 2) In each case pertinent to this motion, the Staff responded that no members of the NRC Staff dissented from the official Staff position, with the exception of interrogatory 152 relating to Contention 14, where Demetrious Basdekas was identified.^{*/} Mr.

^{*/} These answers are all in the NRC Staff Response to Union of Concerned Scientists First and Second Set of Interrogatories, March 31, 1980. Interrogatory 28 goes to Contention 3, Interrogatory 42 goes to Contention 5, Interrogatory 94 goes to 10 and Interrogatory 152 goes to Contention 14. The pages of the Staff document was not numbered and are attached hereto.

Basdekas' opinion was not associated with the IE investigation.

The IE recommendations were completed in September, 1979 and forwarded to Region I on October 10, 1979. UCS does not yet know how they proceeded after that, although as noted above, they are cited in the Action Plan, NUREG 0660. It is certainly reasonable to believe that the Staff members assigned to the TMI-1 hearings were aware of the IE recommendations at least by the time that the answers to the UCS interrogatories were provided on March 31, 1980.*/ The IE investigation report indicates on its face that the members of the investigation team dissented from "the current NRC Staff position" in that they recommended measures rejected by the Staff. This information should have been disclosed to UCS. Failure to do so severely prejudiced UCS by precluding it from developing and bringing to the Board's attention pertinent evidence supportive of UCS contentions.

The NRC discovery rules parallel the Federal Rules of Civil Procedure and the Federal decisions under those rules provide appropriate guidelines for interpreting NRC's discovery rules. Allied General Nuclear Services (Barnwell Fuel Receiving and Storage Station), LBP-77-13, 5 NRC 489 (1977).

*_/ Even if the cognizant Staff members did not learn of the recommendations of the IE investigation team until after March 31, 1980, the Staff had a duty to amend their prior response when they learned that it was incorrect. 10 CFR 2.740(e)(2). See also Taggart v. Vermont Transportation Co., 32 FRD 587, 589 (D.Pa. 1963): "Aside from our Local Rules and the terms of the interrogatories, good faith would require that information acquired subsequent to the filing of an answer to interrogatories must be disclosed by supplemental answer."

A civil litigant has a duty under the Federal Rules of Civil Procedure to give truthful answers to interrogatories, Novick v. Pennsylvania Railroad Co., 18 FRD 296 (D.Pa. 1955), and to ensure that answers are truthful at time of trial as well as at the time when they are given, McNally v. Yellow Cab Co., 16 FRD 460 (D.Pa. 1954). Answers must be full and complete, Unita Oil Refining Co. v. Continental Oil Co., 226 F. Supp. 495 (D.Utah 1964). A litigant is required by Rule 26, Fed. R.Civ. P., to be candid, Voegeli v. Lewis, 568 F.2d 89 (8th Cir. 1977); and an attorney, as an officer of the court, must be similarly truthful and candid, Gorsha v. Commercial Transport Corp., 38 FRD 188 (D.La. 1965). An inaccurate answer is worse than no answer because it "misleads and confuses the other party." Evanson v. Union Oil Co., 85 FRD 274 (D.Minn. 1978).

Although Rule 37 governing sanctions and 10 CFR 2.707 apply only to failure to comply with discovery orders entered by the court (or presiding officer, in NRC's case), a court is vested with broad, inherent equitable discretion to make discovery and evidentiary rulings necessary to the conduct of a fair and orderly trial, Campbell Industries v. M/V Gemini, 619 F.2d 24, 27 (9th Cir. 1980); U.S. v. Moss-America, Inc., 78 FRD 214, 216 (D.Wis. 1978). See also 8 Wright and Miller, Federal Practice and Procedures, 2182 at 581: Courts have "uniformly held that the court has inherent power to exclude testimony or make whatever other order justice requires when the inaccuracy of the answer comes to light. 10 CFR 2.718 grants the Licensing Board parallel

authority to take "all actions necessary" for the conduct of a fair and impartial hearing.

Sanctions have been imposed by courts for failure to disclose information during discovery such as striking of evidence DeMarines v. KLM Royal Dutch Airlines, 580 F.2d 1193, 1201 (3d Cir. 1978) and preclusion of undisclosed claims or legal theories. Holiday Inns, Inc. v. Robertshaw Controls Co., 560 F.2d 856 (7th Cir. 1977). Courts have ordered new trials when a party has introduced evidence or witnesses not disclosed during discovery, Voegeli v. Lewis, 568 F.2d 89 (8th Cir. 1977) or granted a party a continuance to enable a fair defense. Washington Hospital Center v. Cheeks, 394 F.2d 964 (D.C. Cir. 1968)

The factors a court will consider in determining the severity and type of sanction to impose or action to take include, inter alia, the actual surprise or prejudice caused the opposing party by failure to disclose information in discovery, Holiday Inns, Inc. v. Robertshaw Controls Co., supra. See also Meyers v. Pennypacker Woods, 559 F.2d 894, 904-5 (3rd Cir. 1977). The prejudice to UCS in this case is obvious and substantial. As noted above, we have been in essence prevented from presenting evidence favorable to UCS's contentions and inconsistent with the Staff's positions in the restart hearings.

In this case, the following relief is required in order to ensure that the prejudice to UCS is remedied and that the record in this proceeding is complete and accurate:

1. The record should be reopened
2. UCS should be permitted to depose the appropriate Staff member(s) at the NRC's expense.
3. Subsequent to the taking of the deposition(s), the Board should schedule an evidentiary hearing at which the appropriate member(s) of the Staff will be called to authenticate the report and to be questioned with respect to the recommendations therein and their disposition. NRC shall be ordered to pay UCS's costs in attending and preparing for such sessions.

CONCLUSION

For the reasons given above, UCS moves this Board to:

1. Reopen the record for the receipt of evidence related to the recommendations of the IE investigation discussed herein.

2. Order the NRC Staff to identify the person(s) responsible for the IE recommendations discussed herein, including but not limited to the person(s) involved in the pertinent portions of the investigation and to make these person(s) available for deposition by UCS.

3. Order the NRC Staff to identify the person(s) who were responsible for the decision not to include the IE recommendations as requirements for TMI-1 and to make those persons available for deposition by UCS.

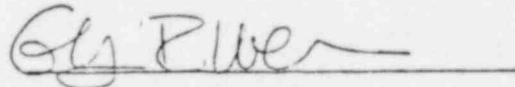
4. Order the NRC Staff to pay the costs of these depositions.

5. Subsequent to the taking of the depositions, schedule an evidentiary session at which the appropriate members of the NRC Staff shall be called to authenticate the IE Investigation Report and to testify concerning its content and its deposition. This session may include the taking of testimony from Staff witnesses other than those in the Division of

Inspection and Enforcement who had the responsibility to determine whether the IE recommendations would be implemented.

6. Order the NRC Staff to pay UCS's costs and expenses in preparing for and attending such evidentiary session.

Respectfully submitted,



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dated: September 10, 1981

26. Explain the present Staff position on UCS Contention 3.

Response

The present staff position on UCS Contention No. 3 is that the pressurizer heaters and their controls are not presently characterized as "safety-grade" in the context of having to meet all applicable safety-grade criteria; but that the safety classification of these components will be evaluated and the classification will be upgraded if this is deemed necessary in order to preclude exceeding the acceptance criteria for any design basis event. This Staff position and its rationale are defined in detail in the Staff response to Interrogatories Nos. 31 and 32.

27. Does the current position differ from the position of the Staff in any prior cases? If so, identify the case(s), explain the prior position, and explain the basis for the change in position.

Response

The present staff position differs from the position on prior cases only with respect to the present requirement that "pressurizer heaters and their controls shall be connected to the emergency buses in a manner that will provide redundant power supply capability." This is discussed in detail in the staff response to Interrogatory 31. However, the difference is moot since this new requirement is being backfit to all operating PWR's and all PWR's in the licensing process.

28. Identify any members of the Staff who dissent from the present Staff position on UCS Contention 3. Explain the reasons for which any Staff members dissented from the present Staff position on UCS Contention 3.

Response

No members of the NRC Staff are known to dissent from the position stated in Interrogatory 26.

29. Identify the specific sections and page numbers of the SER and/or FSAR for TMI, Unit 1, which are relied upon in formulating the Staff position on UCS Contention N.

Response

All of the documents cited in the staff response to Interrogatory No. 31 have been used in formulating the staff position on UCS Contention No. 3. This includes TMI-1 Safety Evaluation Report, July 11, 1973, Sections 1.5.2, 3.8.2, 5.0 and 18.0. The TMI Unit 1 FSAR was not used directly for this formulation.

UCS Interrogatory 42

Identify any members of the Staff who dissent from the present Staff position on UCS Contention 5. Explain the reasons for which any Staff members dissented from the present Staff position on UCS Contention 5.

Response

No members of the staff are known to have dissenting views on this position. However, as discussed in Interrogatory 152, a staff member does have a dissenting opinion concerning the related issue of control system response and malfunction during accidents.

of the safety function in order to prevent the loss of its physical integrity from aggravating the event.

Interrogatory 93:

Does the current position differ from the position of the Staff in any prior cases? If so, identify the case(s), explain the prior position, and explain the basis for the change in position.

Response:

No.

Interrogatory 94:

Identify any members of the Staff who dissent from the present position on UCS Contention 10. Explain the reasons for which any Staff member dissented from the present Staff position on UCS Contention 10.

Response:

None have been identified.

Interrogatory 95:

Identify the specific sections and page numbers of the SER and/or FSAR for TMI, Unit 1, which are relied upon in formulating the Staff position on UCS Contention 10.

Response:

None

UCS Interrogatory 152

Identify any members of the Staff who dissent from the present Staff position on UCS Contention 14. Explain the reasons for which any Staff members dissented from the present Staff position on UCS Contention 14.

Response

Mr. Demetrios Basdekas raised technical issues involving nonsafety-grade equipment which are discussed in detail in References 3, 4, and 5. No other members of the staff are known who dissent from the present staff position on UCS Contention 14.