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UNITED STATES OF AMERICA
NUCLEAR REGULATORY COMMISSION

OFFICE OF SECRETARY
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Before the Atomic Safety and Licensing Board

In the Matter of)	
)	
METROPOLITAN EDISON COMPANY, <u>ET AL.</u>)	Docket No. 50-289-OLA
)	ASLBP 83-491-04-OLA
(Three Mile Island Nuclear)	(Steam Generator Repair)
Station, Unit No. 1))	

LICENSEE'S MOTION FOR LEAVE TO FILE REPLY TO
TMIA'S RESPONSE TO LICENSEE'S MOTION
FOR SUMMARY DISPOSITION

Licensee hereby moves the Atomic Safety and Licensing Board, pursuant to 10 C.F.R. § 2.730, for leave to file the accompanying reply to TMIA's April 3, 1984 Response to Licensee's Motion for Summary Disposition. Licensee should be permitted to file such a reply because it is necessary to inform the Board that TMIA has wrongfully and unfairly predicated its opposition on new allegations which should have been, but were not, provided to Licensee in response to discovery requests, and on unsworn statements which do not even purport to satisfy the documentary requirements (depositions, answers to interrogatories, or affidavits) of 10 C.F.R. § 2.749(b) for answering a motion for summary disposition. TMIA has also raised new

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issues which are outside the scope of the admitted contentions, and has on numerous occasions mischaracterized Licensee's amendment application, summary disposition motion and the affidavits of Licensee's witnesses.

In its April 3, 1984, response to Licensee's summary disposition motion, TMIA for the first time attempts to add some flesh to the bare bones of its contentions; the vast majority of the allegations set forth therein were never alluded to, much less explained, in its responses to Licensee's discovery requests. This is so notwithstanding that Licensee's discovery requests unquestionably sought identification of the allegations TMIA now makes, and of the documents upon which it now relies.^{1/}

Fundamental fairness requires that Licensee be permitted an opportunity to demonstrate that TMIA's response is legally insufficient to preclude summary judgment in Licensee's favor. This result is required as well to safeguard the integrity of the Commission's rules, which contemplate the use of the summary disposition procedures as an efficacious means of avoiding unnecessary hearings. As Licensee's reply will demonstrate, TMIA failed to support its allegations with any admissible evidence as required by 10 C.F.R. § 2.749(b), but instead relies on unsworn and unsigned statements, allusions to various test

^{1/} See discussion in the accompanying Reply at 4-11.

reports inapposite to the particular contention in issue, and mischaracterizations of Licensee's prior pleadings. The regulations make clear that unless a properly supported opposition is filed, summary disposition "shall be rendered". Id. at § 2.749(b). Licensee should be permitted to demonstrate these conclusions at this time, rather than unnecessarily having to do so in a lengthy evidentiary hearing.

TMIA's response is fraught with other irregularities which also demand a reply. For example, TMIA improperly seeks to thwart summary disposition by raising issues which are outside the scope of the admitted contentions, or even outside the scope of the hearing. Licensee ought to have an opportunity to demonstrate this as well.

WHEREFORE, Licensee respectfully requests that its motion be granted and that Licensee be permitted to reply to TMIA's Response to Licensee's Motion for Summary Disposition.

Respectfully submitted,

SHAW, PITTMAN, POTTS & TROWBRIDGE

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UNITED STATES OF AMERICA
NUCLEAR REGULATORY COMMISSION
OFFICE OF SECRETARY
OF ENERGY
WASHINGTON, D.C. 20545

Before the Atomic Safety and Licensing Board

In the Matter of)	
)	
METROPOLITAN EDISON COMPANY, <u>ET AL.</u>)	Docket No. 50-289-OLA
)	ALSBP 83-491-04-OLA
(Three Mile Island Nuclear)	(Steam Generator Repair)
Station, Unit No. 1))	

LICENSEE'S REPLY TO TMIA'S RESPONSE TO LICENSEE'S
MOTION FOR SUMMARY DISPOSITION

On February 24, 1984, Licensee moved for summary disposition of each of TMIA's contentions ("Motion"). Licensee's Motion addressed TMIA's contentions in depth, setting forth separately for each contention all material facts as to which there is no genuine issue to be heard, and supporting its motion with detailed affidavits. TMIA responded to Licensee's motion on April 3, 1984. The response consists almost exclusively of improperly proffered new allegations and facts which should have been, but were not, disclosed to Licensee during the discovery process. TMIA's new allegations and facts are supported only by unsworn statements or other documents which wholly fail to satisfy the criteria of 10 C.F.R. § 2.749. Many are outside the scope of TMIA's admitted contentions or of the hearing

itself, and none raises a genuine issue to be heard. Summary disposition in Licensee's favor accordingly should be granted.

I. ARGUMENT

TMIA's two-page response is accompanied by a 55-page document entitled "Statement of Material Facts as to Which There Are Genuine Issues to be Heard" ("TMIA Statement"). TMIA has also appended numerous attachments, including a statement purported to be that of a Dr. George Sih, who is alleged to be an expert in fracture mechanics. TMIA contends there are material issues of fact with respect to each of its contentions save Contention 2.c (on which summary disposition, therefore, should automatically be granted).

Given their length, a superficial perusal of these documents might suggest TMIA has raised at least some issues of material fact. Superficial readings, however, often are misleading, and that is the case here. TMIA's opposition, when placed in context and read closely, raises not even a single genuine issue of material fact which is cognizable by the Board.

There are three reasons why this is so, one or more of which is applicable to each of the allegations made in the TMIA Statement:

- TMIA is estopped from raising the allegations because it wrongfully failed to disclose them to Licensee during the course of discovery as required by Commission regulations.
- The allegations are unsupported by an affidavit or such other support "as would be

admissible in evidence" (10 C.F.R.
§ 2.749(b)).

- The allegations are beyond the scope of the admitted contentions or of the hearing itself.

These three bases are discussed in turn below.^{1/}

A. TMIA IS ESTOPPED FROM RELYING ON NEW ALLEGATIONS
TO SUPPORT ITS OPPOSITION

TMIA has been participating in the steam generator repair proceeding for almost eleven months, since its filing in May, 1983 of a petition to intervene and "Formal Demand for an Adjudicatory Hearing of Amendment to the TMI-1 Operating License Concerning Steam Generator Tube Repairs."^{2/} Throughout, TMIA has steadfastly avoided its obligation to set forth in detail the specific factual basis for its vague and unparticularized contentions. Its claims that it has been unable to do so strain its credibility; its action in coming forth with such specifics only after Licensee has filed for summary disposition suggests either that TMIA until now has been negligent in

^{1/} In view of the fact that none of TMIA's allegations are cognizable, the Board need not address whether, as a substantive matter, TMIA's allegations raise genuine issues of material fact. To alleviate any concerns the Board might have in this regard, however, Attachment I hereto is a technical analysis of TMIA's assertions. As we there discuss, all of the issues raised by TMIA are either not "genuine" or not "material" to the contentions.

^{2/} TMIA has been involved in other TMI licensing proceedings for many years.

fulfilling its obligations as a party, or that it is purposely engaging in surprise tactics of questionable propriety. In either case, the effect is to circumvent the proper NRC procedures. As such, TMIA's dilatory actions should be rejected by the Board.

From the beginning, TMIA has resisted Licensee's and the Board's efforts to discern the specific concerns underlying its contentions with protestations that it is "unable" to articulate any precise allegations. TMIA's September 21, 1983 "Supplement to Petition for Leave to Intervene", which set forth its proposed contentions, did not contain an explanation as to the contention's meaning and scope, and no elucidation was forthcoming at the October 1983 prehearing conference. For example, in support of TMIA Contention 1.a, Ms. Doroshow stated that "[t]he basis for that contention really is the fact that the data supplied is inadequate for us to make a determination." Memorandum and Order (Ruling on Contentions) at 4, November 29, 1983 (citing Transcript of Prehearing Conference Metropolitan Edison TMI-1 Steam Generators at 39). Licensee thus was able to ascertain only that TMIA disagreed with, did not know about, or was somehow concerned with various aspects of the repair program.

During the course of discovery, Licensee served three sets of interrogatories and requests for production of documents on TMIA. The pattern of Licensee's interrogatories was basically

the same for each of TMIA's contentions. We first asked questions requesting clarification of the specific allegations being made, including questions fashioned to determine what TMIA meant by certain terms used in its contentions. For example, we asked TMIA what it meant in Contention 1.a by the "post repair and plant performance testing and analysis" which it was alleging to be inadequate. Licensee's 1st Set, Int. 1.a-1.3/

3/ The numerous discovery documents will be cited herein as follows:

Licensee's 1st Set --	refers to Licensee's First Set of Interrogatories and Request for Production of Documents to Intervenor TMIA, dated December 15, 1983
TMIA's 1st Resp. --	refers to TMIA Response to Licensee Interrogatories, dated January 4, 1984, and TMIA Response to Licensee Request for Production of Documents, dated January 3, 1984
Licensee's Motion to Compel --	refers to Licensee's Motion to Compel Discovery on Licensee's First Set of Interrogatories and Request for Production of Documents to Intervenor TMIA, dated January 9, 1984
TMIA's Supp. Resp. --	refers to TMIA Response to Licensee Motion to Dismiss TMIA Contentions 1a, 1b, 1c, and 2b1 and Supplemental Interrogatory Response to Licensee, dated January 20, 1984
Licensee's 2nd Set --	refers to Licensee's Second Set of Interrogatories and Request for Production of Documents to Intervenor TMIA, dated January 12, 1984
TMIA's 2nd Resp. --	refers to TMIA's Response to Licensee's Second Set of Interrogatories and Request for Production of Documents, dated February 18, 1984

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Likewise, we asked TMIA to identify the license conditions it alleged were inadequate. Second, we asked for the detailed facts and explanations upon which TMIA based its allegations. Third, we asked TMIA to identify the documents which supported its allegations. We also asked a number of questions about specific aspects of the contention which had previously been identified.

TMIA's answers were evasive. In response to the above request that TMIA identify and describe in detail each aspect of "post repair and plant performance testing and analysis" which it alleges is inadequate, TMIA responded by stating that "TMIA is unable at this date to identify and describe in detail the information requested because TMIA can not yet assess the adequacy of each aspect of Licensee's post repair and plant performance testing and analysis." TMIA's 1st Resp., Int. 1.a-1.

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Licensee's 3rd Set --	refers to Licensee's Third Set of Interrogatories and Request for Production of Documents to Intervenor TMIA, dated January 24, 1984
TMIA's 3rd Resp. --	refers to TMIA's Response to Licensee's Third Set of Interrogatories and Request for Production of Documents, dated February 18, 1984
Licensee's 1st Resp. --	refers to Licensee's Answer to TMIA's First Set of Interrogatories and Request for Production of Documents, dated January 13, 1984

Similarly, when asked to identify and produce each document (1) which it claims supports its answers and allegations, (2) which it plans to use as an exhibit, and (3) which they plan to use for purposes of cross examination (see, e.g., Licensee's 1st Set, Ints. 1.a-20, 1.a-22, 1.a-23), TMIA simply declined to provide the requested information.

Because of these deficiencies in TMIA's responses, Licensee was required to file a motion to compel, which was granted by the Board. See Licensee's Motion to Compel; Memorandum Order (Memorializing Conference Call) at 3-4, January 13, 1984. In granting the motion to compel, the Board observed that "a party must comply fully [with discovery requests] in order that the party seeking discovery can know the position of the adverse party before the hearing". Id. at 3.4/

TMIA's continued lack of diligence or ability to provide basic information was evident in its response to Licensee's 2nd Set. For example, Interrogatory II-1.a-1, which supplemented Interrogatory 1.a-1, supra, requested TMIA to state where the post repair and plant performance testing and analyses were inadequate in their assessment of fatigue life, stress levels, the effects of the corrosive contaminant, crack size, etc.

4/ TMIA's supplemental response was hardly more illuminating, stating only generally that the "data is inadequate" with respect to such subjects as "Repair Testing", "Post Repair testing" and the "Effects of the Expansion Repair". TMIA's Supp. Resp., Int. 1.a-4.

TMIA merely responded that "[a]t this time TMIA does not have access to the technical expertise which would allow TMIA to assess the adequacy of [L]icensee's testing and analysis."5/

TMIA's failure to articulate its allegations is directly contrary to its own promise that "[o]nce TMIA is able to review and digest the information it needs... fuller responses will be provided." TMIA's 1st Resp. at 1. Of course, as Judge Wolfe noted in the January 12, 1984 conference call, this statement was no more than a recognition of TMIA's discovery obligations. Be that as it may, those obligations were never fulfilled.6/

5/ TMIA's 2nd Resp., Int. II-1.a-1, II-1.a-2 - II-1.a-9, II-1.c-1 - II-1.c-7, II-1.d-11 - II-1.d-26. Licensee's 2nd Set at 4 also specifically asked TMIA to update each answer previously made to the first set of interrogatories. No update was provided by TMIA.

Licensee's 3rd Set sought to elicit the specific factual bases for TMIA Contention 1.d, especially with regard to whatever information Dr. Sih may have provided. TMIA's 3rd Resp., unfortunately did not include any specific facts upon which TMIA's Contention 1.d may have been based. It merely noted Dr. Sih's disagreement with aspects of the TPR, SER, and Licensee's analysis of small cracks. See id., Response to III-1.d-3 - III-1.d-10.

6/ TMIA has had every document that it needs to assess the entire repair program in its possession or readily available since Licensee's 1st Resp. and the attached reference documents were delivered to TMIA. TMIA has refused to accept delivery of the proprietary versions of those documents although Licensee has made them available to TMIA, but has non-proprietary versions. Yet, over a month later, when TMIA finally responded to Licensee's 2nd and 3rd Sets, TMIA still failed to identify many of the specific factual bases for their contentions. See discussion supra. And of course, TMIA did not voluntarily supplement its answers to Licensee's 1st Set, as it promised and was obliged to do.

All of Licensee's discovery efforts were designed to elicit an understanding of what was being alleged, and why. Faced with TMIA's less than satisfactory response to its discovery requests, Licensee's motion for summary disposition nonetheless sought to define the nature and scope of the contentions as consistently as possible with the plain meaning of the contentions themselves and with what clues the intervenors had given in the prehearing conference and the discovery responses as to the contentions' meaning. Licensee addressed each contention in depth, and in particular, addressed each fact and allegation which TMIA had raised. In so doing, Licensee demonstrated that these facts and assertions raise no genuine issue as to any fact material to TMIA's contentions.

In its April 3 response to Licensee's Motion, TMIA for the first time attempts to add some substance to its unparticularized contentions; the vast majority of the allegations in its Statement were never specified, much less explained, in its responses to Licensee's discovery requests. This is so notwithstanding that Licensee's discovery requests unquestionably sought identification of the allegations TMIA now makes.^{7/}

^{7/} TMIA also failed to identify or produce several of the documents upon which they now rely, most especially the ACRS transcript of the combined subcommittee meeting held on January 28, 1983; Attachment 1, NRC memorandum re: Staff Evaluation of TMI-1 Steam Generator Corrosion Problem (May 19, 1982); and Attachment 4, George C. Sih, Statement of Hearing on TMI Restart:

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If TMIA was truly incapable of providing this information during discovery because of its lack of expertise, we seriously question its place in this proceeding. An alleging party who cannot provide such basic and fundamental information about its own allegations should not be permitted, under the Commission's Rules of Practices, to litigate its contentions. See Commission's "Statement of Policy on Conduct of Licensing Proceedings," CLI-81-8, 13 N.R.C. 452 (1982); Duke Power Company (Catawba Nuclear Stations, Units 1 and 2), CLI-83-19, 17 N.R.C. 1041, 1046-48 (1983).

But even if TMIA in all honesty lacked the expertise necessary to articulate its allegations, this does not excuse its wholesale failure to properly identify this information in response to Licensee's discovery requests. See Duke Power Company (Catawba Nuclear Stations, Units 1 and 2), supra, 17 N.R.C. at 1048. TMIA, after all, was certainly "able" to obtain the assistance necessary to detail specific allegations when it came time to seek to defeat Licensee's Motion. If it can do so now, it could do so then. For this reason, TMIA should be subject to sanction for its noncompliance with Licensee's valid discovery requests. 10 C.F.R. §2.740,

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Steam Generator Tube Repair (December 16, 1983). Thus, Licensee was unfairly denied an opportunity to review these documents in preparation of its motion for summary disposition.

2.740(b); Commission's Statement of Policy, supra, 13 N.R.C. at 454.

But even without invoking the Board's authority to impose sanctions, TMIA is estopped from using the new statements to defeat summary disposition because of its failure to properly respond to discovery. This result is a patently necessary and appropriate one, for to freely excuse intervenor's surprise tactics (or lack of diligence) would seriously undermine the integrity of the summary disposition process, which is designed to avoid unnecessary hearings. It would also undermine the requirement that intervenors fully assume the obligations attendant to participation in licensing proceedings.

Accordingly, to the extent TMIA relies on new information it improperly failed to disclose in discovery, the facts set forth in Licensee's Motion for Summary Disposition should be deemed admitted for purposes of this proceeding, and summary disposition should be granted in Licensee's favor. See 10 C.F.R. § 2.749(a) ("All material facts set forth in the statement required to be served by the moving party will be deemed to be admitted unless controverted by the statement required to be served by the opposing party.")

B. TMIA'S OPPOSITION IS LEGALLY INSUFFICIENT TO BAR SUMMARY DISPOSITION BECAUSE IT IS UNSUPPORTED BY SUCH FACTS AS WOULD BE ADMISSIBLE IN EVIDENCE

10 C.F.R. § 2.749 sets forth the requirements for summary disposition of disputed issues. That regulation expressly provides that once a motion for summary disposition has been made and supported by affidavits, the opposing party may not rely upon mere allegations or statements of concern. Rather, it must put forth such specific "facts as would be admissible in evidence", by affidavit or otherwise, that demonstrate that a genuine issue of material fact exists. 10 C.F.R. § 2.749(b); Florida Power and Light Company (Turkey Point Nuclear Generating, Units 3 and 4), LBP-81-14, 13 N.R.C. 677, (1981), aff'd, ALAB-660, 14 N.R.C. 987 (1981).

In the event that the opposing party is unable to present by affidavit facts essential to justify its position, the regulations provide that it should file an affidavit stating the reason(s) for its inability to comply with the mandate of § 2.749(b). See 10 C.F.R. § 2.749(c). If the party opposing summary disposition does not file an answer in accordance with the procedural requirements set forth in § 2.749, or does not submit an affidavit explaining the reasons for its failure to so comply, summary disposition for the moving party shall be rendered (assuming that the moving party has demonstrated that there are no genuine issues to be heard). 10 C.F.R. § 2.749(b); see also Virginia Electric and Power Co. (North

Anna Nuclear Power Station, Units 1 and 2), ALAB-584, 11 N.R.C. 451 (1980); Wisconsin Electric Power Co. (Point Beach Nuclear Plant, Unit 1), ALAB-696, 16 N.R.C. 1245 (1982).

(1) The Unsupported Allegations

Licensee's summary disposition motion was supported by affidavits. The NRC regulations, therefore, mandate that those of TMIA's allegations which are "mere allegations or statements of concern" be disregarded by the Board. 10 C.F.R. § 2.749. Judicial precedent with respect to summary judgment under Rule 56 of the Federal Rules of Civil Procedure also supports this result.^{8/} It is well established in the Federal courts that, to defeat summary judgment, a genuine issue of fact must be established by sufficient evidence supporting the claimed factual dispute to require a tribunal to resolve the parties' differing versions of the truth at trial. Unless they are accompanied by probative evidence supporting the opposing party's claim, mere assertions of a dispute will not defeat summary judgment. First National Bank of Arizona v. Cities Service Co., 391 U.S. 253, 288-90 (1968). Such evidence is required because "[t]he very mission of summary judgment procedure is to pierce the pleadings and to assess the proof in order to see whether there

^{8/} Because of the similarities between summary judgment and NRC summary disposition, those cases provide guidance here. See Alabama Power Co. (Joseph M. Farley Nuclear Plant, Units 1 and 2), ALAB-182, 7 A.E.C. 210, 217 (1974).

is a genuine need for trial". Notes of Advisory Committee on Rules, Fed. R. Civ. Proc. 56 (e) (emphasis added).

(2) The Unsworn, Unsigned Statements by Dr. Sih

Even where TMIA has proffered information which allegedly supports its opposition, however, that information must be rejected -- and summary disposition granted for Licensee -- because TMIA's supporting material is not evidence which "would be admissible" at trial. 10 C.F.R. § 2.749(b). TMIA places primary reliance on two unsworn and unsigned statements purportedly made by Dr. Sih of Lehigh University. Such unsworn statements may not be considered by an adjudicatory body to determine the propriety of summary disposition because they lack evidentiary value. See Wisconsin Electric Power Co. (Point Beach Nuclear Plant, Units 1 and 2), LBP-82-88, 16 N.R.C. 1335, 1345 (1982); see also Adickes v. S.H. Kress and Co., 398 U.S. 144, 160-61 (1970); Gordon v. Watson, 622 F.2d 120, 123 (5th Cir. 1980). Licensee hereby objects to the authenticity of these statements.

The particular statements in issue here are defective not only because they are unsigned and unsworn, but because there is no indication that Dr. Sih is qualified to testify on the subjects discussed in the statements. Cf. 10 C.F.R. § 2.749(b) ("Affidavits... shall show affirmatively that the affiant is competent to testify on the matters stated therein.") Equally as troubling, Dr. Sih's statement concerning Licensee's summary

disposition motion does not even indicate that he has read Licensee's motion or accompanying affidavits; it is certainly clear from his stated concerns that he has not read any of Licensee's or the Staff's safety reports, and as a consequence, has misunderstood Licensee's qualification testing program.9/

The concerns raised by Dr. Sih are, therefore, misleading and their relevance questionable. It would fly in the face of fundamental fairness and be directly violative of the Commission's rules to permit TMIA to rely on such a document to defeat summary disposition.10/

TMIA seeks to excuse its failure to obtain an affidavit from Dr. Sih by stating that "due to time limitations, these comments could not be converted into affidavit form". (Response at 1). Not only is this excuse lame (no reason is given why TMIA waited until the week of March 19 to contact Dr. Sih, even though Licensee's motion was served on February 24), it is

9/ For example, in Attachment 2, Item (1) of the Intervenor's motion, the author states that "the nonuniformities referred to in the second paragraph on p. 28 (of Licensee's motion) are not clearly defined." In fact, even Licensee's most basic reference document, TR-008 at 82-84 discusses in detail the stresses included in the model, including the manner in which nonuniform bending stresses are incorporated.

10/ The other statement by Dr. Sih--a half page statement he presented to U.S. Senator Specter last December--is equally inadmissible. There is no indication that the document is authentic, or that the concerns there raised are based on any familiarity whatsoever with the actual TMI-1 steam generator repair. In any event, the subjects covered here are clearly not encompassed in any of TMIA's admitted contentions.

itself impermissible. As noted, under the NRC rules, a party opposing summary disposition can excuse its failure to obtain an affidavit which it believes will raise genuine issues of fact only by filing an affidavit explaining why the affidavit on the material facts could not be obtained in time to be filed with its opposition. 10 C.F.R. § 2.749(c). There is no excuse proffered by TMIA for its failure to comply with this requirement, and we are hard-pressed to see how such an excuse could be fashioned.

(3) The Unauthenticated Transcripts and Reports

The remaining documentation submitted by TMIA to support its opposition is equally inadmissible. TMIA relies on the following transcripts and documents which it has not authenticated: (1) Transcript of an ACRS subcommittee meeting on January 28, 1983; (2) an NRC Staff memorandum, dated May 19, 1982; (3) a "meeting report" dated September 20, 1982; (4) an undated "meeting report"; (5) an "informal technical communication" dated August 9, 1982; (6) a "trip report" dated July 21, 1982; (7) an NRC Staff memorandum dated October 20, 1982; and (8) a letter from Chairman Pallidino to Representative Markey dated May 5, 1983. Licensee hereby objects to TMIA's reliance on these unauthenticated documents.

It is established that documents relied upon by either the moving or opposing party must be authenticated by, and attached to, an affidavit meeting the requirements of the 10 C.F.R.

§ 2.749 before they may be considered by an adjudicatory body in determining the propriety of a motion for summary disposition. This is because documents which have not been properly authenticated have no evidentiary value. See Wisconsin Electric Power Co. (Point Beach Nuclear Plant, Units 1 and 2), LBP-82-88, 16 N.R.C. 1335, 1345 (1982); United States v. Dibble, 429 F.2d 598 (9th Cir. 1970). The requirement that the party relying on such documentation authenticate it and establish its admissibility is no mere technicality; as previously noted, the purpose of summary disposition is to assess whether a trial is necessary. It goes without saying that if the information is not admissible, a hearing is not necessary.

In sum, TMIA's response amounts to little more than a voluminous compilation of allegations unsubstantiated by a single fact which would be admissible in evidence, cast in the guise of a statement of facts in dispute. Its opposition therefore is legally insufficient to controvert Licensee's statement of material facts as to which there is no genuine issue to be heard. The facts stated by Licensee accordingly must be deemed admitted, and Licensee's motion for summary disposition granted. 10 C.F.R. § 2.749.11/

11/ TMIA's response is procedurally defective for yet another reason--the intervenor has failed to annex to its motion "a separate, short and concise statement of the material facts as to which it is contended that there exists a genuine issue to be heard." 10 C.F.R. § 2.749 (a); see Consumers Power Co. (Big Rock Point Plant), LBP-82-81, 15 N.R.C. 299, 302 (1982). True,

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C. TMIA'S OPPOSITION IMPERMISSIBLY RAISES ISSUES
WHICH ARE BEYOND THE SCOPE OF THE ADMITTED
CONTENTIONS OR THE HEARING

In many instances, TMIA's Statement raises issues or allegations which are clearly outside the scope of its contentions as gleaned both from the plain meaning of the language and from TMIA's responses to discovery requests. In some instances, the issues raised in TMIA's Statement are beyond the scope of the hearing itself.

As Licensee unfortunately has been obliged to repeatedly stress in response to efforts by the intervenors to broaden the scope of the Board's inquiry, the purpose of this proceeding is a comparatively narrow one: to determine the adequacy of the kinetic expansion repair process. The Board admitted eight TMIA contentions which in its view fall within the scope of that amendment.

TMIA now seeks to expand that list even further by raising a host of issues not related to its contentions or to the

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TMIA has annexed a document which it has entitled a "Statement of Facts". But, in actuality, the vast majority of the statements in that document are (1) summaries of the contentions, or of Licensee's and the Staff's motions and affidavits, (2) arguments, and (3) discussions as to why "questions" still exist. This is hardly the type of statement of facts contemplated by the regulations to assist the Board's "evaluat[ion of] the merits of a motion for summary disposition." Pacific Gas & Electric Co. (Stanislaus Nuclear Project, Unit No. 1), LBP-77-45, 6 N.R.C. 159, 163 (1977).

hearing. The subject matter of this hearing involves only one of a number of Technical Specifications or other NRC requirements which the Staff and Licensee addressed as part of the total steam generator program. These other requirements, and the advising of them by the Staff and the Licensee, are not within the scope of this limited proceeding. Attachment II hereto sets forth a brief description of the measures required of Licensee to demonstrate the post-repair operability of the steam generators, apart from those relating to the particular Technical Specification amendment here in issue, as described in the Board's Notice of Hearing on Issuance of Amendment to Facility Operating License at 1, dated August 8, 1983:

The amendment requested would revise the Technical Specifications to recognize steam generator tube repair techniques, other than plugging, provided such techniques are approved by the Commission.

The licensees' application, dated May 9, 1983, further requested that the Commission approve, within the provisions of the proposed Technical Specification revision, the kinetic expansion steam generator tube repair technique used at the facility, thus permitting subsequent operation of the facility with the as-repaired steam generators.

TMIA's attempt to broaden the scope of this proceeding contravenes the NRC's procedural regulations and should be rejected out of hand. See Wisconsin Electric Power Co. [WEPCO] (Point Beach Nuclear Plant, Units 1 and 2), ALAB-739, 18 N.R.C. 335 (1983). In WEPCO, the Appeals Board upheld the dismissal

of contentions generally related to steam generator operation in a licensing amendment proceeding concerning the repair of steam generator tubes by sleeving. The Appeals Board quited with approval the Licensing Board's explanation that:

This is not an application to build or operate a nuclear power reactor. In an amendment proceeding, the relationship of steam generators to the remainder of the plant is not germane.... The test of relevance [therefore] ... is to ask whether an issue is relevant to "how the sleeving program would cause problems" or whether it reflects "unfavorably on the safety of sleeving."

18 N.R.C. at 339, quoting LBP-82-88, 16 N.R.C. 1335, 1342 (1982). This Board similarly should reject TMIA's efforts to expand the scope of this proceeding to issues not directly related to the kinetic expansion repair process.

D. COMMENTS ON TMIA'S RESPONSES FOR INDIVIDUAL CONTENTIONS

The discussions below briefly point out the most obvious areas where the allegations raised in TMIA's Statement are outside the scope of the contentions and/or wrongfully withheld during discovery. In all instances, the allegations were inadequately supported, or not supported at all by competent evidence, and that argument will not be repeated. Since the statements are legally deficient for the above reasons, it is not necessary to address factually TMIA's various statements. However, for the information of the Board, Attachment I hereto presents a brief factual discussion of the allegations raised

by TMIA in its response. That discussion shows that, even if the response were otherwise legally sufficient, no genuine issue of material fact to be heard has been presented.

(1) Contention 1.a

In this contention, TMIA has alleged that "post repair and plant performance testing and analysis", as well as "proposed license conditions" are "inadequate" to provide assurance against the occurrence of tube ruptures in conjunction with certain types of transients and operating conditions. The most necessary first step to litigating the contention was to determine from TMIA precisely what "testing and analysis" it was alleging to be inadequate. Both Licensee and the Staff have attempted during discovery to learn from TMIA what it had in mind when it alleged that the "post repair and plant performance testing and analysis" were inadequate. TMIA would not or could not tell us.

(a) Qualification program

As Licensee noted at pp. 3-4 of its Motion, it was placed in the untenable position of fashioning a motion to dismiss a contention without knowing what the intervenors were alleging in the contention. This left Licensee no choice but to respond in a manner far broader than what the contention could have encompassed. The fact that Licensee was placed in a disadvantageous position because of TMIA's failure to discharge its

obligations should not yield the offending party yet another advantage -- the inappropriate widening of the contention.

Yet, paragraphs 3 through 40 of TMIA's Statement on Contention 1.a (pp. 1-13) deal exclusively with Licensee's repair qualification program. While we were unable to ascertain in discovery what TMIA meant by "post repair and plant performance testing and analysis", we certainly know what it could not mean. It could not mean Licensee's extensive qualification program, which was a pre-repair program.

Moreover, the qualification program has been extensively described in a number of documents which have been available to TMIA, including the amendment application (TR-008) and the Staff's SER. Even so, TMIA has simply not informed any of the parties that the allegations it is now making for the first time in paragraphs 3 through 40 with respect to the qualification program have been part of its Contention 1.a. See TMIA's 1st Resp., Ints. 1.a-1 - 1.a-4; TMIA's 2nd Resp., Ints. II-1.a-1 - II-1.a.-4. Licensee and the Staff could not possibly have anticipated the allegations in those paragraphs when they filed their motions for summary disposition of Contention 1.a. That contention, as we understood it after three rounds of discovery aimed at determining what was being alleged, was factually laid to rest in Licensee's Motion, and the new allegations cannot be raised at this date in an attempt to defeat the motion by changing and expanding the contention.

(b) Tube Selection for Plugging

Similarly, paragraphs 41 through 63 of TMIA's Statement on Contention 1.a, pages 14-20, deal with "the process used by Licensee to qualify and select which tubes to expand and which to plug (and stabilize). (§ 41.) By no stretch of the imagination can this be considered part of "post repair and plant performance testing and analysis". Moreover, questions of selecting the tubes to be plugged have been specifically found by the Licensing Board to be beyond the scope of this proceeding. Memorandum and Order at 4-5, January 9, 1984.^{12/} Thus, paragraphs 41 through 63 are beyond the scope of Contention 1.a. In addition, none of the allegations in these paragraphs were identified in response to Licensee's interrogatories which sought the particulars of TMIA's Contention 1.a.

(c) In-Process and Post Repair Testing

Paragraphs 64 through 84 are the only aspects of TMIA's response which could, at least semantically, be associated with "post repair and plant performance testing and analysis". Those paragraphs deal with profilometry measurements and tube diameter gauging during the repair process (which are not considered by Licensee to be "post repair" testing), and with

^{12/} This includes issues related to eddy current testing. As discussed in Attachment II at 2, eddy current testing is encompassed in Technical Specification 4.19.1.b, which is not being amended and is therefore not a part of this proceeding.

post-repair leak testing. However, none of the allegations in those paragraphs were described in response to the repeated interrogatories propounded for the express purpose of learning the nature of TMIA's Contention 1.a. See TMIA's 1st Resp., Ints. 1.a-1 - 1.a-4; TMIA's 2nd Resp., Ints. II-1.a-1 - II-1.a.-4. TMIA has never informed the parties of any problems or allegations concerning the profilometry, gauging, or leak testing of the repaired tubes. It is simply too late to attempt to defeat the motions for summary disposition by raising new issues at this stage of the proceeding.

(d) License Conditions

Contention 1.a also alleges that certain of the Staff's proposed license conditions were inadequate. Licensee asked TMIA which ones, and why, but TMIA was "unable" to tell us. See TMIA's 1st Resp., Ints. 1.a-5 - 1.a-8. Later, in response to Licensee's motion to compel a response to its interrogatory seeking the identity of the documents then in TMIA's possession upon which it based its allegation of inadequate license conditions, TMIA simply referred to the license conditions "listed at p. 46 of the SER" (which are all of the proposed license conditions). See TMIA's Supp. Resp., Int. 1.a-8.

TMIA said that it was "most concerned" about Conditions 3 and 4, but has never answered Interrogatories 1.a-6 and 1.a-7 which had asked for each fact, in detail, along with supporting explanations, upon which TMIA based its allegation that the

identified license conditions were inadequate. Thus, none of the allegations in paragraphs 85-92 were divulged to Licensee during discovery, as required in response to Licensee's interrogatories asking for precisely that information.

In addition, this part of Contention 1.a is alleging that the proposed license conditions are inadequate to provide the requisite assurance against tube ruptures during restart and three specified transients. Nowhere has TMIA drawn a relationship between its current criticisms of the license conditions and the asserted consequences of their alleged inadequacies.

In short, there is nothing that could be done with these allegations at a hearing, and TMIA has not upset the supported statement of material facts put forth by the Licensee at pages 77-79 of Licensee's Statement with respect to the adequacy of the license conditions.

In summary, none of the allegations set out in paragraphs 1-93 with respect to Contention 1.a were revealed to Licensee as required by the Commission's Rules of Practice, and all are beyond the scope of the contention as it has been defined, if not beyond the scope of the hearing itself. Accordingly, Licensee's statement of material facts for Contention 1.a remains undisturbed, and summary disposition must be granted in Licensee's favor on that contention.

(2) Contention 1.b

In this contention, TMIA asserts that the possibility of simultaneous tube ruptures in both steam generators should be evaluated "because of the enormous number of tubes in both steam generators which have undergone the repair process..." Such an occurrence is not a design basis accident which the NRC requires to be evaluated. The threshold issue, then, is whether evaluation of that postulated occurrence should be required in this case "because of the enormous number of tubes...which have undergone the repair process."

(a) The Shewmon Memorandum

Both Licensee and the Staff have attempted repeatedly to determine the alleged nexus between the repair process and the need to go beyond the NRC's normal design basis accident requirements. Interrogatories framed specifically toward that end either were unanswered, or were answered with the allegation that Dr. Paul Shewmon, a former Chairman of the ACRS, thought the simultaneous rupture to be feasible. See TMIA's 1st Resp., Ints. 1.a-5 - 1.a.-10; TMIA's 2nd Resp., Ints. II-1.b-1 - II.1.b-5. This interpretation of a Shewmon memorandum, hotly contested by both Licensee and the Staff, was enough to get Contention 1.b admitted in the first instance. See Memorandum and Order at 5-6, November 29, 1983. But it can be of no further value to TMIA. The admitted issue is not what

Dr. Shewmon may or may not have had in mind when he wrote a memorandum.^{13/} The issue raised by the contention is whether there is, in fact, a nexus between the repair and the likelihood of simultaneous tube rupture in both steam generators.

Licensee has shown in its motion, supported by affidavit, that there is no relationship between the repair process and the likelihood of simultaneous tube rupture. Licensee's Statement, ¶¶ 22-23, at 68-71. TMIA's Statement, at pages 27-31, provides nothing in contradiction or refutation of Licensee's material facts. The first half of TMIA's argument, ¶¶ 1-10, is simply speculation about what Dr. Shewmon and the TPR may have thought about the issue. Even now, TMIA still has not put forth any basis for alleging that simultaneous tube rupture has anything to do with the kinetic expansion joint.

(b) Licensee's Emergency Procedures

The second part of TMIA's response, ¶¶ 11-19, takes issue with certain aspects of Licensee's emergency procedures. The emergency procedures, however, are in no way related to the adequacy of the tube repair. TMIA is incorrect in suggesting, at

^{13/} Although not germane to the issue before us, it is of interest to note that TMIA's quotation from the ACRS transcript, TMIA's Statement at 27, supports the position of Licensee and the Staff with respect to Dr. Shewmon's views. There Dr. Shewmon is saying that his concern with respect to "trouble on both steam generators" is not related to the tube cracking and repair ("fatigue cracks"), but rather to considerations totally unrelated to the repairs ("the excursion of faults you have had heretofore").

paragraph 11, that the contingency of simultaneous tube rupture is required to be addressed in Licensee's emergency procedures as a result of the steam generator tube repair. Licensee's emergency procedures for dealing with single and multiple tube ruptures were developed and implemented in response to NRC's generic long term "Lessons Learned" program, not because of the tube repairs. Licensee's current, accelerated implementation of these particular procedures is but one part of a larger program to adopt "Lessons Learned" items earlier than required. This is true of Licensee's early implementation of all emergency procedure changes, not just those related to tube rupture.

TMIA has presented no material issues cognizable in this proceeding with respect to Contention 1.b, and the contention should be dismissed on summary disposition.

(3) Contention 1.c

In this contention it is alleged that the kinetic expansion has weakened the tubes such that plugs "will not be able to hold and give a good seal". TMIA could not, or would not, answer a single one of Licensee's interrogatories designed to determine the details, basis, and explanation for the allegation. Thus, we are seeing now for the first time TMIA's support for its contention, in violation of the discovery requirements of the Commission's Rules of Practices.

In any event, nothing stated in TMIA's response, pages 32-35, upsets Licensee's statement of material facts for which there is no genuine issue to be heard, and nothing stated by TMIA creates such an issue. The first six paragraphs are all taken out of context and have nothing to do with plugging. Nowhere has it been suggested that hardness or the type of effect on strength or dimension referred to in those paragraphs would have any affect on the integrity of the plugging process, and one cannot even imagine how such a result would come about. The tube is, after all, compressed between the expanded plug and the tubesheet hole, and Licensee has established, unchallenged, that neither the tube expansion nor tube weakening to the point of through-wall cracking will affect the integrity of the seal or the retention of the plug. Motion, ¶¶ 72-94 at pp. 83-87.

Paragraphs 7 and 8 of TMIA's response are incorrect statements (see Attachment I at 14-15), and paragraphs 9 through 11 are simply irrelevant and unsupported opinions of TMIA. (Licensee's Motion at 83-87 establishes that the plugs are not bonded to the damaged portions of the tubes, which have been machined off, and that the seal weld was undamaged). Similarly, paragraphs 13 and 14 are unsupported opinions which do not competently take issue with Licensee's statement of material facts.

Accordingly, none of TMIA's statements create a genuine issue of material fact to be litigated, and Contention 1.c must be summarily dismissed.

(4) Contention 1.d

TMIA has alleged in this contention that neither the TPR report nor the Staff's SER is a "credible document" that can be relied upon as a basis for concluding that the repairs are adequate to assure safe operation. Four reasons are alleged: (1) there are inconsistencies between the two documents; (2) they improperly relied on "axial symetric [sic] stress analysis"; (3) they failed to analyze crack resistance on the basis of toughness as opposed to hardness; and (4) they failed to differentiate between the effects of thermal stress on small versus large cracks. Licensee has shown in its Statement, pages 87-90, that none of the four alleged reasons are true. This means that, within the scope of the contention, the two documents cannot be considered "not credible". TMIA, in its response, pages 36-46, has presented no competent or relevant material facts to contradict Licensee's facts and create a litigable issue.

(a) Miscellaneous Initial Allegations

The first eight paragraphs are a hodgepodge of ideas which are difficult to categorize. They certainly present no material facts related to any of the four categories of the

contention, and to the extent they might be construed to be raising new issues, such issues would certainly be beyond the scope of the contention and not cognizable at this stage of the proceeding. For example, the unexplained allegation in paragraph 7, page 37, that "[w]hat the TPR and the Staff have assumed in their analyses are not consistent with the damage as they claimed to have observed in reality" is clearly not encompassed within any portion of Contention 1.d. And, of course, none of the allegations in paragraphs 1-8 was revealed to Licensee in response to discovery requests for such information. See TMIA's 1st Resp., Ints. 1.d-1 - 1.d-5; TMIA's 2nd Resp., Ints. II-1.a-1 - II-1.a-4.

(b) Alleged Inconsistencies between the SER and TPR

TMIA's paragraphs 9-16, pages 38-40, deal with the first allegation, that of inconsistencies between the two documents. TMIA identified five alleged inconsistencies between the two documents in response to a Licensee interrogatory. See TMIA's 1st Resp., Ints. 1.d-3 - 1.d-4. Licensee demonstrated, by reference to the contents of the two documents and to supporting affidavits, that none of the five identified items represented an inconsistency between the two documents. Motion at 16-26.

TMIA, in paragraphs 12, 13, 15, and 16, has now presented four new alleged inconsistencies which it did not identify on discovery, and which Licensee and the Staff therefore could not possibly have anticipated in their motions for summary

disposition. These allegations of inconsistencies are therefore beyond the scope of Contention 1.d as defined by TMIA itself. Moreover, on its face, each new issue is beyond the scope of the contention.

Paragraphs 9-11 and 14 are discussions of three alleged inconsistencies which Licensee addressed at pages 23-26 of its Motion (items c, d and e); they clearly do not represent inconsistencies between the positions of the TPR and the Staff. Thus, there is no genuine issue of material fact with respect to the credibility of the documents because of alleged inconsistencies between them.

(c) Axial Symmetric Stress

Paragraphs 17-19 of TMIA's Statement, page 41, deal with TMIA's second reason, the alleged improper use of axial symmetric stress analysis. The statements in those paragraphs were not provided to Licensee during discovery as requested. See TMIA's 1st Resp., Ints. 1.d-7 - 1.d-10; TMIA's 3rd Resp., Int. III-1.d-3.

Licensee's explanation, fully supported by affidavit, of when axial symmetric stress analyses were used, and why it was appropriate to be used, is presented at pages 27-29 and 87-88 of the Motion, and Licensee's statements of material fact on the subject remain undisturbed by TMIA's statements. TMIA's paragraph 17 is based on an inadmissible statement purported to come from Dr. Sih, who apparently has not read the pertinent

parts of Licensee's documents dealing with crack propagation analysis. Dr. Sih states that the nonuniformities referred to by Licensee "are not clearly defined and do not necessarily include the three-dimensional effects". However, Licensee's document TDR-388 shows clearly at sections 2.2.2 and 2.1.3 that the nonuniformities referred to are those resulting from bending stresses, and indicates those aspects of the analytical model used which are three-dimensional.

Licensee agrees with the statement in paragraph 18 that the non-axisymmetric character of the local stress field should be included in a realistic evaluation of the crack failure mode. As indicated at paragraph 100, page 88, of the Motion, that is exactly what Licensee did. And finally, the statement in paragraph 18, seen here by Licensee for the first time, is simply at odds with currently accepted industry practice.^{14/} Thus, these three paragraphs of TMIA's response clearly do not cast doubt on the credibility of the TPR or the Staff's SER.

Paragraph 20 does not appear to relate to any of the four reasons encompassed in the contention and is therefore beyond the scope of the contention. See Motion at 29-30.

^{14/} Had this allegation been properly disclosed in discovery, Licensee would have shown in its motion for summary disposition that the statement, in fact, constitutes a challenge to the Commission's regulations in 10 C.F.R. 50.55a(g). That regulation specifies the use of ASME Code, Section XI, which would in this case specify that the crack be assumed to grow in a self-similar manner.

(d) Toughness Versus Hardness and Small
Versus Large Cracks

TMIA's paragraphs 21-27, pages 42-43, go to the last two reasons advanced by TMIA for alleging that the two documents are not credible. These statements, like the others related to Contention 1.d, are not supported by admissible evidence as required by section 2.714, and were not disclosed to Licensee on discovery as required by sections 2.740 and 2.740a. Had Licensee known that this is what TMIA was alleging, it would have addressed the statements along the lines presented at paragraphs 21-27, pages 18-19, of Attachment I. Those responses clearly show, at a minimum, that Dr. Sih's disagreement with Licensee is also a disagreement with accepted industry practice and the Commission's regulations, and that, without debating the merits of the relative positions, TMIA has clearly failed to cast doubt on the credibility of the TPR and the Staff.

Licensee's statement of material facts, which shows that there is no genuine issue with respect to Contention 1.d, remains intact and undisturbed. Summary disposition therefore should be granted with respect to Contention 1.d.

(5) Contention 2.a

TMIA's Contention 2.a asserts that the potential for recurrence of IGSAC is a real one because Licensee has failed to properly identify the cause of the intergranular stress assisted cracking which occurred in the TMI-1 steam generators.

TMIA's response to Licensee's discovery requests on this issue did nothing more than suggest that the cause of the IGSAC has not been established with the absolute certainty it would desire. In its Statement (at ¶¶ 1-5, 9-14, pp. 45-49) TMIA has merely reiterated this generalized allegation. But as Licensee explained in detail in its motion, it is not necessary to precisely identify the specific mechanistic steps or conditions involved in IGSAC initiation because Licensee's controls "bound" the potential for recurrence and hence will be effective regardless of the specific mechanistic steps involved. Giacobbe Affidavit, ¶¶ 54-55. TMIA has presented no facts to the contrary, and hence has raised no genuine issue for trial.

TMIA's remaining allegations are equally unsupported speculations, consisting of misrepresentations of Licensee's statements (TMIA Statement ¶¶ 6, 8, 9), and assertions of inconsistencies where none exist (¶¶ 7, 12-15, 16-17). The closest that TMIA can come to raising an issue is its statement that the potential oxidation sulfur does exist. (¶ 11). But this does not create an issue in dispute, because Licensee's controls ensure that the concentration of metastable sulfur necessary to cause corrosion will not be created.^{15/} TMIA has

^{15/} TMIA's paragraphs 9 and 11 are also defective because it is based on information and documentation -- the ACRS transcript -- which should have been supplied to Licensee during discovery. See TMIA's 1st Resp., Int. 2.a-1, -2, -5 to -12.

put forward no evidence which raises a dispute as to the efficacy of these controls. In sum, Licensee's statement of material facts remains undisturbed.

(6) Contention 2.b.1

TMIA here asserts that the hydrogen peroxide cleaning process may prompt reinitiation. In its one page Statement (p. 51), TMIA does no more than point to questions concerning the qualification program which are wholly inapposite to the long term corrosion tests upon which Licensee relies here (¶ 2),^{16/} statements made by Digby MacDonald before the cleaning took place which Licensee took into account in developing the cleaning process (ibid.) and last but not least, its oft-quoted statement by Dillon. (¶¶ 3-4). It is too late in the proceeding for TMIA to rely on mere speculations as to whether Dillon may still have the same concern post-cleaning as he did before the fact; now is the time for TMIA to offer at least some proof which would raise an issue suggesting the cleaning process could prompt reinitiation. TMIA has offered none. Summary disposition of Contention 2.b.1 in Licensee's favor therefore should be granted.

^{16/} As previously noted, the allegations concerning the qualification tests are also impermissible because they are predicated on improperly withheld information.

(7) Contention 2.b.2

TMIA's Contention 2.b.2 asserts that the sulfur left after cleaning could cause reinitiation of the IGSAC.

Licensee's motion enumerates a number of controls Licensee has imposed to insure against reinitiation. The best "fact" that TMIA appears to have at its disposal is a statement made by Dr. MacDonald expressing concern as to risk of reinitiation from the sulfur on the tubes. TMIA Statement ¶¶ 1-5, at 52-53. But MacDonald's concern was addressed toward the need for chemical cleaning, was made before the cleaning which removed up to 80% of the sulfur, and has since been withdrawn by Dr. MacDonald himself. Plainly, his statement no longer supports TMIA's "issue of fact", if it ever did so.

TMIA also seeks to make much of a statement made at an ACRS January 1983 meeting, brought forward here as an allegation for the first time. TMIA Statement ¶¶ 6-7, at 53. If TMIA had proffered that allegation in discovery, Licensee would have addressed it in its Motion. The reference in any case does not raise an issue of fact; it merely acknowledges that operating controls are not absolutely failsafe. With this, Licensee has no dispute; this is precisely why Licensee instituted a number of measures, including control of total sulfur inventory as well as operating controls, to prevent recurrence. Licensee Facts, ¶¶ 192-210.

TMIA's remaining allegations (¶¶ 8-14, at 54-55) need no response, except to note that they are unsupported or previously addressed in Licensee's Motion. None raise an issue of fact.

For these reasons, summary disposition of Contention 2.b.2 should be entered.

(8) Contention 2.c

TMIA has not contested any of Licensee's Statement of Material Facts with respect to this contention. As a matter of law, therefore, Licensee's statement of facts is to be deemed admitted. 10 C.F.R. § 2.749(a). Concomitantly, summary disposition in Licensee's favor should be granted. Id. at § 2.749(b).

CONCLUSION

For the foregoing reasons and those stated in Licensee's Motion for Summary Disposition, TMIA's Contentions 1.a, 1.b, 1.c, 1.d, 2.a, 2.b.1, 2.b.2 and 2.c should be dismissed.

Respectfully submitted,

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Attachment I

LICENSEE'S TECHNICAL REPLY TO TMIA'S RESPONSE TO LICENSEE'S MOTION FOR SUMMARY DISPOSITION

In the main body of Licensee's reply to TMIA's response to Licensee's motion for summary disposition, Licensee has demonstrated why TMIA's response is legally improper, and why it should be rejected in toto by the Board. In order to allay any concerns that the Board might have as to the legitimacy of the allegations raised by TMIA, however, Licensee has set forth below an explanation as to why none of TMIA's allegations raise a "genuine" issue of "material" fact. The discussion addresses each of TMIA's paragraphs in its so called "Statement of Material Facts As to Which There Are Genuine Issues to be Heard" which contain a new allegation, as opposed to a restatement of the contentions or of Licensee's arguments. For the Board's convenience the paragraphs are referenced by the same paragraph numbers used by TMIA.

I. Contention 1.a

8-12, 14-19. TMIA here questions the appropriateness of the tubes used in the qualification test program. The relevant parameters for purposes of qualifying the expanded joint are mechanical properties, surface condition and geometry. In the qualification tests, the "worst case" or limiting conditions for these parameters was employed.

The tubing used in the qualification tests was selected to bound the range of mechanical properties of tubing material present in the steam generators in all significant respects. Surface condition similarity was provided by using machining methods in forming the qualification blocks that are comparable to those employed in the TMI-1 OTSG fabrication, and by performing corrosive conditioning of the test blocks which produced surface conditions comparing well with actual observed surfaces at TMI-1. Geometric similarity was assured by designing the qualification blocks for worst-case fit-up (maximum annular gap before expansion) with identical pitch and ligament thickness as in the TMI-1 OTSG. (TR-007 at 2-8 through 2-11).

The accurate simulation of the cracking environment is not germane to the expansion joint qualification program. The program assumed the existence of fully cracked tubes by providing a 360° through-wall crack in each tube tested. (TR-007 at 2-11). Moreover, microstructural examination and mechanical testing of tube samples with IGA showed that the strength and ductility of the tubes from the TMI-1 steam generators had not been reduced. (Giacobbe Affidavit, ¶¶ 142-144, February 24, 1984).

13. TMIA has confused the surface oxide layer on the tubesheet (an important surface condition parameter) with the oxidation state of the sulfur corrodant. The quotation referred to addresses the latter, which is not germane to the qualification of the expanded joint.

16. The data referred to were used only in crack propagation analysis; it is not related to the qualification of the joint.

18. The tubes used in the corrosion lead tests and the qualification tests were selected to bound the appropriate conditions; they were not selected at random as alleged by TMIA. (TR-008 at 26-27, TR-007 at 2-8).

20. TMIA apparently misunderstands the meaning of the "handwritten note" referring to the sample size. In fact, the note simply observes that, because of the size of the sample, statistical evaluation suggests a lower pullout load than would have been expected from a larger sample. The pullout load results are thus indicative of the conservative approach taken in evaluating the results of the qualification testing program.

The reference to the TPR report arises in a wholly different context, that of a predication of crack propagation rates. This has been addressed at pages 24-26 of Licensee's Motion for Summary Disposition.

21. This is an extraordinarily misleading paragraph. The repair process is not "experimental", and the "experimental nature of the repair process" therefore does not contribute to an alleged limited data base. The referenced document in fact is saying that because Licensee actually performed laboratory testing, rather than performing an analysis, certain intermediate data required to support such an analysis were not necessary.

22. The allegation that the leak test results "of an entire test block" have been ignored by Licensee is not true. Fact ¶ 36 at page 72 of Licensee's Motion for Summary Disposition includes the results of test block H. The leakage rate was not "60 times allowable limits". Fact ¶ 36 states that, assuming all tubes leaked at the maximum rate, which envelopes the test block H rate, the cumulative leak rate would still be only one one-hundredth of the Technical Specification limit.

23-28. These allegations all relate to formally issued Failure Discrepancy Reports (FDR's) as required by the approved Quality Assurance Program procedures. Issuance of an FDR means that the described discrepancies are formally evaluated and dispositioned, either by invalidation of the item, replacement of the item, or acceptance. TMIA's paragraph 25 is an example of an FDR resulting in replacement of an unacceptable tube (prior to testing); paragraphs 26 and 28 involve acceptance of items after evaluation; and paragraph 27 is an invalidation resulting in an item being dropped from the data base. All of the FDR's were properly dispositioned in accordance with the approved QA procedures, which means that they were appropriately taken into account in the test program, and factored into the statistical analysis.

29. Although the maximum observed residual stress in the transition of one tube exceeded the conservative, self-imposed goal of the qualification program (45% yield strength maximum), it exceeded no regulatory or physically acceptable limit. It

was observed as a local effect only, and in no way evidenced that a tube bearing such residual stress will be any more prone to failure than mechanically rolled tubes present in as-built steam generators with satisfactory operating histories (Licensee Facts 20 and 21).

30 - 33. Contrary to TMIA's allegation that the governing design load of 3140 pounds for a MSLB does not reflect higher localized loadings on OTSG peripheral tubes, that load was selected specifically from the calculated loads on outermost tubes (TR-007 at 2-26), i.e., the maximum tensile load experienced by any individual tube was selected.

Similarly, the compressive load was selected to conservatively exceed the maximum load of any individual tube. See Licensee's Material Facts ¶¶ 29-30, at 69-70: Licensee's basis for concluding that the compressive loads are acceptable. is supported and explained by affidavit, and is set out in Material Facts ¶¶ 31-33, at 71. It is not "speculation".

34 - 35. The pullout tests conducted on the Mount Vernon steam generator were confirmatory tests, not part of the main qualification program. Licensee's Material Fact ¶ 17, at 65. The differences in test conditions were carefully tabulated and evaluated, and concluded to be insignificant. TR-007 at 2-7.

36. Licensee's investigation and determination of the failure scenario is explained in detail at Licensee Material Facts ¶¶ 106-172, at 91-108. In that scenario, which has been conclusively established, the leakage clearly occurred during

an identified two-month period; the exact time of leakage of individual tubes within that period is immaterial. In any event, the qualification program simulated a fully cracked tube.

37. The rationale for not performing a flow induced vibration test is explained at pages 24-26 of Licensee's Motion for Summary Disposition. The motion also demonstrates that the TPR and the Staff were in accord with each other and with Licensee on this issue.

38. The tube chunks did not enter into the expanded joint qualification program because they have no impact on it. The tube ends broke during the kinetic expansion process and all tube ends were subsequently machined off down to the seal weld (Licensee Material Fact ¶ 76). Therefore, the tube ends that broke, the broken pieces, and all other tubes with which they might have interacted were removed from the OTSG prior to any further repair activity.

39. For the reasons previously discussed in connection with paragraphs 8-12, 14-19 above, a corrosive environment has no effect on "stress levels or the fatigue life" of TMI-1 tubes. The effects of cracking and crack growth, and the presence of IGA have been fully investigated.

40. A 99%/99% confidence level is what is normally used in the industry as a measure of statistical significance of sample size for NRC regulatory purposes. It is higher than the 95%/95% confidence level commonly used in the non-NRC world.

It is not a predictive tool, and it does not mean that a given number of tubes are not qualified.

42-47, 63. Eddy current testing was conducted using eddy current probes designed specifically for the type of cracking experienced at TMI-1. These probes advanced the "state-of-the-art" of eddy current test techniques, and are more sophisticated, and more sensitive, than any others used to date. The ability of Licensee's specially designed probes to detect unacceptable defects was confirmed by metallurgical examination of tubes taken from the TMI-1 steam generators; a 100% correlation between the ECT and the metallurgical examination was found. In addition, the capability of the probes was demonstrated by sensitivity testing of laboratory-induced IGSAC and machined simulations. (TR-008 at 15-16, 78-81 and Figure IX-1; NUREG-1019 at 13-14; Licensee's Response to Restatement of Contentions of Lee, et al., at 7-9, October 31, 1983; Memorandum and Order (Ruling on Contentions) at 23-24, November 29, 1983; NRC Staff's Answer to TMIA Interrogatory 116, pp. 41-42, January 30, 1984; and ACRS Tr. at 51-58, January 28, 1983.)

48. Licensee's analyses have shown that crack propagation is such that there will be "leak-before-break," thus affording the opportunity to prevent tube rupture. TR-008 at 83-89. Licensee's evaluation of crack propagation in support of this conclusion appropriately utilized asymmetric analysis. Licensee's Material Fact ¶ 100, at 88. The TPR has accepted these analyses. TPR Supp. 2, at 2, December 3, 1983. TMIA has stated at page 41, ¶ 18, of its Response that:

[t]he fact that TPR and the Staff did not use the results of the axisymmetric stress analysis for the fracture mechanics fatigue or crack analysis is irrelevant. What is relevant is the non-axisymmetry character of the local stress field that should be included in a realistic evaluation of the crack failure mode (emphasis added).

This is exactly what Licensee did, and the facts stated in TMIA's ¶ 18 are in accord with Licensee's Material Facts ¶¶ 98-100.

49. This point was specifically addressed in Licensee's Motion for Summary Disposition at 20-21. The question of other stresses superimposed on the axial stress within the transition region was addressed by Licensee and accepted by the TPR. (TMIA's reference to the Penn State Study is new; it in no way contradicts or detracts from Licensee's analyses.)

50. TMIA's concern is apparently the "minor qualification" with respect to undetected defects. However, reference to the TPR report shows that what the TPR had in mind was the leak before break issue, which was discussed at length at pages 24-26 of Licensee's Motion.

51, 52 and 55. The allegations in these paragraphs constitute impermissible challenges to the Commission's regulations. As reflected in the Board's Memorandum and Order, November 29, 1983, at 9-10, section 50.55a(g) of 10 C.F.R. Part 50 requires that components of the reactor coolant pressure boundary must meet the criteria of ASME Code Section XI. TMIA's paragraph 51 is an attack on the use of linear elastic

fracture mechanics, which is precluded by the Board's Order. With respect to paragraph 52, the Code methodology permits calculation of damage due to a crack near a free surface. Thermal loads may be factored into the Code evaluation in a way that does not suggest that the damage mechanism is different for them than for any other load. Thus, paragraph 52 is a challenge to the Code methodology encompassed in Sections 50.55a(g). And finally, paragraph 55 also challenges the Code by alleging that the analyses should specifically address "cumulative damage". The impact of changing the order in which the load blocks are applied in Licensee's Code-permitted fatigue analysis is of no consequence. Crack growth rate, in the region of small applied delta K, is insensitive to whether a large cycling load is applied before a small cycling load, or vice versa. There is no accumulative damage discrepancy in Licensee's evaluation.

54. Licensee's conclusions with respect to crack propagation due to flow induced vibration are discussed at 24-26 of its Motion for Summary Disposition. Licensee's conclusions do not appear to be significantly inconsistent with TMIA's characterization of these conclusions at paragraph 54 of its response.

56. The quoted statement is by a chemist, is remotely peripheral to his conclusions and is made early in the course of the project with no specifics articulated. In fact, information about residual tube properties in circumferentially

cracked tubes has been empirically developed and documented. TR-008 at Figure IX-4; Licensee's Motion for Summary Disposition at 24-26.

57. This item has been specifically addressed in Licensee's Motion for Summary Disposition at 24-26.

58. This statement was taken out of context. It was a response to a hypothetical question raised by the ACRS which assumed a chemical environment -- unrelated to the mechanical propagation studies -- not present in the TMI-1 steam generators. (The second statement, about plugged tubes, was a generic statement made at a separate ACRS meeting, unrelated to TMI-1.)

59. The "small pits and scratches" were not determined to be in excess of the 40% plugging criteria, and were not considered by NRC to be of safety significance.

60. There is no basis to assume that a defect large enough to propagate to a guillotine break would remain undetected.

61. This was addressed at page 23 of Licensee's Motion for Summary Disposition. It involves a subject matter (selection of tubes to be plugged) excluded by the Board in this proceeding. Memorandum and Order (Partially Granting Licensee's Motion for Reconsideration) at 4, January 9, 1984.

62. Licensee plugged more tubes than originally recommended by the TFR, thus going beyond what TMIA describes as being "standard for all steam generators". Thus, there was no

"exception" at TMI-1. TR-008 at 58-60; Licensee Response to TMIA Interrogatories T-13, T-14.

64 - 69. These paragraphs are simply arguments, advanced without basis, that the steam generators should be run through actual "hard transients" and that each and every repaired tube should be examined. The assurance of the adequacy of the repaired tubes is discussed at length throughout the entirety of Licensee's Motion for Summary Disposition.

70. Licensee considered the potential for the existence of impurities in the crevice between the tubes and tubesheet. Loose material and soluble chemical agents, if any, would have been removed by the Licensee's pre-repair flushing program. TR-008 at 35.

71. The "difficulty" alluded to in the comment about candle insertion referred to the manipulation of so long a device in an area of restricted headroom. As the candles are made of flexible plastic, the insertion was successfully completed without effect on functionability. See Slear Affidavit, ¶ 8.

72 - 73. The quoted reference is not the rationale relied upon by Licensee. The incident did not involve a ruptured tube or a "misfired" tube, or a situation where surrounding tubes could be damaged. It involved a candle which did not fire and was removed from the tube. Licensee's evaluation is set out at pages 45-48 of TR-008.

75 - 76. Hardening and wall thinning took place only within the tubesheet where the expansion occurred, and are of no safety significance. The ACRS did not conclude otherwise.

78 - 80. These paragraphs are quite misleading. The self-sealing leaks, referred to in the ACRS report, are leaks between the tube and tubesheet, not tube leaks. This has no bearing on the potential for tube rupture. ACRS at 99. Nor did Licensee tell the ACRS that there was inadequate technical data concerning the significance of corrosion-sealed crevices for tube integrity. The lack of data was concerning a different ACRS question. ACRS Tr. 99-100. The remaining thoughts in these paragraphs are simply TMIA's speculations, without basis, that leak testing and pullout and compressive testing and analysis have somehow been inadequate. The adequacy of these tests and analyses is discussed in Licensee's Motion for Summary Disposition at pages 64-72. See also TR-008 34-48, 54-55, 84-89, 107-123.

81 - 83. The slight increased load on the tubes which would result if emergency feedwater were injected into the steam generator is discussed in Licensee's Statement of Facts ¶¶ 64-66, at 81. The adequacy of Licensee's qualification of the tubes to withstand postulated accidents has been discussed at ¶¶ 57-67, at 79-82.

85 - 92. These paragraphs take issue with certain aspects of the Staff's proposed license conditions, but raise no new issues not addressed elsewhere. There is an obvious misstatement in paragraph 90. ECT will not be performed only one time, as TMIA suggests. Under existing technical specifications, ECT will be performed on a periodic basis.

II. Contention 1.b

1 - 10. These paragraphs are a continuation of TMIA's arguments that former ACRS Subcommittee Chairman Paul Shewmon, and the TPR, may have had concerns about the possibility of simultaneous tube rupture in both steam generators. While all available documentation has shown this clearly not to have been the case, the issue is in any case irrelevant. TMIA has raised no technical issues in these paragraphs, and has provided no technical bases for asserting the plausibility of such a simultaneous tube rupture.

11 - 19. These paragraphs take issue with certain aspects of Licensee's emergency procedures, and are not related to the adequacy of the tube repair. TMIA is incorrect in suggesting at ¶ 11, that the contingency of simultaneous tube rupture is required to be addressed in Licensee's emergency procedures as a result of the tube repair program. Licensee's emergency procedures for dealing with single and multiple tube ruptures were developed as a result of NRC's term "Lessons Learned" program (NUREG 0737) not because of the steam generator tube repairs. The current, accelerated implementation of these particular procedures is a small part of a larger program underway by Licensee to adopt "Lessons Learned" requirements, including all emergency procedure changes encompassed therein, earlier than required.

III. Contention 1.c.

2, 6. Contention 1.c relates to alleged "cracking" of the tubes with respect to their ability to adequately retain a plug. These paragraphs, and the context within which the TPR, ACRS, and Dr. Sih discussed the issues therein, have absolutely nothing to do with plugging. As discussed in Licensee's Motion for Summary Disposition, the condition of the tube has nothing to do with the integrity of welded plugs, because the plugs are not attached to the tubes. Material Facts ¶ 88, at 86. Similarly, the condition of the tube has only a negligible effect on the integrity of the rolled plug, Material Facts ¶¶ 76-84, at 84-86. Thus, the "hardness" and "toughness" of the portions of the tubes which are compressed between the tubesheet and the expanded roll plugs have no bearing on the integrity of the plugs.

7, 8. Licensee's statements on the location of the cracking are not inconsistent, as alleged here by TMIA. As stated in Licensee's answer to TMIA's Interrogatory 35 (erroneously referred to by TMIA as #33), "fine IGSAC cracks have been found near the heat affected zone (HAZ) and down in the inside surface of the tube approximately 3/8" from the top tube end". The rolled region begins approximately 3/8" below the tube end; Licensee's statement in Material Fact ¶ 82 that "[t]here was no general condition of IGSAC identified in the rolled region" is thus consistent with the answer to Interrogatory 35.

TMIA's quotation that "at least 50% of the specimen tubes are not affected by IGA in the HAZ" does not exist, and indicates a misunderstanding on TMIA's part. Licensee's statement in its answer to Interrogatory 35 was that cracking in the HAZ did not extend more than 50% into the tube wall. This showed that the cracking did not affect the original seal weld.

9, 10, 11. The references to damage to the tube ends above the seal weld after kinetic expansion repair, intersecting circumferential and axial cracks in the tube behind the seal weld, and general loss of ductility, are not relevant to roll plug performance since these conditions were found to exist only above the tube roll region. The seal weld in the HAZ would not be relied upon as the primary pressure boundary (in lieu of the roll plug). In fact, the seal weld can never function as a plug, as it merely seals the tube outside diameter to the tubesheet.

12. Of the 23 leaking plugs, only six were in the expanded portions of the tubes (out of approximately 860 such plugs). This is an extraordinarily low number for any kind of tube, expanded or not. See Licensee's answer to TMIA Interrogatory 37, January 13, 1984.

13. This paragraph is totally immaterial, both to the question of the integrity of the plugs, and the kinetic expansion repair itself.

IV. Contention 1.d

7. The allegation in paragraph 7, that what the TPR and the Staff have assumed in their analyses is not consistent with the "damage as they claimed to have observed in reality", is based on the introductory statement in TMIA, Attachment 2, which is purported to be a statement (unsigned and unidentified on its face) by a Dr. Sih. The various specific points raised in that statement are reflected in TMIA's paragraphs 17-28, discussed below.

The crack propagation model and analyses are described in TDR-388 which was presented to TMIA last year. Many, if not all, of the points raised by Dr. Sih, as reflected in paragraphs 17-28 of TMIA's Response are addressed in that document.

9 and 10. This issue was addressed at page 26 of Licensee's Motion for Summary Disposition, where it was shown that there is no inconsistency between the positions taken by the TPR and the NRC Staff.

11. This was addressed at page 23 of Licensee's Motion for Summary Disposition. Not only is there no inconsistency between the positions of the TPR and the NRC Staff, it involves a subject matter (selection of tubes to be plugged) excluded by the Board as an issue in this proceeding. Memorandum and Order (Partially Granting Licensee's Motion for Reconsideration) at 4, January 9, 1984.

12. See response to paragraph 62 under Contention 1.a above. Licensee has gone beyond the TPR's original

recommendation. There is no inconsistency between the TPR and the NRC Staff.

13. Licensee conducted continuing inspections of auxiliary systems. Based on these inspections and the previously conducted RCS inspection, the TPR did not see the need for further inspections; it did not make "a specific recommendation against more inspections". In any event, there was no inconsistency between the TPR and the NRC Staff on this point.

14. This issue was addressed at length at pages 24-26 of Licensee's Motion for Summary Disposition, where it is shown that there is no inconsistency between the TPR and the NRC Staff.

15. See discussion at paragraph 50 of Contention 1.a above. TMIA does not even allege an inconsistency between the TPR and the NRC Staff on this issue, and there is none.

16. The TPR and the NRC Staff are in agreement that the strength and dimensions of the tubes have not been significantly changed as a result of the repair process. This was discussed at pages 21-23 of Licensee's Motion for Summary Disposition. TMIA is wrong in asserting that the Staff did not discuss the issue; it was treated at length at pages 18-21 of the SER.

17. Dr. Sih states that the nonuniformities referred to by Licensee at page 28 and in Material Fact ¶ 100 of the Motion for Summary Disposition "are not clearly defined and do not necessarily include the three-dimensional efforts". TR-008 at

82-84 and TDR-388 at §§ 2.1.2 and 2.1.3 show clearly that the nonuniformities referred to are those resulting from bending stresses, and indicate those aspects of the model which are three-dimensional.

18. Licensee agrees with this statement.

19. Dr. Sih seems to suggest that the circumferential cracks may grow in a "non-self similar manner" and therefore that "the analyses performed by the TPR and the Staff are not valid". This, in fact, is an attack on ASME Code, Section XI, which is embodied in 10 C.F.R. § 50.55a(g). The analyses performed have been done in strict accordance with the Code and currently accepted industry practice, and are therefore acceptable and valid.

20. TMIA has mischaracterized Licensee's statement. Taken in context, Licensee simply stated that the material properties of Inconel-600 are independent of the test methods used to determine them. The methodology used to develop the data is standard, in accordance with ASTM methodology.

22. The application of the concept of stress intensity is in accordance with the methods given in the ASME Code Section XI, "Rules for Inservice Inspection of Nuclear Power Plant Components". As discussed above (responses to 1.a, 51, 52, & 55), an attack on the Commission's regulations is not permitted.

21, 24. Contrary to TMIA's suggestion, Licensee does not claim that an increase in hardness is beneficial per se. All that Licensee concludes is that the increase in hardness

resulting from the kinetic expansion in the expanded joint is less than that experienced by the original rolled joint during fabrication. Slear Affidavit, ¶¶ 17-24. The toughness factored into Licensee's fatigue model applied only to the freespan, which experienced no hardening due to kinetic expansion. See Slear Affidavit, ¶ 8. Fatigue analysis of the expanded joint, where an increase in hardness did occur, is not appropriate because this area is a defect free zone. Slear Affidavit, ¶¶ 9, 10.

23. Licensee agrees with the TMIA's substantive statements, and Licensee did not state otherwise in its Motion for Summary Disposition.

25. This does not constitute a factual disagreement. Licensee's statement is that, as a legal matter, crack propagation is not relevant to the subject of the requested Technical Specification change, i.e., the kinetic expansion repair.

26, 27. These paragraphs are identical to paragraphs 51 and 52 of Contention 1.a, above. As stated there, the allegations constitute attacks on Commission regulations.

V. Contention 2.a

2. TMIA here attacks Licensee's operating controls, which are designed to prevent the combination of environmental conditions necessary for cracking to recur, by suggesting that these controls are "implicitly" based on the "assumption" that the unique conditions necessary for IGSAC have been "precisely

identified". That implicit assumption is TMIA's alone; Licensee has, in fact, implemented controls which "bound" the potential for recurrence and hence "will be effective regardless of the specific mechanism and form of sulfur involved in the IGSAC process." Licensee Facts, ¶ 135.

6. Licensee's ¶¶ 136, 137 likewise do not indicate that Batelle and B&W were hired "merely" to conduct confirmatory testing (in fact, it was Oak Ridge and B&W which performed the testing, as Licensee stated). Licensee used a number of experts to perform various functions, including both development of the failure scenario and subsequent testing.

7, 15. The minor differences between the results of the Batelle and B&W analyses are discussed at Giacobbe Affidavit, ¶ 76.

8. A list of the scientific literature relied upon by Licensee which TMIA alleges is unnamed, was, in fact, provided to TMIA during discovery. See Giacobbe Affidavit, ¶ 33; Reference Document 55.

9. TMIA has once again taken a discussion out of context. The statements referred to in its paragraph 9 expressed uncertainties which counseled for such actions as peroxide cleaning and long term corrosion testing. These actions were subsequently undertaken. In any case, as noted, the uncertainties which remain, and which throughout have been acknowledged by Licensee, do not undermine Licensee's failure analysis or its operational controls.

10. Licensee did not discount previous sulfur contaminations, but rather took them into account in analyzing the source of contaminants. See Licensee Facts, ¶ 172; Giacobbe Affidavit, ¶¶ 27-28, 56.

11. Licensee agrees that during certain transient conditions the potential exists for a change in the oxidation states of sulfur. See Licensee Facts, ¶ 198. It was precisely because of this possibility that Licensee implemented the operational control program which prevents creation of significant levels of metastable sulfur, removed the major portion of the sulfur inventory, and implemented other controls. Licensee Facts, ¶¶ 201-212.

12 - 14. The alleged inconsistencies are ephemeral, as discussed at length in Licensee's Motion for Summary Disposition at 47-54; Giacobbe Affidavit, ¶¶ 52-56.

16. Licensee Facts, ¶ 131 speaks for itself.

17. The Staff is not uncertain as to why cracking terminated. They realize that cracking could be terminated by two circumstances: either by dilution of the aggressive environment or by depletion of the aggressive species. This is totally consistent with Licensee. See Licensee Facts, ¶ 132.

VI. Contention 2.b.1

2. TMIA asserts it has raised "significant questions" regarding the accuracy of Licensee's long term corrosion test. Scattered throughout TMIA's discussion of Contention 1.a (which

it references here) are assertions that the chemistry and sequence of the original cracking cannot be accurately simulated. Even if this were true (it is not), it would not raise an issue as to the validity of the long term corrosion tests, because these tests simulate plant operating conditions to verify that cracking will not initiate (it has not). Nor was MacDonald criticizing the long term corrosion tests. He was commenting on the early testing leading up to development of the chemical cleaning process. His concerns were taken into account in the final process used.

3. These assertions have been discussed above in connection with paragraphs 64-84 under Contention 1.a.

VII. Contention 2.b.2

2-5. Dr. MacDonald's statement is addressed at Licensee Facts, ¶ 215. As there noted, MacDonald has publicly stated that his concern has been satisfied. Moreover, while MacDonald's report may be "detailed" he emphasizes that the concerns he has raised are the technical justification for cleaning, not concerns relating to reinitiation of IGSAC after cleaning. See SER Att. 4 at 9, 25-27.

6-7. Licensee has taken a number of steps to prevent corrosion Licensee places reliance on the control of operating conditions, as TMIA notes; however, this is not the sole control. Licensee has also controlled the total inventory of sulfur, so that if metastable species are formed, they will not be

formed in sufficient quantities to cause corrosion. Licensee Facts, ¶¶ 192-210; Giacobbe Affidavit, ¶¶ 101, 108-116.

8. Licensee's analysis of the significance of the .4 ppm sulfate found after cleaning was not based on "assumptions" but rather on technical conclusions demonstrated through extensive testing. See Giacobbe Affidavit, ¶ 80.

12. TMIA has put forth no facts suggesting cracking occurred other than during cooldown, and no such facts exist. In any case, chemical (e.g., oxygenation) controls are in place not only during cooldown but during all operational stages. Giacobbe Affidavit, ¶¶ 106-107, 116.

13. Licensee implemented all controls recommended by the TPR to minimize ingress of chemical impurities, including those relating to sodium. See Licensee Facts, ¶¶ 209-210; TR-008 (Rev. 3) at 31; Licensee Reference Document 64 at 3. TMIA has pointed to no deficiency in those controls.

Attachment II

LICENSING REQUIREMENTS FOR TMI-1 STEAM GENERATORS

Technical Specification (TS) 3.1.1.2 requires that the steam generators be operable for hot operation. TS 4.19 defines the conditions necessary to demonstrate their operability, both through routine surveillance and in the event tube damage is identified.

TS 4.19.2 requires identification of the extent of the damage using eddy current testing (ECT) techniques. The extent of the inspection is dependent on the extent of the initial damage identified through leakage or random sample. Based on these criteria, TS 4.19.2 required an inspection of 100% of the tubes at TMI-1 after the tubes were damaged by ICSAC in the fall of 1981.

TS 4.19.5.c further requires that whenever ECT inspection is required for 100% of the tubes, certain additional actions must be taken and reported to the NRC for review prior to declaring the steam generators operable. Licensee must identify the cause of the failures, identify the tubes affected, and take actions to prevent recurrence. Licensee's failure analysis (TR-008, Chapter II), and control programs to prevent initiation (TR-008, Chapter IV) are programs conducted to assure compliance with TS 4.19.5.c.

As part of identifying the tubes affected, TS 4.19.1.b. requires that adequate probes be employed whenever ECT techniques are used. Licensee's development of new ECT probes, verification of the threshold of probe detectability, and evaluation of the behavior of hypothetical cracks below the threshold of detectability (TR-008, Chapter IX) are programs undertaken to assure compliance with 4.19.1.b.

Whenever work is performed in a safety system (such as the RCS), 10 C.F.R. § 50.59 requires that a safety evaluation be performed. This evaluation must consider the effect of activity or modification on the safety system itself, on other safety systems, on any analyses involving the system or component, and on the environment. A 50.59 safety evaluation therefore was required for plugging activities to show that the plugs met GDC 14, that the number of tubes plugged (and subsequent effect on RC flow) did not affect existing safety analyses, and that environmental considerations were minimal. This evaluation is summarized in TR-008, Chapters VII.B, VIII, XI.C, and showed that no unreviewed safety question existed per 10 C.F.R. § 50.59 with respect to plugging. This information is required by 10 C.F.R. § 50.59 to be provided to NRC, but no regulatory action is necessary.

This proceeding deals solely with Licensee's request to amend TS 4.19.4, which requires that whenever a tube is found to have an indication of degradation of 40% or greater through wall, that tube is to be removed from service by plugging.

Licensee has proposed a change which would limit its applicability by excluding the top 16" of the tube; this would allow repairs of the tube by the kinetic expansion process, and would not require its removal by plugging. A safety evaluation like that performed for plugging activities was conducted for the new seal. It included evaluation of the affect of the activity on the safety system and other safety systems - showing that the new seal fulfills the requirements of GDC 14 in the same manner they were formerly met by the top 16" and old seal, (TR-008, Chapter V), and that the new seal can be made without adversely affecting safety systems. (TR-008, Chapters VI, X.C) The safety evaluation also considered potential for affect on safety analyses (TR-008, Chapter XII) and the environment (TR-008, Chapters XB, XI).

Of all the steam generator issues discussed in this section requiring licensing consideration following the damage in 1981, only those in the paragraph above relate to the Technical Specification change request under consideration by the Board. Some information provided in the Topical Report applies to none of the licensing issues (e.g., TR-008, Chapter X.D) This discussion was provided since it represented ongoing steam generator work of potential interest to readers of the report rather than to support or supplement any safety issue involved in the licensing amendment.