

U.S. NUCLEAR REGULATORY COMMISSION

REGION III

Report No. 50-346/90023(DRP)

Docket No. 50-346

Operating License No. NPF-3

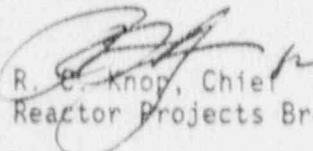
Licensee: Toledo Edison Company  
Edison Plaza, 300 Madison Avenue  
Toledo, OH 43652

Facility Name: Davis-Besse 1

Inspection At: Oak Harbor, Ohio

Inspection Conducted: November 27, 1990 through January 14, 1991

Inspectors: P. M. Byron  
R. K. Walton

Approved By:  R. E. Knop, Chief  
Reactor Projects Branch 3

1/24/91  
Date

Inspection Summary

Inspection on November 27, 1990 through January 14, 1991  
(Report No. 50-346/90023(DRP))

Areas Inspected: A routine safety inspection by resident inspectors of licensee actions on previous inspection findings, licensee event reports, plant operations, refueling, radiological controls, maintenance/surveillance, emergency preparedness, security, engineering and technical support, and safety assessment/quality verification was performed.

Results: The reduction in contractor support has had an impact on the operations procedures rewrite effort (Paragraph 2). A fire protection surveillance was not performed within the Technical Specification required time and resulted in a non-cited violation (Paragraph 3). The licensee had a weakness in control of valves as three mispositioning of valve events occurred as a result of personnel error. Two valve mispositionings involved steps being signed off but actions were not performed. These are additional examples of the need to strengthen the effectiveness of the corrective action program (Paragraph 4). The licensee experienced a reactor trip on December 13, 1990 (Paragraph 4). Troubleshooting regarding the cause of the trip has not yet yielded results but the action plan formulated by the licensee is considered a strength (Paragraph 9). The performance of an off hours unannounced emergency preparedness drill was considered a strength (Paragraph 7). An Emergency Diesel Generator experienced a possible failure to load (Paragraph 9) but this determination is awaiting vendor analysis of the failed component. The licensee has increased its security at the facility due to increased international tensions (Paragraph 8).

## DETAILS

### 1. Persons Contacted

#### a. Toledo Edison Company

D. Shelton, Vice President, Nuclear  
G. Gibbs, Director, Quality Assurance  
\*L. Storz, Plant Manager  
\*M. Heffley, Maintenance Manager  
\*R. Brandt, Plant Operations Manager (Acting)  
\*M. Bezilla, Superintendent, Operations  
D. Ricci, Supervisor, Operations  
\*E. Salowitz, Director, Planning and Support  
\*S. Jain, Director, DB Engineering  
R. Zyduck, Nuclear Engineering Manager  
G. Grime, Manager Site Protection  
\*D. Timms, Systems Engineering Manager  
J. Polyak, Radiological Control Manager  
R. Coad, Radiological Protection Supervisor  
\*J. Lash, Independent Safety Engineering Manager  
\*T. O'Dou, Radiological Assessor  
J. Moyers, Manager Quality Verification  
T. Anderson, Manager Maintenance Planning and Outage Mgmt.  
\*G. Honma, Compliance Supervisor  
R. Gaston, Licensing Technologist  
\*N. Peterson, Licensing Engineer  
\*B. DeMaison, Emergency Preparedness Manager  
\*J. Wood, Plant Operations, Manager  
M. Stewart, Training Manager

#### b. USNRC

\*P. Byron, Senior Resident Inspector  
R. Walton, Resident Inspector

\*Denotes those personnel attending the January 11, 1991, exit meeting.

### 2. Licensee Action on Previous Inspection Findings (92701)

NRC Region III Management has reviewed the existing open items for the Davis-Besse Nuclear Power Station and have determined that the following open items will be closed administratively due to their safety significance relative to emerging priority issues and to the age of the items. The licensee is reminded that commitments directly relating to these open items are the responsibility of the licensee and should be met as committed. NRC will review licensee actions by periodically sampling administratively closed items.

Bulletin (346/85003-BB)  
Unresolved Item (346/88019-01(DRS))  
Open Item (346/88019-02(DRS))  
Open Item (346/88019-03(DRS))  
Violation (346/89021-01(DRS))

(CLOSED) Unresolved Item (346/87014-04(DRP)): Use of non existent procedures as references. The inspectors had previously observed that some procedures listed deleted procedures as references. Potential Condition Adverse to Quality Report (PCAQR) 87-0397 was written at the suggestion of the inspectors to document this condition. The licensee developed a computerized tracking system capable of performing comprehensive cross referencing. The licensee reviewed all procedures which had been deleted since 1987 and verified that they had been deleted as references. Procedure NG-IM-00115, Preparation and Control of Nuclear Group, Department and Section/Unit Procedure, was revised. The inspectors have not observed similar deficiencies and consider the licensee's corrective action to be adequate. This item is closed.

(CLOSED) Open Item (346/88002-04(DRP)): Quality Control (QC) review of Maintenance Work Order (MWO) did not identify incomplete work. The licensee performed work on the balance potentiometers of safety grade battery chargers. The potentiometers were adjusted, but not resealed as required to maintain seismic qualifications. The maintenance foreman signed the MWO as being complete. After doing so, he recognized that the potentiometers had not been sealed and added a note to the MWO stating that this work had to be performed. The foreman subsequently recognized that he should have cancelled his signature. However, QC reviewed the MWO, with the attached supervisor's note, for completeness and had no concerns and it was released to the shift supervisor. The inspectors believed that the QC inspector should have identified the discrepancy. The inspectors reviewed the QC internal response and considered it unsatisfactory and met with QC supervision to discuss the issue. QC believes that the discrepancy should have been identified by them. The licensee has reviewed sign off requirements with maintenance supervision and enhanced review requirements with QC personnel. The inspectors have not observed a similar condition and this item is closed.

(CLOSED) Unresolved Item (346/88012-03(DRP)): Follow up of licensee's findings and corrective actions of QA audit of site procedures. The licensee performed an audit which revealed numerous problems with the quality and administrative controls of procedures. Two Management Corrective Action Reports (MCARs) were written as a result of the audit findings. MCAR 88-002 covered operations' procedural weaknesses and MCAR 88-003 was written to address weaknesses in the area of procedural administrative controls. The licensee organized a dedicated task force to rewrite and restructure operations' procedures. The licensee had expected this effort to be completed by June 1991, but the reduction of contractor support has affected this effort. The licensee strengthened the qualified reviewer program and added other administrative enhancements to streamline the process and ease implementation. The inspectors consider the program and product to be much improved and that the licensee has met its commitments. This item is closed.

(CLOSED) Unresolved Item (346/88021-06(DRP)): Electrical conduits for Auxiliary Feedwater (AFW) system installed in locations significantly different than shown in drawings. In some instances, cables were not analyzed for effects of High Energy Line Break (HELB) environment. The licensee issued PCAQR 88-0536 to document the finding, and DCR 88-0468 to perform an engineering review. A safety evaluation was performed and the review concluded that the conduits, as installed, are not adversely affected by any adverse environment. The inspectors reviewed the safety assessment and concurred with the conclusions. The licensee determined that the conduits had been previously identified by Bechtel during a walk down prior to licensing, but were not added to the drawings. The conduits have been included in conduit isometrics. This item is closed.

(CLOSED) Unresolved Item (346/88039-08(DRP)): Procedural discrepancies resulted in a Steam and Feedwater Line Rupture Control System (SFRCS) actuation during reactor startup. The licensee maintains steam generator (SG) chemistry by maintaining SG level between 35 to 65 percent in the operating range. However, 65 percent in the operating range is a higher level than the SFRCS high level trip points (225 inches for SG1 and 215 inches for SG2) in the startup range. The licensee revised steps 4.53 through 4.56 of the Plant Heat-up Procedure, DB-OP-06900, to set SG levels at the low level limits (40 inches) after chemistry is in specification. The inspectors have observed that this change has prevented high level SFRCS initiation during startup. This item is closed.

(CLOSED) Unresolved Item (346/88039-10(DRP)): Problems identified by the licensee during its procedures review. As a result of this review, MCAR 88-002 was written to document problems associated with operations' procedures, and 88-003 was written to document ineffective administration of the procedure process. The licensee implemented a dedicated task force to correct operations' procedures weaknesses. Operations' procedural revisions and upgrades should be completed by the end of the reporting period. Various administrative upgrades were implemented including a revised qualified reviewer program. The licensee has closed both MCARs and is tracking the few remaining items by PCAQ reports. These items have been addressed in various inspection reports and the inspectors have observed few concerns. They consider the licensee's actions to be adequate. The licensee did not identify any significant problems during its review and this item is closed.

(CLOSED) Violation (346/89005-02(DRP)): The licensee failed to perform critical performance tests (PTs) in the required time period. The licensee uses a computerized tracking system for surveillance tests and as a result seldom fails to perform a surveillance in the required time period. The licensee did not have a refined tracking system for critical PTs which are mandatory performance tests. The licensee reviewed its PTs and converted the critical PTs to surveillances. These converted PTs are now in the surveillance tracking system. This action is adequate and this item is closed.

(CLOSED) Violation (346/89016-02(DRP)): Failure to submit an LER within 30 days as required by 10CFR50.73. The licensee denied this violation in its September 25, 1989, response to Inspection Report 50-346/89016(DRP).

The licensee disagreed with the inspectors as to date of discovery and differed in the meaning of NUREG 1022, Supplement 1, Question 14.5. The licensee believes that the date of discovery was the date the evaluation was completed and not when the opening was observed. The response to Question 14.5 of NUREG 1022, Supplement 1 can be confusing as it lists three different definitions. In addition, the event has been proven to be of minor safety significance. The inspectors have concluded that licensee's denial is valid and the violation is withdrawn.

(CLOSED) Violation (346/89016-06(a)(DRP)): Failure to follow procedure. The service water system operating procedure, SP 1104.11 Revision 15, requires that whenever the service water (SW) system is declared inoperable, the associated emergency core cooling system (ECCS) train and emergency diesel generator (EDG) shall be declared inoperable. On July 9, 1989, the licensee declared the SW system inoperable for 2 hours and 27 minutes while performing the quarterly surveillance. The EDG was not declared inoperable nor was a required surveillance performed for an inoperable EDG. The licensee deleted the procedural requirement for declaring the associated ECCS system and EDG inoperable by Temporary Approval (TA) 89-4843 dated July 19, 1989. The requirement was deleted as it did not meet the licensee's current interpretation of Technical Specification requirements. This item is closed.

(CLOSED) Violation (346/89016-06(b)(DRP)): Failure to follow procedure. The licensee aligned MCC EF12C to the incorrect bus. The lineup did not provide electrical separation between the two service water (SW) pumps in that the strainers and blow-down valves were powered from the same source. The licensee believed the procedure to be weak in that there were no verification steps. The inspectors concur that the procedure was weak, but contained sufficient information for the operators to have performed the correct electrical alignment. The licensee revised the procedure to correct this and other identified weaknesses. In addition, this action was not safety significant in that the SW pumps would have performed their intended function without the strainers and blow-down valves. The procedure change corrected the weakness and this item is closed.

(CLOSED) Unresolved Item (346/89016-07(DRP)): The inspectors noted that the licensee deleted a sentence in the Service Water System Operating Procedure which would have the operators declare the emergency diesel generator inoperable if the associated service water (SW) system was inoperable. The inspectors agreed with the licensee to delete the sentence from the Limits and Precautions section of the procedure but believe that it should be addressed elsewhere in the procedure. The licensee's position is that inoperability of a support system does not automatically result in the inoperability of all supported systems. The licensee does not want to feel constrained to have the SW system operating procedure declare a component inoperable but instead relies on the shift supervisor to determine if a supported system is incapable of performing its specified functions. The inspectors concur that a support system operability determination be addressed prior to rendering a SW system component inoperable but that it need not be addressed in the SW operating procedure. This item is closed.

(CLOSED) Violation (346/89016-09(DRP)): The inspectors noted that debris has collected on the top of electrical cabinets which is in violation of housekeeping requirements. The licensee has revised the housekeeping procedure to assign responsibility to organizations for maintaining plant cleanliness. Additionally, the tops of electrical cabinets were cleaned and small gaps sealed to prevent the introduction of foreign objects. The inspectors have noted an improvement of electrical cabinet cleanliness. This item is closed.

(CLOSED) Violation (346/89016-11(DRP)): On July 8, 1989, the licensee discovered that a fire protection monthly surveillance test had not been performed since May 3, 1989. It was determined that the licensee suspended the test when it could not meet the acceptance criteria and after the system was determined to be operable. Even though the test deficiency was resolved, it continued to be shown on the test status as being due. Cognizant personnel failed to adequately ensure that the test would be completed. Upper management conducted a meeting with all appropriate personnel to emphasize interdepartmental responsibilities for ensuring that Technical Specifications are met. The inspectors have reviewed the licensee's program for the scheduling of surveillance tests. The inspectors note that very few surveillance tests are missed. This item is closed.

(CLOSED) Violation (346/89016-12(DRP)): The licensee should have reported the missed fire protection surveillance within 24 hours after the discovery on July 8, 1989, as required by Technical Specification 3.7.9.1, action statement b.2.a. The licensee made the notification call to the NRC on July 11, 1989, which was in excess of the required time limit. The delay in reporting was attributed to an incomplete followup of administrative details. Licensee management has discussed this event with personnel to install a heightened awareness with reportability timeliness. The inspectors have observed that notifications are now made in a timely manner and consider the licensee's actions to be adequate. This item is closed.

(CLOSED) Unresolved Item (346/89016-14(DRP)): On June 29, 1989, the licensee discovered that four high pressure (HP) injection valves, HP2A, B, C, and D, would not allow full HP injection flow within the time required by the Updated Safety Analysis Report (USAR) Accident Analysis if a loss of offsite power coincident with a design basis accident occurred. The licensee installed a seal-in circuit to ensure that the valves went to their full open position during this accident scenario. An analysis was performed to ensure that the peak centerline fuel temperature (PCT) would not have exceeded the 10CFR50.46 limits. The inspectors were concerned that the addition of this seal-in circuit could possibly increase the consequences of an accident or equipment malfunction and would constitute an unresolved safety question requiring an NRC review. NRC guidance states that if the change of consequences is so small that it can not be reasonably concluded that the consequences have actually changed, the change need not be considered. In this instance, the increase in the consequences of an accident occurring as a result of the addition of this circuit are not determinable hence an NRC review of the circuit addition is not required. This item is closed.

(CLOSED) Open Item (346/89022-03(DRP)): Not all valves shown on the P&ID. The operators documented that 14 valves for the Control Room Emergency Ventilation System (CREVS) were not shown on P&ID (M-027A). The inspectors reviewed the Control Room Refrigerant Flow Diagram, Procedure DB-OP-06506, Attachment 4, and determined the 14 valves to be isolation valves. The inspectors also reviewed Drawing M-027A and noted that the valves were denoted on the drawing, but not labeled. Engineering believed the valves did not need to be identified on the P&ID as they were identified on other drawings which were not in the Control Room. The inspectors believed that the information should be on control room drawings and that the operators should not have to review several drawings to obtain the necessary information. Operations personnel concur with the inspectors' concern. The licensee elected to add these valves to the newly issued Operational Schematics which are kept in the control room. This action alleviated the inspectors' concerns and this item is closed.

(CLOSED) Violation (346/89022-04(DRP)): The Updated Safety Analysis Report (USAR) requires door 212 to be shut. The inspectors noted on several occasions that the door was blocked open without the shift supervisors knowledge. Additionally, there was no sign on the door to inform personnel of the need for the door to remain shut. The door was returned to its shut position after the inspectors informed the licensee of the USAR requirement. The inspectors also noted that door 311 had been removed for maintenance. This door had both a fire prevention function as well as a flood mitigation function. The shift supervisor provided a compensatory fire watch but was unaware of the flooding mitigation functions of the door. The removal of the door without first evaluating the safety significance is another example of weaknesses in controlling activities related to doors. The licensee subsequently revised DB-OP-00000, "Conduct of Operations," and Drawing C-1596, Door Functional List, to aid operators in determining operability requirements for the barriers. The licensee also reviewed the function of the remaining doors to determine the adequacy of the existing door signs. New door signs have been installed. The inspectors have seen an improvement in control of doors. This item is closed.

(CLOSED) Open Item (346/89026-09(DRP)): The inspectors were concerned that the licensee was continuing to have problems with the operation and maintenance of doors. The licensee acknowledged that door problems existed and have taken steps to resolve the inspectors' concerns. A generic Maintenance Work Order (MWO) for the repair of doors has been implemented and the licensee has more manpower available to insure timely repairs. Repair parts for most doors are available in the warehouse. The inspectors have noted an increased awareness by the licensee to door problems and observed the marked decrease of inoperable doors. This item is closed.

(CLOSED) OPEN ITEM (346/89026-10(DRP)): Both the inspectors and the licensee identified portions of issued documents which were illegible. The licensee performed a legibility review of all station procedures and determined that it needed to revise its reproduction practices for procedure changes. All illegible procedures were revised and reissued.

Training of personnel of the procedural requirements addressing legibility was completed. The inspectors note an improvement in procedure legibility. This item is closed.

No violations or deviations were identified in this area.

3. Licensee Event Reports Followup (92701, 64704)

Through direct observation, discussions with licensee personnel, and review of records, the following licensee event reports (LERs) were reviewed to determine that reportability requirements were fulfilled, that immediate corrective actions to prevent recurrence was accomplished in accordance with Technical Specifications (TS). The LERs listed below are considered closed:

(CLOSED) LER (88007-LL AND 88007-1L): Air Operated Valve Accumulation Leakage and Subsequent Decay Heat Removal (DHR) System Inoperability. The licensee discovered while evaluating the effects of loss of instrument air on valve SW 1424 that both air operated temperature control valves (CC 1467 and CC 1469) for the DHR heat exchangers would also fail like SW 1424. Upon the loss of instrument air the valves did not maintain its fail safe (fully open) position. The licensee installed an automatic locking device on all 5 valves, CC 1467, CC 1469, SW 1424, SW 1429, and SW 1434 in the component cooling water (CCW) heat exchangers. This work was accomplished by MOD 88-0066. This modification completed the corrective actions. In addition, the licensee is in the process of replacing the SW valves with throttleable ball valves. This item is closed.

(CLOSED) LER (89003-LL) AND (89003-2L): Reactor Trip from 100 Percent Power due to Spurious CRD Trip Confirm Signal. A spurious control rod drive (CRD) trip confirm signal caused the integrated control system (ICS) to initiate rapid feedwater reduction (RFR). Feedwater reduction while at 100 percent power caused the reactor to trip on an over pressure signal. The licensee replaced three logic boards and had the suspected boards tested and analyzed by the vendor. The vendor determined that several of programmable unijunction transistors had failed, but did not cause the spurious trip. The vendor was not able to determine the cause of the spurious signal. The licensee has not experienced similar event and this item is closed.

(CLOSED) LER 90015: Fire Panel C4720c Six Month Surveillance Test Exceeded Late Date. The licensee recognized on December 12, 1990, that it failed to resolve a previously discovered deficiency with Technical Specification Surveillance Requirement 4.3.3.8.2. The failure to perform this test within its time requirement is a Violation (346/90023-01(DRP)) of TS 4.3.3.8.2. Since this was discovered by the licensee, was of minor safety significance and has since been corrected, it is considered a non-cited violation in accordance with 10CFR2 Appendix C, section V.G.1. This item is closed.

(OPEN) LER 90016: Reactor Trip Due to Group Rod Drop. On December 13, 1990, group 7 rods dropped into the core causing a



mismatch between reactor power and feedwater flow. The Reactor Protective System (RPS) subsequently tripped the reactor on low reactor coolant system pressure. The cause of group 7 rods falling into the core is still being investigated by the licensee. This item is open.

NRC Region III Management has reviewed the existing LERs for the Davis-Besse Nuclear Power Station and have determined that the following LER will be closed administratively due to its safety significance relative to emerging priority issues and to the age of the item. The licensee is reminded that commitments directly relating to this LER are the responsibility of the licensee and should be met as committed. NRC will review licensee actions by periodically sampling administratively closed items.

(CLOSED) LER (346/89011-LL(DRS))

No citable violations or deviations were identified.

4. Plant Operations (71707, 93702, 71710, 71714)

a. Operational Safety Verification

Inspections were routinely performed to ensure that the licensee conducts activities at the facility safely and in conformance with regulatory requirements. The inspections focused on the implementation and overall effectiveness of the licensee's control of operating activities, and on the performance of licensed and non-licensed operators and shift managers. The inspections included direct observation of activities, tours of the facility, interviews and discussions with licensee personnel, independent verification of safety system status and limiting conditions of operation (LCO), and reviews of facility procedures, records, and reports. The following items were considered during these inspections:

Adequacy of plant staffing and supervision.

Control room professionalism, including procedure adherence, operator attentiveness, and response to alarms, events, and off-normal conditions.

Operability of selected safety-related systems, including attendant alarms, instrumentation, and controls.

Maintenance of quality records and reports.

The inspectors observed that control room shift supervisors, shift managers, and operators were attentive to plant conditions, performed frequent panel walk downs and were responsive to off-normal alarms and conditions.

On December 13, 1990, at 8:44 A.M., the reactor tripped from low RCS pressure. The licensee was performing the reactor trip functional surveillance test for reactor trip breaker B when 7 of 8 control rods in Group 7 dropped to the bottom of the core. This resulted in a

mismatch between reactor power and feedwater flow causing RCS pressure to decrease below the low pressure set point. The licensee's explanation of rod 7-1 not dropping into the core with the rest of group 7 was due to a higher resistance in the stator motor windings for rod 7-1 resulting in a stronger magnetic field. All rods did, however, drop to the bottom when the reactor trip breakers opened. The plant response to the trip was normal with key plant parameters remaining in the post-trip band. The reactor was restarted on December 15, 1990. The cause of the trip and associated troubleshooting are described in Paragraph 9.

The licensee had three occurrences of mispositioned valves between December 13 and 19, 1990. Each of the events was different, but all involved personnel errors. On December 13, 1990, while performing a valve lineup in accordance with the Motor Driven Feedwater Pump (MDFP) Operating Procedure, DB-OP-0625, an operator failed to shut valve FW87. The MDFP mini recirculation flow was directed to the condensate storage tank (CST) overflow rather than to the desecrator tank with FW87 open. The licensee's investigation determined that an equipment operator failed to shut the valve. He claimed that he misread the procedure. However, a second equipment operator verified that FW87 was in the shut position when performing the independent verification. The licensee documented this in PCAQR 90-0766.

On December 14, 1990, the licensee failed to shut valve CD-125 as required by step 3.2.19 of Procedure DB-CH-06017, "Automatic Backwash Operation to Condensate Polisher Demineralizer Hold-Up Tank." The failure to shut CD-125 allowed for a flow path to the South Settling Pond. This event could have resulted in the discharge of radioactive resin slurry from the No.3 Condensate Polisher directly to the South Settling Pond, which would have been an unmonitored release. A review of step 3.2.19 revealed that the step had not been signed off as had been performed. Investigation by the licensee revealed that the Chemistry Supervisor who was performing the evolution had not reviewed the procedure before proceeding to step 3.2.20 which initiated flow. This event is documented in PCAQR 90-0778.

On December 31, 1990, the licensee discovered valve DH-10 in the closed position with an operator assist tool on the valve. The normal position of the valve is open. The licensee performed a review and determined that the valve had last been operated on December 18, 1990, during the performance of Procedure DB-SP-03337 Quarterly Pump and Valve Test for Core Spray Train 1. The procedure was reviewed and it was determined that step 4.35 which opens DH-10 had been signed off by the equipment operator as having been performed. The licensee documented this in PCAQR 90-0756.

These events were all related to the mispositioning of valves, but each was different. None were safety significant. The transfer of radioactive resin slurry to the Condensate Polisher Demineralizer Hold-up Tank appears to be caused by inattention to detail caused by

an experienced individual performing a frequently performed evolution without benefit of the procedure. The other two events were more significant in that steps were signed off without being performed. A verification step was signed off and the valve was in the wrong position in one case. The other, a procedural step was signed off as being complete and the step had not been performed. The two examples of individuals attesting to actions which had not been taken is serious. The inspectors have discussed their concerns with the licensee. These events will remain an Unresolved Item (346/90023-02(DAP)), pending a final review of the licensee's investigation and actions.

As part of the licensee's program to monitor for the presence of zebra mussels, five zebra mussel monitoring boxes have been installed in various locations through out the service water system. The licensee has not detected any zebra mussel growth at the facility and continues to rely on manual chlorination of the service water system to prevent zebra mussel growth.

b. Off-Shift Inspection of Control Rooms

The inspectors performed routine inspections of the control room during off-shift and weekend periods; these included inspections between the hours of 10:00 p.m. and 5:00 a.m. The inspections were conducted to assess overall crew performance and, specifically, control room operator attentiveness during night shifts. The inspectors determined that both licensed and non-licensed operators were alert and attentive to their duties, and that the administrative controls relating to the conduct of operation were being adhered to.

c. ESF System Walkdown

The operability of selected engineered safety features was confirmed by the inspectors during walk-downs of the accessible portions of several systems. The following items were included: verification that procedures match the plant drawings, that equipment, instrumentation, valve and electrical breaker line-up status is in agreement with procedure checklists, and verification that locks, tags, jumpers, etc., are properly attached and identifiable. The following systems were walked down during this inspection period:

- ° 480 Volt AC Electrical Distribution System
- ° Component Cooling Water System
- ° Emergency Diesel Generator System
- ° DC Electric Distribution System
- ° Service Water System

d. Plant Material Conditions/Housekeeping

The inspectors performed routine plant tours to assess material conditions within the plant, ongoing quality activities and plant-wide

housekeeping. Housekeeping was adequate. Plant deficiencies were appropriately tagged for deficiency correction.

No violations or deviations were identified.

5. Radiological Controls (71707)

The licensee's radiological controls and practices were routinely observed by the inspectors during plant tours and during the inspection of selected work activities. The inspection included direct observations of health physics (HP) activities relating to radiological surveys and monitoring, maintenance of radiological control signs and barriers, contamination, and radioactive waste controls. The inspection also included a routine review of the licensee's radiological and water chemistry control records and reports.

The licensee has re-established the Contaminated Area Reduction Program (CARP) Committee as a result of the inspectors' concerns. The inspectors have repeatedly made observations of Boron deposits on the same pieces of equipment. The committee is composed of members from various organizations. A determination was made based on access, availability and ALARA considerations that certain areas of the plant will not be included in the CARP. Various organizations were tasked to identify leaking valves and fittings. The CARP committee decided that leaks would be fixed and areas decontaminated on a room by room basis. The operators set in priorities and the makeup (MU) pump room will be the first area addressed. Approximately ten percent (10%) of the Radiological Controlled Area (RCA) falls in the not to be decontaminated area. The licensee has maintained the plant such that only four percent (4%) of the RCA needs to be cleaned up. The CARP committee is a team approach to reducing contaminated areas.

Health physics controls and practices were satisfactory. Knowledge and training of personnel were satisfactory.

No violations or deviations were identified.

6. Maintenance/Surveillance (61726, 62703, 92701, 95702)

Selected portions of plant surveillance, test and maintenance activities on systems and components important to safety were observed or reviewed to ascertain that the activities were performed in accordance with approved procedures, regulatory guides, industry codes and standards, and the Technical Specifications. The following items were considered during these inspections: limiting conditions for operation were met while components or systems were removed from service; approvals were obtained prior to initiating work; activities were accomplished using approved procedures and were inspected as applicable; functional testing or calibration was performed prior to returning the components or systems to service; parts and materials used were properly certified; and appropriate fire prevention, radiological, and housekeeping conditions were maintained.

a. Maintenance

The reviewed maintenance activities included:

- Control Rod Drive Troubleshooting
- Replace ECCS Room 1 Air Cooler
- DB-MI-09104, Clean and Inspect 13.8 Kv and 4.16 Kv Circuit Breakers

b. Surveillance

The reviewed surveillances included:

<u>Procedure No.</u>	<u>Activity</u>
DB-MI-03011	RPS Channel 1 Reactor Trip Breaker B Functional Test
DB-MI-03057	RPS Channel 1 Flux/Delta Flux/Flow Calibration
DB-MI-03060	RPS Channel 4 Flux/Delta Flux/Flow Calibration
DB-MI-03364	ARTS Channel 4 Functional Test
DB-SC-03071	Emergency Diesel Generator 2 Monthly Test
DB-SC-03111	SFAS Channel 2 Functional Test
DB-SC-04113	Diverse Scram System Functional Test

Personnel performing maintenance or surveillances used correct procedures and proper work control documents. Work authorization had been obtained for the jobs performed. Prerequisites for performing the job, such as worker protection and tagging had been performed. Surveillance continues to be an area where only an occasional minor problem arises.

No violations or deviations were identified.

7. Emergency Preparedness (71707, 82301)

An inspection of emergency preparedness activities was performed to assess the licensee's implementation of the emergency plan and implementing procedures. The inspection included monthly observation of emergency facilities and equipment, interviews with licensee staff, and a review of selected emergency implementing procedures.

On November 27, 1990, the licensee initiated an unannounced emergency preparedness drill during the evening hours. The drill scenario consisted of a tank truck with a load of diesel fuel catching fire and threatening a station transformer. The drill required the use of the fire brigade and

the assistance of local fire departments. It also required the activation of the emergency response organization. The inspectors observed the drill from the control room and considered that the players did a good job of handling the event and control room access was well managed. The inspectors observed that control room confusion and congestion were minimal which alleviated previous inspector concerns. The emergency response facilities were activated within the required one hour. However, the licensee's margin was less than five minutes and if the weather had been adverse, it is questionable if the facilities could have been staffed within the hour. The inspectors have discussed this concern with the licensee. Overall the drill went quite well in the opinion of the inspectors.

No violations or deviations were identified.

8. Security (71707, 81070)

The licensee's security activities were observed by the inspectors during routine facility tours and during the inspectors' site arrivals and departures. Observations included the security personnel's performance associated with access control, security checks, and surveillance activities, and focused on the adequacy of security staffing, the security response (compensatory measures), and the security staff's attentiveness and thoroughness. Security personnel were observed to be alert at their posts. Appropriate compensatory measures were established in a timely manner. Vehicles entering the protected area were thoroughly searched.

Due to increasing tensions in the Persian Gulf, the licensee has enhanced security measures and heightened security awareness. The inspectors are following the licensee's actions.

No violations or deviations were identified.

9. Engineering and Technical Support (62703, 71707, 92701, 93801, 37701 71714)

An inspection of engineering and technical support activities was performed to assess the adequacy of support functions associated with operations, maintenance/modifications, surveillance and testing activities. The inspection focused on routine engineering involvement in plant operations and response to plant problems. The inspection included direct observation of engineering support activities and discussions with engineering, operations, and maintenance personnel.

After the reactor trip on December 13, 1990, the licensee commenced troubleshooting the Control Rod Drive (CRD) system to determine the cause of the control rod drop. On December 27, 1990, replacement of a suspect voltage regulator card in the CRD motor generator set was performed. Subsequent monitoring revealed this was not a likely cause of the control rod drop. The licensee is continuing to monitor selected points in the CRD system in an effort to detect and correct the system malfunction. The cause of the control rod drop is still being investigated by the licensee.

During the performance of DB-SC-03071, Emergency Diesel Generator 2 Monthly Test, the diesel started properly but when operators attempted to load it, the generator operated with an uncharacteristically low power factor and high current. Operators secured the diesel and the electric governor was replaced. The diesel was then restarted and it loaded properly. The licensee is planning to return the electric governor to the vendor for failure analysis. The licensee believes that the generator was able to operate in the emergency mode if required but it will not be able to make that determination until the failure analysis results are available. The licensee is considering this operation to be a load failure. This will be carried as an Open Item (346/90023-03(DRP)) until the licensee determines if Emergency Diesel Generator 2 could operate in the emergency mode.

The licensee's preparations for cold weather operations included performing appropriate preventive maintenance on required equipment. Equipment found to be inoperable was prioritized for maintenance. The availability of parts initially delayed repair of required heat trace components but all safety related heat tracing equipment was operational prior to winter. Additionally, the licensee issued DB-OP-06913, Plant Winterization Checklist, on November 9, 1990. The procedure is required to be initiated prior to September 1 and as such was not performed for this season. The inspectors note that the program in place has been sufficient to prevent freezing of safety related equipment.

No violations or deviations were identified.

10. Safety Assessment/Quality Verification (92701, 92702, 35702, 92720)

An inspection of the licensee's quality programs was performed to assess the implementation and effectiveness of programs associated with management control, verification, and oversight activities. The inspectors considered areas indicative of overall management involvement in quality matters, self-improvement programs, response to regulatory and industry initiatives, the frequency of management plant tours and control room observations, and management personnel's participation in technical and planning meetings. The inspectors reviewed Potential Condition Adverse to Quality Reports (PCAQR), Station Review Board (SRB) and Company Nuclear Review Board meeting minutes, event critiques, and related documents; focusing on the licensee's root cause determinations and corrective actions. The inspection also included a review of quality records and selected quality assurance audit and surveillance activities.

On December 12, 1990, the Quality Assurance department issued a Management Corrective Action Report, (MCAR 90-005), on the ineffective implementation of software controls. The Nuclear Quality Assurance Manual, (NQAM), requires computer software which could have an effect on the safe and reliable operation of the plant, including computer information system data entry methods and procedures, be controlled. A Quality Assurance audit found deficiencies in software classification, departmental implementing procedures and software applications. A site wide action plan is being formulated to address deficiencies. The inspectors will follow the licensee's corrective actions.

Eight members from the Bohunice Nuclear Power station in Czechoslovakia visited the licensee from December 3 to December 10, 1990. The visit is part of an WAPD exchange program. The licensee sent members to visit the Czech plant in mid October.

11. Quarterly Management Meetings (30702)

On December 11, 1990, M. R. Edelman, Executive V. P. Power Generation and D. C. Shelton, V. P. Nuclear - Davis-Besse, met with the Regional Administrator and selected members of his staff and the NRR Project Managers in Region III. The licensee discussed its operations improvement program, the radiological uptake (Inspection Report 50-346/90022) and associated corrective actions, the Corrective Action Task Force findings and other subjects of interest.

12. Open Items

Open items are matters which have been discussed with the licensee, which will be reviewed further by the inspectors, and which involve some action on the part of NRC or licensee or both. Open items disclosed during the inspection are discussed in Paragraph 9.

13. Violations for Which a "Notice of Violation" Will Not Be Issued

The NRC uses the Notice of Violation (NOV) as a standard method for formalizing the existence of a violation of a legally binding requirement. However, because the NRC wants to encourage and support licensees' initiatives for self-identification and correction of problems, the NRC will not generally issue a NOV for a violation that meets the tests of 10 CFR 2, Appendix C, Section V.G.1.. These tests are: (1) the violation was identified by the licensee; (2) the violation would be categorized a Severity Level IV or V; (3) the violation was reported to the NRC, if required; (4) the violation will be corrected, including measures to prevent recurrence, within a reasonable time period; and (5) it was not a violation that could reasonably be expected to have been prevented by the licensee's corrective action for a previous violation. A violation of regulatory requirements identified during the inspection for which a NOV will not be issued is discussed in Paragraph 3.

14. Unresolved Items

Unresolved items are matters about which more information is required in order to ascertain whether they are acceptable items, violation, or deviation. An unresolved item disclosed during the inspection is discussed in Paragraph 4.

13. Exit Interview (30702)

The inspectors met with licensee representatives (denoted in Paragraph 1) throughout the inspection period and at the conclusion of the inspection and summarized the scope and findings of the inspection activities. The licensee acknowledged the findings. After discussions with the licensee, the inspectors have determined there is no proprietary data contained in this inspection report.



JAN 24 1991

Docket No. 50-346

Toledo Edison Company  
ATTN: Mr. Donald Shelton  
Vice President  
Nuclear  
Edison Plaza  
300 Madison Avenue  
Toledo, OH 43652

Gentlemen:

This refers to the routine safety inspection conducted by Messrs. P. M. Byron, and R. K. Walton of this office on November 27, 1990 through January 14, 1991, of activities at Davis-Besse Nuclear Power Station authorized by Facility Operating License No. NPF-3 and to the discussion of our findings with Mr. L. Storz at the conclusion of the inspection.

The enclosed copy of our inspection report identifies areas examined during the inspection. Within these areas, the inspection consisted of a selective examination of procedures and representative records, observations, and interviews with personnel.

During the inspection, one item identified in your License Event Report 90015 appeared to be in violation of NRC requirements. The inspection showed that actions are being taken to correct the identified violation and to prevent recurrence. Consequently, we have exercised our discretion as allowed under the NRC Enforcement Policy. Because we want to encourage prompt self-identification and correction of problems, the violation is not being cited because the criteria specified in 10 CFR Part 2, Appendix C, Section V.G. of the Enforcement Policy were satisfied.

In accordance with 10 CFR 2.790 of the Commission's regulations, a copy of this letter and the enclosed inspection report will be placed in the NRC Public Document Room.

We will gladly discuss any questions you have concerning this inspection.

Sincerely,

Richard C. Knop, Chief  
Reactor Project Branch 3

Enclosure: Inspection Report  
No. 50-346/90023(DRP)

See Attached Distribution

JAN 24 1991

Toledo Edison Company

2

Distribution

cc w/enclosure:

L. Storz, Plant Manager

DCD/DCB (RIDS)

OC/LFDCB

Resident Inspector, RIII

James W. Harris, State of Ohio

Robert E. Owen, Ohio

Department of Health

A. Grandjean, State of Ohio,

Public Utilities Commission

(see attached concurrence)

RIII  
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Dunlop/cs  
1-24-91

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Jackiw  
1-24-91

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Greger  
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Yes  
RIII  
*[Signature]*  
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1/24/91

RIII  
*[Signature]*  
Ring  
1/24/91

JAN 24 1991

Toledo Edison Company

2

Distribution

cc w/enclosure:

L. Storz Plant Manager

DCD/OCB (RIDS)

OC/LFDC/j

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Public Utilities Commission

RIII

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