

12/23/85

UNITED STATES OF AMERICA
NUCLEAR REGULATORY COMMISSION

'85 DEC 23 P4:00

Before the Commission

In the Matter of)
METROPOLITAN EDISON COMPANY)
(Three Mile Island Nuclear)
Station, Unit 1))

Docket No. 50-289 *da*
(Steam Generators)

THREE MILE ISLAND ALERT'S FORMAL DEMAND FOR
ADJUDICATORY HEARING ON AMENDMENT TO TMI-1 OPERATING
LICENSE TO CHANGE TUBE PLUGGING CRITERIA

For the reasons set forth in the attached exhibit, Three Mile Island Alert hereby formally demands a full adjudicatory hearing on the requested amendment to the TMI-1 Facility Operating License, No. DPR-50, submitted to the Commission on November 6, 1985, as Technical Specification Change Request No. 148.

TMIA requests a full hearing on the granting of this amendment, or any part thereof, which would alter TMI-1's current steam generator tube plugging criteria to allow TMI-1 to operate with a defective tube having a crack or imperfection with a depth equal to or greater than 40% of the tube wall thickness.

Respectfully submitted,

DATE: December 23, 1985

Joanne Doroshov
Joanne Doroshov
TMIA

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UNITED STATES OF AMERICA
NUCLEAR REGULATORY COMMISSION

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METROPOLITAN EDISON COMPANY)	Docket No. 50-289
)	(Steam Generator
(Three Mile Island Nuclear)	Repair)
Station, Unit 1))	

THREE MILE ISLAND ALERT'S FORMAL DEMAND FOR
ADJUDICATORY HEARING ON AMENDMENT TO TMI-1 OPERATING
LICENSE TO CHANGE TUBE PLUGGING CRITERIA

Three Mile Island Alert, Inc. ("Petitioner") hereby formally demands that it be granted a full adjudicatory hearing on an amendment to the TMI-1 Facility Operating License, No. DPR-50 issued by the Nuclear Regulatory Commission in June, 1974, as amended, which would modify Technical Specification 4.19.4.a.6 by redefining the limit for removing from service defective steam generator tubes.

This modification has been requested pursuant to January 31 and March 1, 1985 letters to the NRC's Office of Reactor Regulation from Richard F. Wilson, Director, Technical Functions, GPU Nuclear ("Licensee"). TMIA requests a full hearing on the granting of this request, or any part thereof, which would allow TMI-1's operation for any period of time with a defective tube having a crack or imperfection with a depth equal to or greater than 40% of the tube wall thickness.

Further, Petitioner formally demands that such license

amendment not become effective before completion of the hearing requested herein, pursuant to Section 12(a)(2)(A) of Section 189 of the Atomic Energy Act of 1954, 42 U.S.C. 2239(a), as amended, because of the "significant hazards consideration" involved.

In support of this demand, Petitioner asserts as follows:

1. Petitioner Three Mile Island Alert, Inc., a public interest organization located in Harrisburg, Pennsylvania representing residents within a five county radius of the TMI facility, has been a recognized intervenor in hearings established by the Commission's "Notice of Hearing on Issuance of Amendment to Facility Operating License," 48 Fed. Reg. 36707 (August 12, 1983), concerning the proposed license amendment to allow TMI-1's operation with explosively repaired steam generator tubes. The undersigned are members of TMIA and represent that organization's efforts to secure hearings on this requested license amendment.

2. In late 1981, defective steam generator tubes were detected in both TMI-1 steam generators, causing primary to secondary leakage. Licensee determined that these defects were caused by intergranular stress corrosion initiated from the surface on the primary side resulting in the formation of circumferential intergranular cracks. Licensee determined that the active chemical impurity causing the corrosion, which attacked all 31,000 tubes in both steam generators, was a sulfur compound. The source of the sulfur was sodium thiosulfate from the reactor building spray system which entered the primary system by leaking through isolation valves in the spray system and entering the reactor coolant system during testing.

3. By letter dated May 9, 1983, Licensee requested an amendment to the Technical Specifications (tech specs) of TMI-1's operating license, asking permission to operate the plant following kinetic expansion repair of the steam generator tubes in both steam generators. This amendment was necessary because the license provided that the only method permitted for repair of defects greater than 40% through wall was removal from service, or plugging. Technical Specification 4.19.4.a.6.

4. Hearings were held on this license amendment in July, 1984, and the Licensing Board issued its initial decision approving of the amendment on October 31, 1984. TMIA appealed the Licensing Board decision and filed a Motion to Reopen the Record on December 10, 1984. Oral argument on TMIA's Appeal and Motion is scheduled for April 3, 1985.

5. On January 31, 1985, Licensee submitted a new request to modify Technical Specification 4.19.4.a.6, which currently reads, repaired or removed from service because it may become unserviceable prior to the next inspection. This limit is equal to 40% of the nominal tube wall thickness, unless higher limits are shown to be acceptable by analysis and approval by the NRC.

6. This request was modified by Licensee's letter dated March 1, 1985 (Attachment 1), and asks the NRC Staff to revise the plugging criteria such that tubes greater than 40% through wall be allowed to remain in service "for the period up to the first eddy current examination following commencement of power operation, while NRC review of the plugging criteria for subsequent periods of operation continues". Id. at 2.

7. Licensee's proposed criteria is contained in the company's technical analysis which accompanied the January 31 request, entitled TDR-645, "Basis for Plugging and Stabilizing Criteria for OTSG Tubes." Under Licensee's proposal, tubes with defects up to 70% through wall could remain in service, depending upon the arc length of the defect. According to the Staff, Licensee's proposal is "based on maintaining the licensed margin of safety using an alternate analysis approach and considering improved defect characterization capability." Board Notification (BN-85-028) Recent Developments Related to TMI-1 Steam Generators (March 15, 1985).

8. Licensee has proposed that the change in plugging criteria be made without a change in the Technical Specifications. Licensee argues that the tech spec language "unless higher limits are shown to be acceptable by analysis and approval by the NRC" literally allows the Staff to modify the 40% limit at its discretion without changing the tech spec, rendering the specific tech spec limitation meaningless. In Licensee's view, it simply does not matter that "you wind up with a tech spec without without (sic) the correct reference, the correct criteria or any reference in the tech spec itself to new criteria." Tr. at 59 (Silver/Churchill).

9. It appears that Licensee's argument is largely motivated by a desire to avoid public hearings on the safety of its proposal. During Licensee's February 19, 1985 meeting with the Staff, Licensee counsel made several statements suggesting that Licensee wanted Staff approval in such a way as to avoid public hearings. See, Transcript of Meeting on TMI Steam Generators with GPU, (Tuesday, February 19, 1985) ("Tr.") at 52 (Licensee's counsel

characterizes the hearing process as "procedural rigamarole" and "time-consuming") Tr. at 53 (Licensee's counsel argues that avoiding hearing process would "solve a lot of problems and save a lot of trouble"); Tr. at (Licensee's counsel characterizes hearing process as "red tape"); Tr. at 66 (Churchill: If it was technically acceptable, I think it would be shame and and (sic) unnecessary waste of time and regulatory resources to have to go through to the tech spec procedure if it wasn't necessary.") See also, Tr. at 65-66, where William Johnston of the NRC Staff questions why Licensee would not want the tech spec changed for its own protection, in light of potential enforcement questions which might arise.

10. Regardless of Licensee's position and whatever improper considerations may have motivated it, there is no question that TMI-1's operation under Licensee's proposed criteria, which differs from that now expressly provided by the current license, constitutes a license amendment. The license provision is not the least bit vague. It contains a specific limitation, based on a well-developed industry standard. Tr. at 57 (Silver: industry wide correspondence); Tr. at 45 (Wilson: tube plugging criteria is virtually industry-wide.)

11. Moreover, as demonstrated below, Licensee's request, which would redefine the term "defective tube" and would allow tubes with decreased capability to remain in service, id. at 40, 43, is based on a defective analysis. There is well-grounded concern that this new criteria will both increase the probability of a steam tube rupture, and decrease the margin of safety. Indeed, at issue is both a tech spec change and an unresolved safety question.

12. Members of the Staff have expressed only disagreement with Licensee's position on whether or not the tech specs would require modification. William Johnston of Staff, noting that the intent of the Tech Spec is as important as the literal words, stated that it appeared to him that a tech spec change was indeed necessary. Tr. at 54, 58. According to Johnston, there is no functional difference in what the Staff would have to approve. Id. at 54. Gus Lainus remarked that for other plants with this sort of tech spec, the Staff has followed the amendment procedure. Id. at 62.

13. Licensee could present no credible response to these Staff arguments. Licensee's engineer Mary Jane Graham attempted to summarize Licensee's understanding of the intent of the tech spec as reported to her by Met Ed officials. However, her recitation of the facts was generally confused, and in any event inconsistent with the Staff's understanding. Id. at 55-57. Licensee's counsel essentially asked the Staff to ignore the intent of the tech spec on the grounds that "legally this language will hold up." Id. at 62. Obviously, the Staff's intent is a central consideration and cannot be ignored.

14. Obviously, Licensee is attempting to have the original license limitation rendered inapplicable. There is no current authority under the license for Unit 1 to operate with cracks deeper than 40% through wall. Authority to operate with tubes cracks of this depth must come in the form of a license amendment, since the NRC's grant of this request would allow the Licensee "to do something that it otherwise could not have done under the existing license authority." Sholly v. NRC, 651 F.2d 780 (D.C. Cir. 1980). There can be no question that a license amendment is

required.

15. Further, this license amendment would constitute a "significant safety hazard consideration" within the meaning of Section 189(a) of the Atomic Energy Act. The NRC may avoid holding a requested hearing prior to the effectiveness of a license amendment only if it finds that the amendment presents no significant hazards consideration. In enacting this provision, Congress explicitly intended that license amendments involving irreversible consequences (such as those . . . allowing a facility to operate for a period of time without full safety protections) require prior hearings or the public's rights to have its views considered would be foreclosed, and that "borderline" cases be resolved in favor of a finding of a significant hazard consideration. H.R. Rep. 97-884 at 37 (1982).

16. The Staff acknowledged at the time of the original steam generator contamination that the damage was the worst steam generator damage in the entire country. Statement of Harold Denton, Director of NRR in testimony before the House of Representatives Subcommittee on Energy and Environment, Committee on Interior and Insular Affairs (Feb. 1, 1982). The original contamination is still causing problems, and is in fact directly tied to Licensee's request to relax the plugging standards.

17. According to Licensee's TDR-638, which accompanied Licensee's Answer to TMIA's Motion to Reopen the Record (January 14, 1985), eddy current testing performed in November, 1984 on the entire A steam generator showed that 2%, or 299 tubes contained indications which were greater than 40% through wall. 33 out of

approximately 6576 tested in the B generator showed similar indications. TDR-638 at 8. While the detected defects were all below the upper tube sheet, the Staff indicated that there is similar degradation in progress in the upper tube sheet area which simply can not be detected by eddy current testing. Tr. at 37 (Giacobbe/McCracken).

18. Licensee evidently attributes all of these new defects to a phenomenon related to the original 1981 corrosion. Licensee surmises that the 1981 attack had dissolved the grain boundaries around the grains in the metal but had left the grains in tact. Now the grains are dropping out, leaving "pits" which eddy current tests can spot. Licensee argues that currently, there is no active, stress assisted corrosion cracking, but merely "residual damage." Tr. at 22-25; TDR-638 at 7, 22 (because no growth is seen on a 100 tube sample previously tested as of December 18, 1984, no evidence of continued corrosion.") See, also, Attachment 1 at 2. However, under Licensee's definition of "growth," only a "substantial increase in the through wall percentage, combined with an increase in voltage and circumferential extent" is considered. TDR-638 at 7 (emphasis added). Licensee further admits that if these cracks were still active, i.e. "if they propagate, are going to propagate through wall." Tr. at 9 (Wilson).

19. Licensee's technical arguments in support of the tech spec change reflect the accuracy and reliability of Licensee's ability to "make predictions about future behavior of tubes" with these small cracks or pits. Tr. at 19. Licensee's predictions as to the degradation rate of these new cracks are squarely dependent upon a correct analysis of the form of degradation. Id. at 19-20 (Liaw);

Id. at 42 (Cronenberger)("defect sizes, depth and arc length, which would be our prediction as to the limiting size"). Yet there is considerable uncertainty expressed by both Licensee and members of the NRC Staff regarding Licensee's analysis.

20. Contrary to Licensee's definitive statements regarding the cause of these new defects, Licensee's analysis is actually indecisive and vague. See, statements by Licensee engineer Graham, Id. at 33 ("kind of leading us to believe what we are seeing is this approved threshold of detectability moving downward"); Id. at 35 ("That is what we believe we are seeing now") (emphasis added). See also, TDR-638 at 23 (loads acting on regions of IGA "we believe leads to grain dropping or grain boundary separation."); Id. at 24 ("it is reasonable that before mechanical loading these indications may not have been detected.") (emphasis added). Licensee's "bottom line" is remarkably weak. In TDR-638 at 30, repeated in Attachment 1 at 2, Licensee concludes

The eddy current data and visual observations are consistent with a mechanism whereby previously existing areas of intergranular attack are made more detectable by mechanical loading during kinetic expansion and thermal and hydraulic loading from cooldown following hot functional testing.

This is hardly an unqualified opinion.

21. Nor is it consistent with the impression conveyed by such definitive statements as "reinitiation of [tube] cracking has not occurred," Licensee's Answer to TMIA's Motion to Reopen the Record at 10. In particular, Licensee states,

When the indications were detected during the eddy current inspections conducted in late 1984, Licensee undertook an extensive study to determine their cause, with particular emphasis placed on determining whether they were indicative of new IGSAC. The investigation has shown that the

degradation is not new, but rather is intergranular attack (IGA) which occurred with the IGSAC in 1981.

Id. at 13 (citations omitted). Contrary to this assertion, the "investigation" appears not to be at all definitive.

22. Moreover, Staff discussions indicate that there are serious problems with Licensee's most basic analytical approach. First, according to a senior Staff representative, Licensee failed to include in its analysis consideration of GDC 32, dealing with abnormal leakage criteria. Tr. at 8-9 (Liaw). Mr. Liaw argues that Licensee's analysis should have included analysis of whatever defects or form of degradation might contribute to the frequency of normal operating leakage.

23. Mr. Cheng from the Staff criticized Licensee's analysis for failing to properly consider environmental effects. Id. at 15-16, 20-22.

24. Staff technical experts Liaw, Cheng and Johnston are particularly critical of Licensee's failure to pull and test any actual tubing since the discovery of the new cracks in November, 1984, relying entirely on speculative inferences from prior testing. Id. at 26, 27, 30. See, id. at 38 (Liaw) (Licensee can only speculate what kind of regular degradation may continue.) See, also, id. at 38 regarding Licensee's detection capability (Wilson: "I don't think you can get a guarantee on anything. We can't give you a guarantee nor can anybody else.")

25. TMIA has asked that the record be reopened in the license amendment proceeding concerning operation with kinetic expansion repair, which resulted in the October 31, 1984 Licensing Board decision, discussed supra, pars. 3, 4. One basis for this motion

is newly discovered documents indicating an unexplained increase in sulfur and chloride levels in the system, indicating that Licensee's chemistry controls, crucial to preventing IGSAC crack growth, have been violated. TMIA Motion to Reopen the Record, Attachments 1,2,4,5. See also, TDR-638 at 16. Licensee has additionally violated its oxygen limits during hot functional test preparation, and injected oxygenated water into the RCS during HPI testing. Id. at 17. While Licensee claims that "other factors made it very unlikely that corrosion occurred," Licensee evidently can provide no guarantees. Ibid. Moreover, it appears that operational problems can easily recur because they are associated with independent testing. Ibid.

26. Licensee also admits that there is probably additional pitting and cracking as yet undetected by eddy current testing. Tr. at 30 (Wilson). As pointed out by Staff representative Johnston, lack of knowledge as to where these pits and cracks are located increases the risks:

The point that I was trying to make is that the calculations that you make, assuming single isolated 2/10ths of an inch-long defects, if there are indeed single isolated 2/10ths of an inch-long defects that never get close to one another, your stuff will hold up. But we have the possibility that we have to be considered that there are a bunch of them that are still in there which we can not detect very well. We don't know what the density of the pits are. We have got an idea now. There is possibly a higher density of pits. We don't know how close they are and how much real load-carrying capability there is at the present time until there is a little bit more experience.

That is where I think it makes it difficult for us to simply buy a set of curves that says, yes, if they stay separate, everything is okay. It is probably true. But we have no way of knowing whether they are going to stay separate.

Id. at 31.

27. Indeed, much of the uncertainty is due to eddy current difficulties which prevents Licensee from detecting these defects until the grains drop out. Licensee claims that enhanced eddy testing capability is reason to rely on Licensee's representations that a crack's circumference can be closely tracked. There are several problems with this reasoning.

28. First, it has always been acknowledged that cracks in the upper tube sheet region are not easy to detect using eddy current testing, and that similar indications are likely there also, although undetectable. Id. at 37. Eddy current testing is not enhanced in this area.

29. Second, Licensee's has also requested permission to forgo eddy current testing after its pre-start up leak test, irrespective of the results of that test. Attachment 1 at 2. Thus, Licensee proposes not to rely upon eddy current test data immediately prior to the critical start up phase. If accepted, such a procedure will make a mockery of Licensee's plugging proposal, which is based on extremely careful eddy current testing performance.

30. Third, according to Staff representative Johnston,

the ordinary basis of the tech specs is a relatively well-defined system in which you think from the basis of your examination you have a pretty good idea of what the extent of the corrosion is, what the mechanism is. What the density of the pits are, if you like. What the length of the crack is. This kind of stuff. I guess my point is, we don't really have some of that kind of information in this instance because it is of such a nature that it is more difficult to do the eddy current testing because of the volumetric setup of some of this material.

Id. at 32. See, also, Id. at 64 (Liaw).

31. This problem was highlighted in an exchange between

Licensee's Wilson and the Staff's Liaw:

Liaw: Because of the more sensitive eddy current that you are able to detect any degradation distribution around the circumference.

Wilson: It is important.

Liaw: You can take credit for that. But even that, I still don't believe you can manage it that close with what you are proposing there.

32. Indeed, it appears that Licensee acknowledges the uncertainty involved:

Liaw: You have something going down because of uncertainty or something that we don't anticipate at the moment that can, very very fast.

Wilson: So it goes. You cover it by leakage in the generator.

Id. at 39.

33. In sum, Licensee's request is unprecedented and raises major safety questions. It is precisely the kind of issue which Congress intended be considered in a prior adjudicatory hearing. As stated by Congressman Morris K. Udall in discussing the original kinetic expansion work at TMI-1,

Congress enacted the Sholly provision so that the NRC could redirect its attention and resources away from trivial matters and concentrate instead on matters of great public concern and safety significance such as TMI-1 steam generator repair work.

Statement of the Hon. Morris K. Udall, Chairman, Subcommittee on Energy and the Environment, Committee on Interior and Insular Affairs, February 22, 1983.

Pursuant to the foregoing considerations, Petitioner herein,

1. States that it represents persons whose interests may be affected by the proceeding to grant a license amendment to change

the plugging criteria for TMI-1 steam generators,

2. Requests that a public adjudicatory hearing pursuant to Section 189 of the Atomic Energy Act be held on this license amendment.

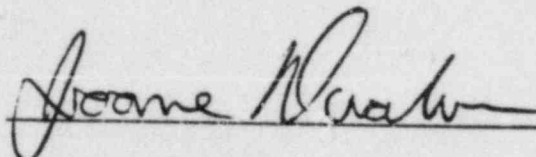
3. Requests that such hearing be held prior to the license amendment becoming effective and operation of TMI-1 permitted.

4. Petitions that it be granted leave to participate in such a hearing as an intervenor.

Respectfully submitted,

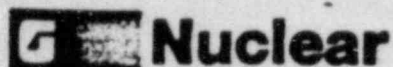
THREE MILE ISLAND ALERT, INC.

By:

A handwritten signature in dark ink, appearing to read "Joanne Doroshow", written over a horizontal line.

Joanne Doroshow
Louise Bradford

Dated: March 25, 1985



GPU Nuclear Corporation
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TELEX 136-482
Writer's Direct Dial Number:

March 1, 1985
5211-85-2047

Office of Nuclear Reactor Regulation
Attn: J. F. Stolz, Chief
Operating Reactor Branch No. 4
Division of Licensing
U.S. Nuclear Regulatory Commission
Washington, DC 20555

Dear Mr. Stolz:

Three Mile Island Nuclear Station Unit 1 (TMI-1)
Operating License No. DPR-50
Docket No. 50-289
Steam Generator Repair Limits

Technical Specification 4.19.4.a.6 defines the limit for repair or removal from service of OTSG tubes at TMI-1 as the following:

"... the imperfection depth at or beyond which the tube shall be repaired or removed from service because it may become unserviceable prior to the next inspection. This limit is equal to 40% of the nominal tube wall thickness, unless higher limits are shown to be acceptable by analysis and approval by the NRC" (Emphasis added).

In the past, GPU Nuclear Corporation (GPUN) has repaired tubes based on the general 40% through wall repair limit. However, detailed analyses have shown other, more specific limits to be acceptable to prevent a tube from becoming unserviceable prior to the next inspection. Therefore, in Reference 1 GPUN requested staff approval of revised repair limit criteria which more accurately reflect the capability of the steam generator tubes, the capabilities of eddy current testing at TMI-1, and the nature of the eddy current indications. These proposed criteria and their bases were set forth in TDR-645, "Basis for Plugging and Stabilizing Criteria for OTSG Tubes," which was attached to Reference 1.

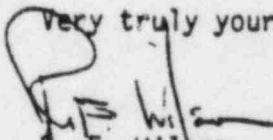
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Based on our meeting with you and members of your staff on February 19, 1985, and subsequent telephone discussions, we understand that NRC review of our request is continuing. To facilitate the NRC review we propose that you consider a "staged" approach to approval of our request. Eddy current testing (ECT) and examination would follow each stage, supporting your continued evaluation, with the testing and reporting of ECT results in accordance with TR-008 (Reference 2). The first proposed stage is that period up to the first eddy current examination after commencement of power operation, as defined by item 2.B.4 of Amendment 103 to Facility Operating License No. DPR-50 (Reference 3).

Prior to restart, GPUN intends to deoxygenate the primary reactor coolant system, perform a steady state krypton leak test which involves maintaining the primary system at approximately 500°F for several days to measure primary/secondary leak rate and reconfirm the leak tightness of the steam generators, and conduct a controlled cooldown either to lay up or to commence hot functional testing with a favorable NRC restart decision. The results of the leak rate measurements will be reported to the NRC.

Since the original 100% baseline inspection of the OTSG tubes in 1982, the tubes have been subjected to mechanical loading during the kinetic expansion process and thermal and hydraulic loads during two hot functional tests. Subsequent eddy current testing of the OTSG tubing was begun in November 1984. As discussed in TDR-638 (Reference 4) which has been endorsed by NRC (Reference 5), results of these recent eddy current tests do not indicate any trends of indication growth of previously reported indications. The eddy current data and visual observations are consistent with a mechanism whereby previously existing areas of intergranular attack are made more detectable by mechanical loading during kinetic expansion and thermal and hydraulic loading from cooldown following hot functional testing. The loads on the tubes associated with the deoxygenation and krypton testing process would be small in comparison, and results of eddy current testing following these processes would not be expected to represent meaningful data points. Thus, GPUN does not consider eddy current testing of the tubes appropriate following the deoxygenation and krypton testing processes. We therefore recommend that NRC approve use of the Reference 1 revised plugging criteria for the period up to the first eddy current examination following commencement of power operation, while NRC review of the plugging criteria for subsequent periods of operation continues.

Very truly yours,


R. F. Wilson

Director - Technical Functions

SK:dls:1475f

References

1. GPUN Letter 5211-85-2023, R. F. Wilson to J. F. Stolz, "Steam Generator Repair Limits, January 31, 1985.
2. GPUN Topical Report 008, "Assessment of TMI-1 Plant Safety for Return to Service After Steam Generator Repair," Rev. 3, August 19, 1983.
3. USNRC Letter, John F. Stolz to H. D. Hukill, "License Amendment No. 103, Steam Generator Tube Repairs and Return to Operation, Three Mile Island Nuclear Station, Unit 1 (TMI-1)," December 21, 1984.
4. GPUN Letter 5211-85-2010, R. F. Wilson to J. F. Stolz, "Steam Generator Eddy Current Test Result Evaluation," January 14, 1985.
5. NRC Staff Brief in Response to TMIA, in the Matter of Metropolitan Edison Company, et. al. (Three Mile Island Nuclear Station, Unit No. 1), January 24, 1985.

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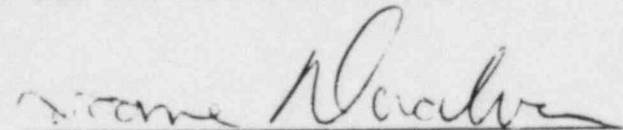
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METROPOLITAN EDISON COMPANY)
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(Three Mile Island Nuclear)
Station, Unit 1))

DOCKET
Docket No. 50-289
85 DEC 23 9 41 AM
(Steam Generator
Repair)

DOCKETING & SERVICE
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CERTIFICATE OF SERVICE

I hereby certify one copy of Three Mile Island Alert's Formal Demand for Adjudicatory Hearing On Amendment to TMI-1 Operating License to Change Tube Plugging Criteria was served this 23rd day of December, 1985, by deposit in the U.S. mail, first class, postage prepaid, to all parties on the service list below.



Joanne Doroshow

Docketing and Service Section
U.S. Nuclear Regulatory Commission
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