TOLEDO EDISON

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Docket No. 50-346

License No. NPF-3

Serial No. 1-604

January 27, 1986

Mr. James M. Taylor, Director
Office of Inspection and Enforcement
United States Nuclear Regulatory Commission
Washington, D.C. 20555

Dear Mr. Taylor:

By letter dated December 13, 1985 (Log No. 1880), the NRC transmitted a Notice of Violation and Proposed Imposition of Civil Penalties for violations reported in Inspection Report 85030 (Log No. 1-1293). This letter and its attachments provide Toledo Edison's response to these documents.

Toledo Edison recognizes the magnitude of the effort the NRC has expended in developing the comprehensive items of violations and with one exception agrees with the NRCs assessment and conclusions. Toledo Edison submits that the responses provided herein, in concert with the corrective actions developed and embodied in the Davis-Besse Course of Action (dated September 10, 1985, Serial No. 1182 and subsequent revisions), provide a basis for resolution of these items of violation.

Toledo Edison is of the opinion that the rapidity of commencement of corrective actions after the June 9, 1985 event and the magnitude and quality of the effort expended since June 9, 1985 to set the operation of Davis-Besse on the road to excellence in accordance with the aforementioned Course of Action program has few parallels, if any, in the history of the nuclear industry in the United States. Further, Toledo Edison, is committed to the continued and unabated achievement of the goal of excellence as evidenced by approved funding in 1986 for this effort.

It is hoped that the NRC shares this opinion and will give consideration to mitigation of the fine in whole or in part with the provision that the mitigated amount be applied to further improvements in the operation and maintenance of Davis-Besse. If this occurs, the mitigated amount will be used to accelerate such programs as the configuration management effort and improvements to the maintenance program. Toledo Edison believes that it would be appropriate for the NRC to await the restart of Davis-Besse before making a final decision on the request for mitigation of the proposed Civil Penalty. This would provide the NRC with the opportunity to best evaluate the comprehensiveness and success of the Course of Action program.

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Attachment 1 to this letter provides a statement in support of mitigation. Attachment 2 provides the detailed responses to each item of violation in accordance with 10 CFR 2.205(b).

Pending your decision on our mitigation request, payment of the proposed civil penalty is being held in abeyance.

Very truly yours,

J. Williams

JW:caa

cc: Mr. J. G. Keppler
Regional Administrator, Region III

DB-1 NRC Resident Inspector

ATOMIC ENERGY ACT OF 1954
SECTION 182
SUBMITTAL IN RESPONSE TO NOTICE
OF VIOLATION AND PROPOSED IMPOSITION
OF CIVIL PENALTIES
FOR THE
DAVIS-BESSE NUCLEAR POWER STATION
UNIT NO. 1
FACILITY OPERATING LICENSE NPF-3

This letter is submitted in conformance with the Atomic Energy Act of 1954 Section 182 in response to Notice of Violation and Proposed Imposition of Civil Penalties (EA 85-107 (Log No. 1880)) dated December 13, 1985.

By J. Williams Jr.
J. Williams, Jr.
Senior Vice President, Nuclear

Sworn to and subscribed before me this 27th day of January, 1986.

Laurie A. Hinkle, nee (Brudzinski)
Notary Public, State of Ohio
Laurie A. Hinkle, nee (Brudzinski)
My Commission Expires May 16, 1986

ATTACHMENT I

STATEMENT IN SUPPORT OF MITIGATION

Statement in Support of Mitigation

Toledo Edison recognizes the seriousness of the violations that have occurred at Davis-Besse and that are reflected in the December 13, 1985 Notice of Violation and Proposed Imposition of Civil Penalties. Our request for mitigation should in no way be understood as a failure to appreciate the seriousness of these violations. We believe, however, that the fundamental purpose of the NRC's enforcement policy is to provide to the licensee, specifically, and to the industry at large, a clear incentive for achieving regulatory compliance and operational excellence. These essential goals are reflected in the Commission's General Statement of Policy and Procedure for NRC Enforcement Actions. We feel that consideration of these goals should result in mitigation of the civil penalty of $900,000 proposed by the NRC Staff.

The June 9, 1985 event was the result of a number of circumstances for which Toledo Edison has taken full responsibility. Our recognition of responsibility has been straightforward and unequivocal. We believe that this attitude constitutes a necessary prerequisite to the agency's consideration of mitigation of the proposed civil penalty.

It is equally clear, however, that Toledo Edison has embarked on an unparalleled corrective action program, the Course of Action, in response to the June 9 event and the circumstances that led to it.

The Commission itself, on several occasions, has expressed approval of Toledo Edison's comprehensive and "model" corrective action program. Chairman Palladino, as well as the other Commissioners, have commended the company for the initiatives it has shown,[1] its detailed attention to plant maintenance activities,[2] the reorganization of nuclear activities and hiring of additional, highly qualified personnel,[3] hardware changes,[4] and personal management attention to the project.[5] The NRC Staff also has stated that it is impressed with the aggressive lead that Toledo Edison has taken in responding to the June 9 event, and the extensiveness of the Company's corrective action program.[6] As Region III Administrator James Keppler observed, the changes at Davis-Besse since the June 9 event have been "monumental".[7]

Toledo Edison has created and implemented the Course of Action on its own initiative. The breadth and depth of the corrective action that we have already taken and are continuing to take is the result of our determination to achieve operational excellence at Davis-Besse. Although some of the activities conducted might have been required by the NRC had they not been initiated by Toledo Edison, it is also true that many of the comprehensive analyses, reviews, and changes that have occurred would not have been mandated by the agency, and are not required by NRCs regulations.

We did not take these actions in order to obtain mitigation of an anticipated civil penalty. The fact is that the amount of the proposed civil penalty does not approach the significant financial costs caused by the shutdown of Davis-Besse since June 9. Rather, the decision to undertake the Course of Action was prompted by our determination to achieve exceptional standards of operation at Davis-Besse. While this decision is a costly one in the short-term, we embarked on our present course of excellence because it is the right course. We are confident that it will prove to be the most economical course in the long run.

The NRCs enforcement policy places particular emphasis on the comprehensiveness of the licensee's corrective action. Although this is not the only factor considered by the agency in mitigating a civil penalty amount, it clearly is a very important one. In particular, consideration is given by the Commission to "... comprehensiveness of the corrective action -- such as whether the action is focused narrowly to the specific violation or broadly to the general area of concern".[8] Toledo Edison's Course of Action unquestionably constitutes satisfaction of this mitigation factor.

The Commissioners and Senior Staff have received detailed information about and, in some instances, directly observed the extensive corrective actions that Toledo Edison has initiated since the June 9 event. There should be no question that Toledo Edison fully appreciates and endorses the NRCs views on the importance of regulatory compliance and operational excellence. In conclusion, Toledo Edison believes that maximum mitigation of the $900,000 penalty proposed by the NRC is fully warranted in this case.

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1. Statements of Commissioners Palladino, Bernthal and Asselstine, Commission Meeting of September 17, 1985, tr. at p. 85, 87-88, 89; Statements of Commissioners Palladino and Asselstine, Commission Meeting of December 18, 1985, tr. at p. 98, 100-102.

2. Statements of Commissioner Zech, Commission Meetings of September 17, 1985 and December 18, 1985, tr. at p. 32, and 49, 52-53, respectively; Statement of Commissioner Asselstine, Commission Meeting of December 18, 1985, tr. at p. 47.

3. Statement of Commissioner Palladino, Commission Meeting of September 17, 1985, tr. at p. 85.

4. Statement of Commissioner Asselstine, Commission Meeting of December 18, 1985, tr. at p. 60.

5. Statement of Commissioner Asselstine, Commission Meeting of December 18, 1985, tr. at p. 97-98.

6. Statement of Mr. Harold Denton, Commission Meeting of September 17, 1985, tr. at p. 86; Statements of Mr. Frank Miraglia and Mr. Harold Denton, Commission Meeting of December 18, 1985, tr. at p. 7-20, 22.

7. Statement of Mr. James Keppler, Commission Meeting of December 18, 1985, tr. at p. 21.

8. 10 CFR Part 2, Appendix C, Section V.B.2.

ATTACHMENT II

RESPONSES TO ITEMS OF VIOLATION

Violation I.A:

10 CFR Part 50, Appendix B, Criterion III, "Design Control," requires that design control measures provide for verifying or checking the adequacy of design, such as by the performance of design reviews, by the use of alternate or simplified calculation methods, or by the performance of a suitable testing program.

Contrary to the above, design control measures to verify or check design specifications established in 1983 for the setting of Limitorque motor-operated valve torque switch bypass settings were not adequate to assure the proper operation of valves AF599, AF608 and MS106 when called upon to perform their safety function. The design control measures failed to identify that the specifications for the torque switch bypass switch settings were improper. Since these measures were inadequate, and since the licensee did not perform suitable testing to assure the valves would perform properly under all service conditions, these valves failed to operate properly on June 9, 1985 when called upon to perform their intended safety function. (85030-IA3)

Violation II.A:

10 CFR Part 50, Appendix B, Criterion XI, "Test Control" requires that the test program include, as appropriate, proof tests prior to installation, preoperational tests, and operational tests during nuclear power plant operation of structures, systems and components. In addition, 10 CFR Part 50, Appendix B, Criterion V, "Instructions, Procedures, and Drawings" requires that the testing procedures be appropriate to the circumstances.

Contrary to the above, as of June 9, 1985, Test Procedure 273.01, "Auxiliary Feedwater System Preoperational Test," Revision 1, dated November 18, 1976 and Surveillance Test 5071.02 "Auxiliary Feedwater System Refueling Test," Revision 11, dated May 16, 1985, were not appropriate to the circumstances in that they failed to assure that valves AF599 and AF608 would satisfactorily perform under potential service conditions. As a result, preoperational testing performed in accordance with Test Procedure 273.01 did not identify the inability of valves AF599 and AF608 to function at the design differential pressure. Surveillance testing performed in accordance with Surveillance Test 5071.02 did not identify the improperly set torque switch bypasses for valves AF599, AF608, and MS106. Surveillance testing also did not identify the

unbalanced torque switch for valve MS106. (85030-IIA1)

Response I.A & II.A: (1) Admission or denial of the alleged violation.

Toledo Edison admits Violation I.A and Violation II.A.

(2) The reasons for the violation, if admitted.

Violation I.A:

The procedure used to set torque switch bypass settings was prepared by Torrey Pines Technology (TPT) and subsequently incorporated into existing Davis-Besse maintenance procedures. The design review of the TPT procedure, conducted prior to its incorporation, was inadequate in that the review did not reveal that certain portions of the procedure did not provide proper guidance.

Violation II.A:

The design review for Test Procedure 273.01, conducted prior to its implementation, was inadequate. Therefore, preoperational testing and subsequent surveillance testing utilizing ST 5071.02 did not properly test the ability of motor-operated valves AF599 and AF608 to function at the design differential pressure.

(3) The corrective steps which have been taken and the results achieved.

Prompt and extensive corrective actions were initiated following the June 9 event as described in the Course of Action (COA), Appendices IV.C.1.1 and IV.C.1.2, (Findings, Corrective Actions and Generic Implications Report (FCGIR) Plan Nos. 12 and 27). Following an extensive design review, new implementation procedures for setting the torque switch bypass settings were written. These procedures were subsequently modified to establish design control on limit switch setpoints (which include the torque switch bypass settings) through the revision of the applicable wiring elementary drawings. These procedures are:

- MP 1411.04, Maintenance and Repair of Limitorque Valve Operators Type SMB-000 and SMB-00.

- MP 1411.05, Maintenance and Repair of Limitorque Valve Operators Type SMB-0 through SMB-4.

- MP 1411.07, Maintenance and Repair of Limitorque Valve Operators Type SMC-04.

This will preclude changing limit switch setpoints without a design review.

Limit switch setpoints have been determined utilizing the Motor Operated Valve Analysis and Test System (MOVATS). In certain cases, differential pressure testing is also being utilized to further verify limit switch setpoints. These cases were selected utilizing the criteria contained in COA, Appendices IV.C.1.1 and IV.C.1.2 (FCGIR Plan Nos. 12 and 27).

(4) The corrective steps which will be taken to avoid further violations.

The completion of the extensive corrective actions described in (3) above, coupled with the results of the ongoing System Review and Test Program (described in Appendix II.C.7 of the COA), will ensure that: (1) the improper setting of limit switch setpoints due to inadequate design review will not recur, and (2) appropriate testing will be conducted to verify that motor-operated valves (including AF-599 and AF-608) will perform their intended safety function.

(5) The date when full compliance will be achieved.

Full compliance will be achieved prior to restart from the current outage.

Violation I.B: 10 CFR Part 50, Appendix B, Criterion III, "Design Control" requires that design control measures provide for verifying or checking the adequacy of design, such as by the performance of design reviews, by the use of alternate or simplified calculation methods, or by the performance of a suitable testing program.

Contrary to the above, as of June 9, 1985, design control measures had failed to reveal design deficiencies (buildup of condensation) associated with the crossover steam piping and with steam supplied from the main steam system, and thus the auxiliary feedwater pump turbines would not function as required to mitigate the design basis accident described in the Updated Safety Analysis Report in Section 15.4.4, "Steam Line Break." In addition, as of June 9, 1985 the licensee had not performed testing to assure the auxiliary feedwater pump turbines would perform under all predicted service conditions. As a result, on June 9, 1985, both auxiliary feedwater pump turbines tripped on overspeed, thus rendering the auxiliary feedwater system inoperable when called upon to perform its intended safety function. (85030-IA2)

Response I.B: (1) Admission or denial of the alleged violation.

Toledo Edison admits Violation I.B.

(2) The reasons for the violation, if admitted.

The Auxiliary Feedwater (AFW) System design review did not identify that the crossover steam supply piping was susceptible to the formation of condensation in a quantity that would adversely affect the operation of the AFW pump turbines (AFPT). In addition, system testing was not performed utilizing the crossover piping as the sole source of steam supply to the AFPTs.

(3) The corrective steps which have been taken and the results achieved.

Toledo Edison has taken extensive actions concerning the investigation of the overspeed trips of the AFPTs. The specific actions taken are discussed in the Course of Action (COA) Appendix IV.C.1.1, (Findings, Corrective Actions, and Generic Implications Report, (FCGIR) Plan Nos. 1A, and 1B/1C). Investigative actions include:

- A review of other utility experience with AFPT overspeed trips.
- A review of vendor (Terry Turbine) experience and testing information.
- A review of past AFPT performance history at Davis-Besse.
- Performance of analyses to determine the potential quantities of condensate which could form in the steam supply piping system.
- Performance of a transient flow analysis to simulate the effects of the June 9 event on the AFPTs.

As a result of these investigations, the overspeed trip of the AFPTs has been attributed to water slugging resulting from condensation in the crossover steam supply piping.

Plant modifications are being implemented to assure that the AFW System will perform its intended safety function under all predicted service conditions. Specifically, the AFPT steam supply piping system is being modified, as described in FCGIR Plan Nos. 1A and 1B/1C of the COA, to maintain the steam supply piping in a hot and pressurized condition whenever the AFPTs are required to be operable. By maintaining the piping hot, the quantity of condensation formed and delivered to the turbines during a start will be significantly reduced.

The adequacy of the design of the modified AFW System is being reviewed as part of the System Test and Review Program as described in Appendix II.C.7 of the COA.

(4) The corrective steps which will be taken to avoid further violations.

The completion of the extensive corrective action described in (3) above, coupled with the results of the ongoing System Review and Test Program, will ensure that: (1) the failure of the AFW System due to inadequate design review will not recur, and (2) appropriate testing will be conducted to verify that

the AFW System will perform its intended safety function under all predicted service conditions.

(5) The date when full compliance will be achieved.

Full compliance will be achieved prior to restart from the current outage.

Violation II.B.1: 10 CFR Part 50, Appendix B, Criterion V, "Instructions, Procedures, and Drawings," requires that activities affecting quality be prescribed by documented instructions, procedures, or drawings, of a type appropriate to the circumstances and that the activities be accomplished in accordance with these instructions, procedures, or drawings.

Contrary to the above, Steps 7.3.1 and 7.3.2 of Maintenance Procedure 1410.32, "Removal and Repair of Limitorque Valve Controls," Revision 2, dated June 4, 1982, were not appropriate to the circumstances in that the instructions for setting the torque switch bypass switch were inadequate. As a result, as of June 9, 1985, the torque switch bypass switches for valves AF 599, AF 608 and MS 106 were not set to the design values. (85030-IIA2)

Violation II.B.2: 10 CFR Part 50, Appendix B, Criterion V, "Instructions, Procedures, and Drawings," requires that activities affecting quality be prescribed by documented instructions, procedures, or drawings, of a type appropriate to the circumstances and that the activities be accomplished in accordance with these instructions, procedures, or drawings.

Contrary to the above, during a wiring check for the control power fuses for valve MS-106 by the licensee after June 9, 1985 event, a 15 amp fuse was found installed rather than a 10 amp fuse as required by Drawing E46B, Sheets 54A and 54B, Revision 3. (85030-IIA3)

Violation II.B.3: 10 CFR Part 50, Appendix B, Criterion V, "Instructions, Procedures, and Drawings," requires that activities affecting quality be prescribed by documented instructions, procedures, or drawings, of a type appropriate to the circumstances and that the activities be accomplished in accordance with these instructions, procedures, or drawings.

Contrary to the above, activities affecting quality had not been accomplished in accordance with Administrative Procedure 1844.00, "Maintenance," Revision 13, dated November 28, 1984 Section 5.3.1, "Skill of the Craft" in that the procedure requires activities such as the installation of locknuts to be performed with the "skill of the craft." However, troubleshooting performed by the licensee after the June 9, 1985 event revealed that the spring pack locknut on valve AF 599 was installed backwards and

was screwed in too tightly, compressing the spring pack assembly. In addition, the locknut on valve MS 106 was not installed flush with the spring pack of the torque switch causing the valve to go closed with a torque less than that specified by design. These improper installations did not satisfy the skill of the craft requirements of Administrative Procedure 1844.00. (85030-IIA4)

Response II.B.1, II.B.2 and II.B.3:

(1) Admission or denial of the alleged violation.

Toledo Edison admits Violations II.B.1, II.B.2 and II.B.3.

(2) The reasons for the violation, if admitted.

Violation II.B.1:

The procedure used to set torque switch bypasses (Maintenance Procedure 1410.32) was inadequate to ensure the proper setting of the torque switch bypasses.

Violation II.B.2:

The procedure was inadequate in that it did not require the use of design drawings to determine the appropriate replacement fuse size.

Violation II.B.3:

The use of "skill of the craft" rather than detailed procedures did not ensure the proper installation of the spring pack locknuts.

(3) The corrective steps which have been taken and the results achieved.

Toledo Edison has instituted a maintenance improvement program as described in the Course of Action (COA), Section II.B.3 and Appendix III.2. Specific aspects of the maintenance improvement program related to the above violations are:

- Upgrade of procedures:
  - MP 1410.32, Testing of MOVs Using MOVATs

- MP 1411.04, Maintenance and Repair of Limitorque Valve Operators SMB-000 and SMB-00
- MP 1411.07, Maintenance and Repair of Limitorque Valve Operator Type SMC-04
- MP 1410.63, Electrical Maintenance Guidelines
- AD 1844.00, Conduct of Maintenance
- AD 1844.02, Control of Work (MWO)

- More extensive utilization of direct procedural guidance.
- Emphasis on adherence to procedures and attention to detail.
- Upgraded training for all maintenance personnel.

(4) The corrective steps which will be taken to avoid further violations.

The ongoing implementation of the maintenance improvement program will ensure that violations such as those cited above will not recur.

(5) Date when full compliance will be achieved.

Toledo Edison is committed to an ongoing program to improve maintenance. Those improvements required to support the Course of Action will be in place prior to restart from the current outage.

Violation II.C: 10 CFR Part 50, Appendix B, Criterion XI, "Test Control," requires that a test program be established to assure that all testing required to demonstrate that systems and components will perform satisfactorily in service is identified and performed in accordance with written test procedures which incorporate the requirements and acceptance limits contained in applicable design documents.

Section XI of the ASME Boiler and Pressure Vessel Code (ASME Code) established an inservice test program to maintain a plant in a safe and expeditious manner. Table IWV-3700-1 of this Section requires that active valves be exercised quarterly. The Table further requires that if such exercising is impractical during plant operation, then the valves should be exercised at cold shutdown. The Table does not require exercising of passive valves.

Contrary to the above, as of June 9, 1985, the licensee's test program had improperly designated valves AF599 and AF608 as passive instead of active as defined in Section XI, Article IWV-2100 of the ASME Code in that these valves are required to change position when actuated by the Steam and Feedwater Rupture Control System. Therefore, the valves were not exercised at the required frequency. (85030-IIC)

Response II.C: (1) Admission or denial of the alleged violation.

Toledo Edison admits Violation II.C.

(2) The reasons for the violation, if admitted.

These valves were mistakenly identified as passive in the inservice testing program since they are locked open due to their open safety function and are administratively controlled in that position. Their closing function was not identified during the establishment of the test program.

(3) The corrective steps which have been taken and the results achieved.

Just prior to the event on June 9, 1985, Toledo Edison was performing a complete review of the ASME Pump and Valve Inservice Test Program. Valves AF-599 and AF-608 were identified through this review to be incorrectly designated as passive. Corrections were planned as part of a complete revision to the test

program which was to be done subsequent to the review. As a result, the ASME Pump and Valve Inservice Test Program and appropriate test procedures are being revised to designate these valves as active, requiring testing during cold shutdowns.

(4) The corrective steps which will be taken to avoid further violations.

All errors or inconsistencies identified through this extensive review of the ASME Pump and Valve Inservice Test Program will be corrected prior to restart. This, coupled with improved testing techniques (Topical Report 135P(A), Instrumented Inspection and Technique As An Alternative To The Hydrostatic Testing Requirements for ASME Class 1, 2 and 3 Systems and Components) and the System Review and Test Program, will ensure testing supports the satisfactory performance of equipment important to the safe operation of Davis-Besse.

(5) The date when full compliance will be achieved.

Full compliance will be achieved prior to restart from the current outage.

Violation II.D.1: 10 CFR Part 50, Appendix B, Criterion XVI, "Corrective Action," requires that measures be established to assure that conditions adverse to quality, such as failures, malfunctions, deficiencies, deviations, defective material and equipment, and nonconformances are promptly identified and corrected. In the case of significant conditions adverse to quality, the measures must assure that the cause of the condition is determined and corrective action taken to preclude repetition.

Contrary to the above, the licensee failed to determine the cause of the conditions and take adequate corrective action to preclude repetition of the following significant conditions adverse to quality.

Valve AF 599 failed to open from the control room on March 3, 1984 during plant recovery following a reactor trip. The licensee's corrective action with regard to the failure of this valve was not adequate to preclude repetition of the failure in that the licensee did not identify the improper torque switch and torque switch bypass switch settings. The determination of the cause of the failure and adequate corrective action could have prevented the later failure of valves AF 599 and AF 608 on June 9, 1985. (85030-IIB1)

Violation II.D.2: Source Range Monitor NI-2 failed to indicate proper neutron level on March 25 and April 13, 1985. The cause of the conditions adverse to quality were not determined and adequate corrective actions were not taken. (85030-IIB3)

Violation II.D.3: Spiking and erroneous count rates were experienced from January 1, 1985 through June 9, 1985 on Source Range Monitor NI-1. Five maintenance work orders were initiated to correct these problems. In each instance, the Technical Specification surveillance test was performed and the channel was declared operable, and the causes of the conditions adverse to quality were not determined. (85030-IIB2)

Violation II.D.4: Steam and Feedwater Rupture Control System (SFRCS) half channel actuation trips were received on April 24, 1985 and June 2, 1985. The cause of these conditions adverse to quality was not determined and adequate corrective actions were not taken. (85030-IIB4)

Response to II.D.1, II.D.2, II.D.3 and II.D.4:

(1) Admission or denial of the alleged violation.

Toledo Edison admits Violations II.D.1, II.D.2, II.D.3 and II.D.4.

(2) The reason for the violation, if admitted.

These violations were the result of inadequate root-cause determinations.

(3) The corrective steps which have been taken and the results achieved.

For Violation II.D.1, the corrective actions taken and the results achieved are described in the Course of Action (COA), Appendix IV.C.1.2 (Findings, Corrective Actions and Generic Implications Report (FCGIR) Plan No. 12).

For Violations II.D.2 and II.D.3, the corrective actions taken and the results achieved are described in COA, Appendix II.C.1.1 (FCGIR Plan Nos. 15A and 15B).

For Violation II.D.4, the corrective actions taken and the results achieved are described in COA, Appendix IV.C.1.1 (FCGIR Plan Nos. 5, 6 and 7).

(4) The corrective steps which will be taken to avoid further violations.

As described in COA, Sections II.B.1 and II.B.3, significant upgrades in engineering capabilities and the maintenance program are underway. These upgrades, coupled with specific procedural improvements for root-cause evaluations, assure that adequate root-cause determinations will be performed. These procedures are:

- AD 1844.00, Conduct of Maintenance
- AD 1844.02, Control of Work (MWO)
- AD 1844.11, Post-Maintenance Testing Requirements

(5) Date when full compliance will be achieved.

The upgraded engineering and maintenance organizations are in place and Maintenance Procedures AD 1844.00, AD 1844.02 and AD 1844.11 have been implemented.

Violation II.E.: 10 CFR 50.55a(h) Protection Systems, requires that for construction permits issued after January 1, 1971, protection systems must meet the requirements set forth in editions or revisions of the Institute of Electrical and Electronics Engineers Standard, "Criteria for Protection Systems for Nuclear Power Generating Stations," (IEEE-279). The Licensee's Updated Safety Analysis Report (USAR), Chapter 7, Section 7.4.2.3.1, "Compliance with IEEE Standard 279-1971," discusses adherence to Section 4 of IEEE-279 and in Paragraph (4.2) requires that no single failure prevent the Steam and Feedwater Rupture Control System (SFRCS) from performing its protective function.

Contrary to the above, as of June 9, 1985, single failure of an auxiliary feedwater containment isolation valve to reopen in response to an SFRCS actuation signal following a main steam line break accident which initially depressurizes both steam generators below the SFRCS setpoint as shown in the licensee's USAR Chapter 15, Figure 15.4.3, would prevent either auxiliary feedwater train from feeding the unaffected steam generator. (85030-IIIB)

Response II.E:.(1) Admission or denial of alleged violation.

Toledo Edison denies Violation II.E.

(2) The reasons for admission or denial of the violation.

(a) The reasons for the violation, if admitted.

Toledo Edison denies this violation.

(b) The reasons for denial of the violation.

Toledo Edison provided a detailed analysis in the Course of Action (COA), Appendix IV.C.3.3 that shows that Davis-Besse meets the single failure criteria for SFRCS and the Auxiliary Feedwater (AFW) System.

(3) The corrective steps which have been taken and results achieved.

No corrective action is warranted as a result of this alleged violation.

(4) The corrective steps which will be taken to avoid further violations.

No future corrective action to avoid further violation is warranted.

(5) The date when full compliance will be achieved.

The SFRCS and AFW System, as licensed in 1976, comply with the single failure criterion.

Violation II.F.: 10 CFR Part 50, Appendix B, Criterion II, "Quality Assurance Program" requires that the program provide for indoctrination and training of personnel performing activities affecting quality as necessary to assure that suitable proficiency is achieved and maintained.

Contrary to the above, as of June 9, 1985 the training provided auxiliary operators on resetting the overspeed trip mechanism associated with the auxiliary feedwater pump turbines was not adequate to assure that suitable proficiency was achieved and maintained in that the operators had not been trained to reset the overspeed trip device for the auxiliary feedwater pump turbine under operating conditions.

Response II.F.:(1) Admission or denial of the alleged violation.

Toledo Edison admits Violation II.F.

(2) The reason for the violation, if admitted.

The procedures for resetting of the Auxiliary Feedwater pump turbine (AFPT) trip throttle valve did not clearly identify that valve relatching also required the overspeed trip mechanism tappet to be reset.

The failure to recognize the significance of the tappet reset led to the omission of the appropriate procedural steps and subsequent inadequate training.

(3) The corrective steps which have been taken and the results achieved.

Extensive and thorough corrective steps have been taken as described in the Course of Action (COA), Appendix IV.C.1.1 (Findings, Corrective Actions and Generic Implications Report (FCGIR) Plan No. 1D).

The following procedures have been modified to address resetting of the overspeed trip mechanism:

- ST 5071.01, Auxiliary Feedwater System Monthly Surveillance Test
- ST 5071.02, Auxiliary Feedwater System Refueling Surveillance Test
- SP 1106.06, Auxiliary Feedwater System
- PT 5150.01, Auxiliary Feedwater Pump Turbine Overspeed Test

In addition, each plant operator, licensed and non-licensed, along with non-shift staff licensed personnel, will be required to reset the trip throttle valve and turbine overspeed trip mechanism from a tripped condition. The overspeed trip mechanism tappet operation will be discussed as this cannot be simulated without an actual overspeed trip. Operators will also receive instruction on the theory of operation for the overspeed trip mechanism and trip throttle valve.

In addition to the above training, the following operator aids will be provided:

- Local indication (trip/reset) of the overspeed trip mechanism. Simplified operating instructions located at the AFPTs.

(4) The corrective steps which will be taken to avoid further violations.

As described in Appendix IV.C.4.1 of the COA, an extensive review has been performed to determine what other infrequently performed operator actions or procedures important to safe plant operation may require additional training. These include:

- Operation of the startup feedwater valves in manual
- MCC cross-tie operations
- AB 1203.36, Loss of Instrument Air
- AB 1203.41, Loss of AC Bus Power Sources
- AB 1203.44, Loss of NNI Power
- Others as identified in COA, Appendix III.2.

(5) The date when full compliance will be achieved.

The operator aids described in (3) above and the training described in (3) and (4) above will be completed prior to restart from the current outage.

Violation III.A: Technical Specification 3.3.3.6, Post Accident Instrumentation, Table 3.3-10, Item 25 requires two auxiliary feedwater flow rate instruments to be in service per steam generator. The action statement associated with the Limiting Condition for Operation requires that with the number of operable post-accident monitoring channels less than required by Table 3.3-10, either restore the inoperable channel to operable status within 30 days, or be in hot shutdown within the next 12 hours.

Contrary to the above, on June 3, 1985, the licensee identified that one of the two auxiliary feedwater flow rate instruments, FI 4521, was improperly wired and thus inoperable since April 1, 1985. During the period from April 13 - June 2, 1985, the Unit was in a mode requiring the instruments to be operable and the Limiting Condition for Operation was exceeded. (85030-IVA)

Violation III.B. 10 CFR Part 50, Appendix B, Criterion V, "Instructions, Procedures, and Drawings," requires that activities affecting quality be prescribed by documented instructions or procedures of a type appropriate to the circumstance and be accomplished in accordance with these instructions or procedures.

(1) Contrary to the above, an activity affecting quality was not accomplished in accordance with the administrative procedure established for control of jumpers and lifted wires. On March 26, 1985, an instrument and control technician removed Flow Rate Instrument (FI) 4521 from the control room to repair the indicator and did not tag the disconnected electrical lead as required by Administrative Procedure 1823.00 "Jumper and Lifted Wire Control Procedure," Revision 12, dated October 2, 1984. As a result, FI 4521 was reinstalled incorrectly. (85030-IVB1)

(2) Contrary to the above, the written instruction "Maintenance Work Order MWO-1-85-1149-01" was inadequate. As a result, the post-maintenance testing performed on April 1, 1985 did not detect that FI 4521 was not receiving the required signal from the auxiliary feedwater flow rate transmitter.

As a result, FI 4521 was inoperable until discovered by the licensee on June 2, 1985. (85030-IVB2)

Response III.A.(1) and III.B.: Admission or denial of the alleged violation.

Toledo Edison admits Violations III.A and III.B.

(2) The reasons for the violation, if admitted.

The root-cause of these two violations stemmed from not adhering to AD 1823.00. This situation was not identified due to inadequate post-maintenance testing. Since the AFW flow instrumentation is not utilized during normal plant operation, the error was not detected.

(3) The corrective steps which have been taken and the results achieved.

Violation III.A:

At 0010 hours on June 4, 1985, the leads were connected to the proper meters and verified correct, and thus, compliance with Technical Specification 3.3.3.6, Table 3.3-10, Item 25 was achieved.

Violation III.B:

Instrument and Control (I&C) shop personnel were briefed by the Lead I&C Engineer on the events that led to this violation. Administrative Procedure AD 1823.00, Jumper and Lifted Wire Control, and Temporary Modification T-9479 to AD 1823.00, which provides for equipment leads and terminals to be identifiable, were also reviewed.

Violation III.B:

Maintenance personnel involved with the work activity which resulted in Violation III.B have been reindoctrinated in the requirements for control of jumpers and lifted wires.

(4) The corrective steps which will be taken to avoid further violations.

The control of Maintenance Work Orders previously controlled by AD 1844.00, "Conduct of Maintenance," has been clarified and expanded in newly issued procedure AD 1844.02, "Control of Work (MWO)". Also, the control of post-maintenance testing has been improved in rewritten AD 1844.11, "Post-Maintenance Testing Requirements". This procedure provides for a Senior Reactor Operator (SRO) or a previously licensed Davis-Besse SRO to review the work scope and planned post-maintenance testing followed by a review of the actual completed activities. This improved review will ensure that work is performed within the maintenance work order and that appropriate post-maintenance testing is performed.

All Maintenance Department personnel are receiving formal training on AD 1844.02.

(5) The date when full compliance will be achieved.

Full compliance was achieved on June 4, 1985 for Violation III.A.

Training on AD 1844.02 and AD 1844.11 will be completed prior to restart from the current outage.

Violation IV.A.1: 10 CFR Part 50, Appendix B, Criterion V, "Instructions, Procedures, and Drawings" requires that activities affecting quality be prescribed by documented instructions or procedures of a type appropriate to the circumstances and be accomplished in accordance with these instructions or procedures. In addition, Criterion X, "Inspection," requires that a program for inspection of activities affecting quality be executed by or for the organization performing the activities to verify conformance with the documented drawings for accomplishing the activity. Bechtel Procedure PDP-2, "Inspection Procedure for As-Built Configuration of Nuclear Safety-Related Piping Components IE Bulletin 79-14," Revision 4, dated May 3, 1980, implemented the actions set forth in IE Bulletin 79-14 for verifying that piping as-built conditions meet design analysis requirements.

Contrary to the above, as of May 31, 1985, twelve pipe supports installed on the Auxiliary Feedwater Pump Turbine Steam Supply system were not installed in conformance with design drawings, notwithstanding inspections performed in 1980 to Procedure PDP-2. In addition, these inspections discovered that the Quality Control Program in place as early as 1976 during plant construction did not provide verification of pipe support location, configuration, and orientation to assure installation was in accordance with design.

Response IV.A.1:(1) Admission or denial of the alleged violation.

Toledo Edison admits Violation IV.A.1.

(2) The reason for admission or denial of the violation.

Inspection procedure PDP-2 was not fully implemented, in all cases, in verifying that as-built supports on Seismic Category I piping systems met design requirements.

ITT Grinnell Specification Supplement SS-1379C, "Procedure for Field Installation and Inspection for All Q-Listed and Seismic Class 1 Rigid Hangers, Variable Supports, Constant Supports, Hydraulic Snubber, Struts, Seismic Restraints, and Anchors for Piping", dated February 3, 1976, did provide a Quality Control Program to verify component location, size, type, offset, tolerance gap, structural conformance with design, and other attributes.

Toledo Edison does recognize that, although acceptable in that timeframe, under today's quality practices these procedures would not be of sufficient detail to ensure that all details of as-built status would be reflected on associated engineering drawings.

(3) The corrective steps which have been taken and the results achieved.

Toledo Edison has implemented prompt and extensive corrective actions to identify, document and evaluate discrepancies on Seismic Category I piping systems. The overall inspection program (first formally described to the NRC in Serial No. 1-540 dated June 14, 1985) and as later expanded by Confirmatory Action Letter (CAL) 85-13 (Log No. 1-1258) includes:

- Completing walkdowns/inspections of Seismic Category 1 supports utilizing Toledo Edison procedures (approximately 4500 supports and anchors are involved).

- Resolving resulting NCRs and completing any necessary corrective actions to achieve piping operability based on SAR commitments/IE Bulletin 79-14 interim allowable stresses.

- Performing system operability reviews taking into account all system deficiencies (cumulative effect) from construction to the present.

To perform this program, Toledo Edison has implemented newly prepared or revised quality control inspection plan (IP-M-001) and engineering evaluation procedures (NFEP-060 and NFEP-170) to identify and correct, as appropriate the deficiencies with regards to 10 CFR Part 50, Appendix B Criterion V and Criterion X.

Although many Nonconformance Reports have been written as a result of this detailed piping support inspection, little reconstruction activity has resulted due to the minor nature of most of the identified discrepancies.

(4) The corrective steps which will be taken to avoid further violations.

The completion of the extensive corrective actions described in (3) above will ensure that the piping as-built conditions meet design analysis requirements.

(5) The date when full compliance will be achieved.

Full compliance will be achieved upon completion of the actions required by CAL 85-13. These will be completed by the end of the next refueling outage.

Violation IV.A.2: 10 CFR Part 50, Appendix B, Criterion XV, "Nonconforming Materials, Parts, or Components," requires measures be established to control materials, parts, or components which do not conform to requirements in order to prevent their inadvertent use or installation.

The Toledo Edison Nuclear Quality Assurance Manual, Sections 15.0 and 15.1.3 which implement Criterion XV of 10 CFR 50, Appendix B, require that nonconformances be documented on nonconformance reports to prevent their inadvertent use.

Contrary to the above, in March 1985, Toledo Edison Company Facility Engineering Department personnel used controlled sketches to document damaged Auxiliary Feedwater Pump Turbine Steam Supply hangers rather than Nonconformance reports as required and, as a result, failed to prevent their inadvertent use or installation. (85030-VB)

Response IV.A.2:(1) Admission or denial of the alleged violation.

As directed by 10 CFR Part 2, Section 205(b), Toledo Edison advises the NRC that the violation, as written, is in error. However, Toledo Edison admits to those events which are described in NRC Inspection Report 50-346/85013 which should be considered a violation of 10 CFR 50, Appendix B, Criterion XV.

(2) The reasons for the violation, if admitted.

Engineering personnel did not document the conditions adverse to quality in accordance with Procedure NFEP-050, Processing Surveillance Report.

(3) The corrective steps which have been taken and the results achieved.

All nonconforming conditions were documented on NCR 85-0019A or NCR 85-0065 on May 16, 1985.

(4) The corrective steps which will be taken to avoid further violations.

To ensure that nonconformances are documented for similar occurrences in the future, the Nuclear Facility Engineering Department (NFED) individuals involved with this violation have been instructed on the need to document conditions which are adverse to

quality in accordance with the appropriate project procedure (e.g., NCR, Surveillance Report, etc.) to provide for their proper resolution.

Procedure NFEP-170, Revision 0, Inspection Plans, was approved on August 2, 1985 to provide Engineering a procedure to initiate an inspection. This procedure requires documentation on an NCR, Surveillance Report, etc., as applicable, for those items identified which fail to meet the inspection plan acceptance criteria.

Inspection Plan IP-M-001 Revision 0 was developed for the hanger/support inspection program to include specific acceptance criteria for installed baseplate gaps. In addition, this acceptance criteria for pipe supports is currently being included in the Project Installation Specification 12501-M-450Q.

(5) The date when full compliance will be achieved.

Full compliance was achieved on August 26, 1985.

Violation IV.A.3: 10 CFR Part 50, Appendix B, Criterion XVI, "Corrective Action," requires that measures be established to assure that conditions adverse to quality such as deficiencies, deviations, defective material and equipment, and nonconformances, are promptly identified and corrected. In the case of a significant condition adverse to quality, the measures must assure that the cause of the condition is determined and corrective action taken to preclude repetition.

Contrary to the above, during March and April 1985, when substantial defects were identified in the Auxiliary Feedwater Pump Turbine Steam Supply pipe hangers by the licensee's site staff, the licensee failed to adequately assess individual and collective hanger failures to assure adequate evaluation of the root causes of the problem and to ensure that systems were operable in accordance with Technical Specification requirements. (85030-VC)

Response IV.A.3:(1) Admission or denial of the alleged violation.

Toledo Edison admits Violation IV.A.3.

(2) The reason for the violation, if admitted.

Nuclear Facility Engineering Procedure NFEP-060, Processing Nonconformance Reports, Supplier Deviation Reports, and Supplier Deviation Disposition Requests did not require the Nonconformance Report (NCR) evaluator to determine the root-cause. NFEP-060 also did not require any specific evaluations related to determinations of the cumulative effects of NCRs on the system's operability.

(3) The corrective steps which have been taken and the results achieved.

The root-causes for the deficiencies have been determined. As appropriate, system modifications have been initiated.

Operability evaluations have been performed and it has been determined that the plant technical specifications had not been violated. These operability evaluations were reviewed and accepted by the NRC as documented in NRC Inspection Report 50-346/85031.

(4) The corrective steps which will be taken to avoid further violations.

To control future piping system operability evaluations and root-cause investigations, Nuclear Facility Engineering Procedure NFEP-060 has been revised. The revision to the procedure addresses the need to determine the root cause for nonconformances identified with piping/pipe support systems and the need to prepare an inspection plan (if required) tailored to the nonconformance(s). This procedure revision also provides for an Operability Evaluation Program to ensure that major deficiencies as well as cumulative deficiencies are evaluated as to their effect on system operability as related to the plant technical specification requirements.

(5) The date when full compliance will be achieved.

Full compliance was achieved with the modification of Procedure NFEP-060 on October 30, 1985.

Violation IV.B: 10 CFR 50.73 (a)(1),(2)(ii)(4), and (2)(ii)(B) require the licensee to submit a Licensee Event Report (LER) within 30 days after discovery of a condition that resulted in the nuclear plant being seriously degraded, or that resulted in the nuclear power plant being in an unanalyzed condition that significantly compromised plant safety, or in a condition that was outside the design basis of the plant.

Contrary to the above, the total extent of degradation of piping suspension systems installed on the Auxiliary Feedwater Pump Turbine Steam Supply piping and on the Auxiliary Feedwater Pump Discharge piping that resulted in a condition that was outside the design basis of the plant and that was known to the licensee by March 31, 1985 was not reported to the NRC within 30 days as required. (85030-VD)

Response IV.B: (1) Admission or denial of the alleged violation.

Toledo Edison admits Violation IV.B.

(2) The reasons for the violation, if admitted.

Toledo Edison did not consider the implications of the trend of hanger damage in the determination of reportability. Accordingly, the LER submitted did not report the total extent of degradation.

(3) The corrective steps which have been taken and the results achieved.

LER 85-007 was revised on November 26, 1985 to more accurately reflect the condition involving damaged hangers/supports for the AFPTSS piping system.

As a result of the discrepancies identified in the AFPTSS piping system, extensive hanger/support inspections have been initiated at Davis-Besse. Periodic summary reports concerning the identified nonconformances have been provided and a final report will be submitted to the NRC in accordance with NRC Inspection Report 50-346/85035.

(4) The corrective steps which will be taken to avoid further violations.

Procedure NFEP-060 has been revised to require reporting to the NRC (pursuant to 10 CFR 50.73) for those piping systems which are determined to be inoperable as well as those which are determined to be within

interim allowables. This procedure has been reviewed and accepted by the NRC as documented in NRC Inspection Report 50-346/85031. Training on the procedure revision has been completed.

In addition, as part of the Nuclear Mission Procedure effort, a new procedure is being generated which will provide a consistent mechanism to be utilized by all Davis-Besse personnel for identifying items which are potentially adverse to quality. Procedure NMP-QA-702, will replace the several currently existing site reporting procedures for Deviation Reports, Surveillance Reports, Nonconformance Reports, etc. This will ensure that all Potential Conditions Adverse to Quality (PCAQ) are reviewed under a single procedure rather than several procedures. Trending of PCAQs will be required to ensure that significant problems will be identified even if systems are not determined to be inoperable.

(5) The date when full compliance will be achieved.

Full compliance will be achieved upon issuance of Procedure NMP-QA-702 which is planned to be issued prior to March 26, 1986.