

09/03/82

UNITED STATES OF AMERICA  
NUCLEAR REGULATORY COMMISSION

BEFORE THE ATOMIC SAFETY AND LICENSING BOARD

In the Matter of	)	
CONSUMERS POWER COMPANY	)	Docket Nos. 50-329 OL
(Midland Plant, Units 1 and 2)	)	50-330 OL

REMAINDER OF NRC STAFF RESPONSES TO INTERROGATORIES SUBMITTED  
BY INTERVENOR SINCLAIR TO THE NRC STAFF ON JUNE 18, 1982

With the following exceptions, this completes the Staff's voluntary responses to Ms. Sinclair's interrogatories submitted to the Staff on June 18, 1982. Answers to Interrogatory 6 must be supplied by FEMA and, hence, will be submitted at a later date. Second, a few affidavits are not included, but will be submitted shortly by letter to the Board and all parties.

Interrogatory 2

Contention 6 deals with the poor quality control record of both the Applicant and the architect-engineer both at Palisades and Midland. As the Board has requested, discovery questions are to be directed to current operation of the Quality Assurance program (including the alleged "doctoring" of welding certificates).

a. Provide all the documentation on the "doctoring" of welding certificates at Midland available to the NRC staff at this time.

NRC Response to Interrogatory 2.a.:

To date the NRC has no records or documentation on the "doctoring" of welding certificates at Midland.

Region III is aware however, that Mr. Howard's affidavit states, "... I also found 25 welder qualification discrepancies (Page 14)." We

DESIGNATED ORIGINAL

Certified By

*[Signature]*  
0507

8209080597 820903  
PDR ADOCK 05000329  
Q PDR

do not know if these are Midland or Zack welders, but will review these qualifications during the Zack investigation which is in progress. On August 2, 1982, Region III received a potential 10 C.F.R 21 report from the Zack Company. This report discusses deficiencies regarding the accuracy of welder records and is limited to work performed at the Zack facility in Cicero, Illinois. Plans are under way to investigate this issue. Reportedly, Region III has a copy of one of these welder records, but does not plan to distribute this document to the public until the investigation is complete.

Interrogatory 8

Contention 29 deals with the failure of the design for the reactors to consider the effect of an asymmetric loading on the reactor vessel supports resulting from a postulated reactor coolant pipe rupture at specific locations.

a. What is the precise way in which you have addressed this problem to meet the special design at Midlanu?

b. Provide names and reports of contractors, consultants and documents of staff work for resolving this problem.

NRC Response to Interrogatory 8.a.:

The effect of asymmetric loads on the reactor vessel supports due to a postulated rupture of a reactor coolant piping has been considered in the reactor design and is addressed in Section 3.9.2.3 of the Midland SER.

NRC Response to Interrogatory 8.b.:

The following is a list of the staff and consultant's documents relative to this subject:

1. Letter from S.Varga to S.Howell, "Request for Additional Information - Part One," dated 2/24/78. Enclosure 1; questions 110.9, 110.10, 110.17, 110.19, 110.21, 110.28.
2. Letter from S.Varga to S.Howell, "Request for Additional Information - Part Three," dated 4/21/78. Enclosure 1; question 110.30 and appendix.
3. Letter from S.Varga to S.Howell, "Revised Schedule and Supplemental Requests for Additional Information: Part 2," dated 10/13/78. Enclosure 1; questions 110.46, 110.46.1, 110.46.2, 110.46.3, 110.48.
4. Letter from S.Varga to S.Howell, "Open Items Associated with Staff Review of Midland Plants, Units 1 and 2, FSAR," dated 3/30/79. Mechanical Engineering Branch items 2,4,5,6.
5. Letter from R.Tedesco to J.Cook, "Transmittal of Preliminary SER Draft Sections 3.6.2, 3.7.3 and 3.9, Midland Plant, Units 1 and 2," dated 9/23/81.
6. Safety Evaluation Report related to operation of Midland Plant Units 1 and 2, NUREG-0793, Section 3.6, dated 5/82.

Answers to questions and open items identified in items 1 through 4 above are found in the FSAR volume entitled "Responses to NRC Questions."

All of the above documents are located in the local public document room at Midland and in the NRC Public Document Room in Washington, D.C.

#### Interrogatory 13

Contention 34 deals with the actual and potential of snubber malfunction.

a. Provide documents on the methodology employed to determine the necessity for using snubbers as component supports in the Midland project.

b. How does the snubber problem specifically apply to Midland?

c. List the specific measures that will be taken to resolve this issue.

f. How will this unresolved safety problem affect the total power output of these nuclear plants?

NRC Response to Interrogatory 13.a.:

The staff does not have any documents on this subject.

NRC Response to Interrogatory 13.b.:

Region III has no knowledge of specific snubber problems at Midland. We have however, identified (Inspection Report 50-329/82-07 and 50-330/82-07) defective installation of pipe supports and restraints at Midland.

The licensee's response to our report was received on August 16, 1982. (Ref: Ltr., J. A. Mooney to J. G. Keppler, dated August 13, 1982, file 0.4.2, Serial 17572.) This response was determined to be unacceptable. A letter describing Region III's position was sent on August 30, 1982. (Ref: Ltr., R. F. Warnick to J. W. Cook, dated August 30, 1982). We have required the licensee to respond within 25 days, describing their schedule for inspecting all pipe supports and restraints.

NRC Response to Interrogatory 13.c.:

Specific measures to be implemented at the Midland Plant to assure that snubbers remain operable will be in accordance with the enclosed generic Technical Specification 3/4.7.9, "Snubbers".

NRC Response to Interrogatory 13.f.:

Again, Region III has no knowledge of specific snubber problems or unresolved safety issues relating to snubbers. Regarding the problems identified with pipe supports and restraints at Midland, we recognize this as installation problems that may affect safe operation of the facility which can and will be remedied prior to plant operation. They are not unresolved safety issues.

Interrogatory 16

Contention 37 deals with the absence of adequate design criteria for postulation of pipe breaks and protection therefrom.

- a. Precisely how does this lack of design criteria for pipe breaks apply to the Midland plant design?
- b. Provide names and reports of all contractors and consultants who have worked on this problem. Provide summary documents on their work.
- c. Provide documents of staff that worked on this problem.
- d. Have any staff members or consultants disagreed with the criteria being used? Who are they? Describe the substance of their disagreement and provide documents on this.
- f. How will this interaction be monitored or controlled?

NRC Response to Interrogatory 16.a.:

The staff has concluded in the Midland SER, Sections 3.6.1 and 3.6.2 that the applicant's design criteria relative to the postulation of pipe breaks is acceptable.

NRC Response to Interrogatory 16.b.:

The Mechanical Engineering Branch consultant on the review of the Midland plant is the Energy Technology Engineering Center, Canoga Park, California. The following document summarizes our contractor's work on

this subject: Letter from R.Tedesco to J.Cook, "Transmittal of Preliminary SER Draft Sections 3.6.2, 3.7.3 and 3.9, Midland Plant, Unit 1 and 2," dated 9/23/81.

NRC Response to Interrogatory 16.c.:

The following is a list of staff documents relative to this subject:

1. Letter from R. Boyd to S. Howell, "Acceptance Review of FSAR," dated 11/11/77. Enclosure 2; questions 110.1, 110.2, 110.3, 110.5.
2. Letter from S. Varga to S. Howell, "Request for Additional Information - Part One," dated 2/24/78. Enclosure 1; questions 110.7-110.13, 110.15, 110.17, 110.19, 110.21, 110.28.
3. Letter from S. Varga to S. Howell, "Supplemental Requests for Additional Information, Part 1," dated 8/30/78. Enclosure 1; questions 110.32, 110.33, 110.35, 110.36, 110.37, 110.42, 110.45.
4. Letter from S. Varga to S. Howell, "Open Items Associated with Staff Review of Midland Plants, Units 1 and 2 FSAR," dated 3/30/79. Mechanical Engineering Branch Items 2, 4, 5, 6.
5. Letter from R. Tedesco to J. Cook, "Transmittal of Preliminary SER Draft Sections 3.6.2, 3.7.3 and 3.9, Midland Plant, Unit 1 and 2," dated 9/23/81.
6. Safety Evaluation Report related to operation of Midland Plant, Units 1 and 2, NUREG-0793, Section 3.6, dated 5/82.

Answers to questions and open items in items 1 through 4 above are found in the FSAR volume entitled, "Responses to NRC Questions."

All of the above documents are located in the Local Public Document Room at Midland and in the NRC Public Document Room in Washington, D.C.

NRC Response to Interrogatory 16.d.:

No staff member or consultant has disagreed with the applicant's criteria.

NRC Response to Interrogatory 16.f.:

The non-safety grade isolation valves in the main steam system that are relied upon to mitigate the consequences of a main steam line break concurrent with a single failure of a safety grade MSIV will have the same testing and inspection requirements with regard to its isolation function as the MSIVs. These periodic testing and inspection requirements will effectively monitor the function of these non-safety grade valves. In addition the valves have been built to Quality Group D plus requirement (100 percent radiographic testing). In addition to normal design, a loading combination of design pressure plus a 3g seismic load was evaluated for all six valves with acceptable stress results. Thus, the valves design effectively assure the functional capability of the valves when needed.

Interrogatory 22

Contention 43 deals with the vulnerability of the Midland reactors to industrial (or other) sabotage.

a. FEMA has already indicated that the Midland area is a military target because of the Dow production and research operations here, some of which have military uses. Have precautions for security of the plant taken this fact into consideration?

b. To what extent will the civil rights of people working in the nuclear plant, the Dow facilities and the community as a whole be violated as a means of security protection? This includes wire-tapping, surveillance, and other types of invasion of privacy.

c. Has the public or the employees been advised as to how their civil rights will be affected in order to provide security for the Midland nuclear plant?

NRC Response to Interrogatory 22.a.:

The staff objects to this interrogatory. Pursuant to 10 C.F.R. § 50.13, an applicant need not take specific measures to protect against attacks and destructive acts directed against the facility by an enemy of the United States. This interrogatory specifically asks about such measures and, hence, has no relevance to any issue within the Licensing Board's jurisdiction.

NRC Response to Interrogatories 22.b. and 22.c.:

The staff objects to these interrogatories. The scope of Contention 43 is limited to the vulnerability of the plant to sabotage. The Contention in no way addresses civil rights. Accordingly, these interrogatories are irrelevant to the Contention.

Interrogatory 23

Contention 44 deals with the need to reexamine The Dow Chemical Co. power systems as set forth in NUREG-0305 because of serious safety-related concerns.

a. Has this reexamination of Dow Chemical power systems taken place for Midland?

b. If the answer is no, how do you intend to compensate for this problem at Midland?

c. List the specific measures that are being taken to solve this problem.



NRC Response to Interrogatories 23.a. b., and c.:

The staff objects to these interrogatories. Neither contention 44 nor NUREG-0305 deal with Dow Chemical power systems. Rather, they address direct current power systems.

Interrogatory 30

Contention 51 deals with the fact that there is no assurance that existing geometry can adequately satisfy the functional design criteria for the behavior of fuel element assemblies during accident conditions.

a. How does this problem specifically apply to the Midland nuclear plant?

b. List and document the specific measures that have been taken to resolve this issue.

NRC Response to Interrogatory 30.a.:

The NRC staff evaluation of the applicant's fuel design and its ability to conform to geometric design criteria during accident conditions is described in Section 4.2, "Fuel System Design," of the SER and SSER 1.

NRC Response to Interrogatory 30.b.:

As stated above, the SER and SSER document the details of our review to obtain the necessary assurance that the fuel design criteria in Section 4.2, "Fuel System Design," of the Standard Review Plan (NUREG-0800) will be met.

Interrogatory 36

Contention 57 deals with the fact that the electrical system will not function adequately under accident and/or fire conditions.

a. What fire tests have been done since those made in September and October, 1978? Document.

b. What improvements have been made in electrical wiring equipment since the September, October, 1978 fire tests?

NRC Response to Interrogatory 36.a.:

In the time period specified, the U.S. Nuclear Regulatory Commission's Fire Research Program has been involved with the following tests:

1. "Investigation of Fire Stop Test Parameters" SAND 81-7144, NUREG/CR-2321 Sept. 81. Summary: This test series was performed to investigate the effects of pressure differential on the integrity of fire barrier penetration seals. The results show that for those seals which do not have cracks or other through openings, changes in pressure differential are negligible on the seal's fire resisting ability.
2. "Tests and Criteria of Fire Protection Cable Penetrations" SAND 81-7160, NUREG/CR-2377 April 1982. Summary: This test series was performed to investigate the effects of pressure differential on cable penetrations installed in fire resistive walls. The results show that a pressure differential or the presence or absence of excess pyrolyzates can strongly influence the fire resistance of penetrations.
3. "Ionization Detection Response in a Coagulating buoyant plume." BNL-NUREG-29449 March 1981. Summary: This analysis describes a mathematical model which has been developed to assess the response of ionization type smoke detectors to fires involving electrical cables.

4. "Burn Mode Analysis of Horizontal Cable Tray Fires" SAND 81-0079 NUREG/CR-2431 February 1982. Summary: This test series was conducted to investigate the burning of cables in cable trays in rooms where adequate ventilation for combustion is not available. The test results show that a reduction in flames and the occurrence of deep-seated fires is more likely in a descending smoke layer. The tests also showed that reignition may occur upon readmission of fresh air.
5. "Fire Protection Research Program - Corner Effects Tests" SAND 79-0966 NUREG/CR-0833 December 1979. Summary: This test series was conducted to evaluate the effects of radiant energy that is returned from a corner wall and ceiling to burning cable trays. The test results show that cable damage, attributable to re-radiated energy, varies approximately as the inverse square of the separation distance.
6. "Fire Research on Grouped Electrical Cables SAND 79-0031 January 1979. Summary: This paper summarizes the activities of Sandia National Laboratories research through January 1979 in regard to nuclear power plant cable testing criteria. Both small scale and full scale tests are described for use in evaluating cable fire retardancy.

In addition, several tests have been conducted for the NRC fire protection research program, however, as of this date final test reports have not yet been issued. These tests are:

1. "Replication Experiments for Fire Protection System" Conducted July 1981 at Underwriters Laboratories, Northbrook, Ill.

2. "Evaluation of twenty-foot Separation as a Fire Protection System" May 1982, Underwriters Laboratories, Northbrook, Ill.
3. "Extinguishants for Cable Tray Fires" - currently being conducted at Sandia Laboratories, Albuquerque, New Mexico.

The following test reports have been furnished to the NRC by the Electric Power Research Institute:

1. "Water as a Means of Cable Fire Protection and Operational Effects Experience" EPRI NP-1193, October 1979. Summary: This report describes industry experiences with the use of water as an extinguishant for cable tray fires as well as the potential for initiating additional hazards in control and switchgear from the inadvertant operation of water sprays.
2. "Categorization of Cable Flammability - Part 1: Laboratory Evaluation of Cable Flammability Parameters" EPRI NR-1200 October 1979. Summary: This study was a laboratory scale investigation of flammability parameters such as a rate of heat release and sensitivity to external heat flux of 22 types of electrical cables. The results of this study were used to select cables for full scale cable tray fire tests.
3. "Categorization of Cable Flammability - Detection of Smoldering and Flaming Cable Fires" - EPRI-NP-1630 November 1980. Summary: This study was performed to investigate spacing and location parameters to optionally detect various types of cable fires. A series of technical criteria were developed for room geometries commonly found in nuclear power plants.

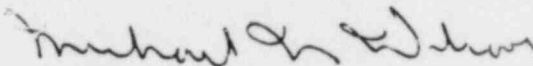
4. "Assessment of Exposure Fire Hazards to Cable Trays" EPRI-NP-1675 January 1981. Summary: This study evaluated the potential hazard to cable trays from external heat flux sources. The results show that damageability can be predicted based on the ceiling height and floor area of the room, the height of cables above the floor, the ventilation rate, and the heat release rate of the combustible materials which provide the incident heat flux. A preliminary assessment of fire protection features for cable trays is also developed.
5. "Ignitability of High Fire-Point Liquid Spills" EPRI-NP-1731 March 1981. Summary: This study evaluated fire hazard presented to cable trays from the ignition of five types of flammable liquids on three common types of floor construction. The results show that the degree of hazard depends on the spill depth, the thermal inertia of the floor, the fire point of the liquid, the thermal energy available to heat the spill, and the availability of an ignition source.
6. "A study of Damageability of Electrical Cables in Simulated Fire Environments" EPRI-NP-1767 March 1981. Summary: This study investigates how electrical cables may melt, expand, disintegrate, or short circuit in a heated environment, even before ignition occurs. Critical heat flux and radiant energy parameters are derived for expressing the degree of cable damage potential.

Other cable fire tests may have been conducted by other agencies and utilities. We however, have provided a list of all tests that we have knowledge of.

NRC Response to Interrogatory 36.b.:

The fire protection guidelines for the protection of safe shutdown cables and equipment have been supplemented by a revision of the fire protection section of the Standard Review Plan (NUREG-0800, Section 9.5-1 - Fire Protection, July 1981). This section currently includes all of the fire protection criteria used by the staff, such as the requirement of Appendix R to 10 C.F.R. 50 in addition to various NRC guidance documents that have been developed since the Brown's Ferry fire. All plants to be licensed after January 1979, including Midland Units 1 and 2, are being reviewed against these criteria. Compliance with the approved fire protection program is being made a specific license condition.

Respectfully submitted,



Michael N. Wilcove  
Counsel for NRC Staff

Dated at Bethesda, Maryland  
this 3rd day of September 1982

UNITED STATES OF AMERICA  
NUCLEAR REGULATORY COMMISSION

BEFORE THE ATOMIC SAFETY AND LICENSING BOARD

In the Matter of )  
CONSUMERS POWER COMPANY ) Docket Nos. 50-329  
(Midland Plant, Units 1 and 2) ) 50-330  
(Operating License Proceeding)

CERTIFICATE OF SERVICE

I hereby certify that copies of "REMAINDER OF NRC STAFF RESPONSES TO INTERROGATORIES SUBMITTED BY INTERVENOR SINCLAIR TO THE NRC STAFF ON JUNE 18, 1982" in the above-captioned proceeding have been served on the following by deposit in the United States mail, first class, or, as indicated by an asterisk through deposit in the Nuclear Regulatory Commission's internal mail system, this 3rd day of September 1982:

\*Charles Bechhoefer, Esq.  
Administrative Judge  
Atomic Safety and Licensing Board  
U.S. Nuclear Regulatory Commission  
Washington, D.C. 20555

Dr. Frederick P. Cowan  
Administrative Judge  
6152 N. Verde Trail  
Apt. B-125  
Boca Raton, Florida 33433

\*Dr. Jerry Harbour  
Administrative Judge  
Atomic Safety and Licensing Board  
U.S. Nuclear Regulatory Commission  
Washington, D.C. 20555

Frank J. Kelley  
Attorney General of the State  
of Michigan  
Steward H. Freeman  
Assistant Attorney General  
Environmental Protection Division  
525 W. Ottawa St., 720 Law Bldg.  
Lansing, Michigan 48913

Ms. Mary Sinclair  
5711 Summerset Street  
Midland, Michigan 48640

Michael I. Miller, Esq.  
Ronald G. Zamarin, Esq.  
Alan S. Farnell, Esq.  
Isham, Lincoln & Beale  
Three First National Plaza  
52nd Floor  
Chicago, Illinois 60602

James E. Brunner, Esq.  
Consumers Power Company  
212 West Michigan Avenue  
Jackson, Michigan 49201

Ms. Barbara Stamiris  
5795 N. River  
Freeland, Michigan 48623

James R. Kates  
203 S. Washington Avenue  
Saginaw, Michigan 48605

Wendell H. Marshall, President  
Mapleton Intervenors  
RFD 10  
Midland, Michigan 48640

Wayne Hearn  
Bay City Times  
311 Fifth Street  
Bay City, Michigan 48706

Paul C. Rau  
Midland Daily News  
124 McDonald Street  
Midland, Michigan 48640

Myron M. Cherry, p.c.  
Peter Flynn, p.c.  
Cherry & Flynn  
Three First National Plaza  
Suite 3700  
Chicago, IL 60602

T. J. Creswell  
Michigan Division  
Legal Department  
Dow Chemical Company  
Midland, Michigan 48640

\*Atomic Safety and Licensing Board  
U.S. Nuclear Regulatory Commission  
Washington, D.C. 20555

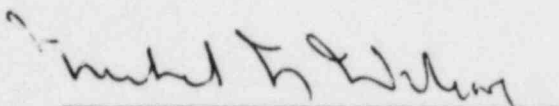
\*Atomic Safety and Licensing Appeal  
Panel  
U.S. Nuclear Regulatory Commission  
Washington, D.C. 20555

\*Docketing and Service Section  
Office of the Secretary  
U.S. Nuclear Regulatory Commission  
Washington, D.C. 20555

Steve J. Gadler, P.E.  
2120 Carter Avenue  
St. Paul, MN 55108

Frederick C. Williams  
Isham, Lincoln & Beale  
1120 Connecticut Avenue, NW  
Washington, D.C. 20036

Lee L. Bishop  
Harmon & Weiss  
1725 I Street, N.W.  
Suite 506  
Washington, D.C. 20006



Michael N. Wilcove  
Counsel for NRC Staff



PLANT SYSTEMS

3/4.7.9 SNUBBERS

LIMITING CONDITION FOR OPERATION

3.7.9 All snubbers listed in Tables 3.7-4a and 3.7-4b shall be OPERABLE.

APPLICABILITY: MODES 1, 2, 3 and 4. (MODES 5 and 6 for snubbers located on systems required OPERABLE in those MODES).

ACTION:

With one or more snubbers inoperable, within 72 hours replace or restore the inoperable snubber(s) to OPERABLE status and perform an engineering evaluation per Specification 4.7.9.g on the supported component or declare the supported system inoperable and follow the appropriate ACTION statement for that system.

SURVEILLANCE REQUIREMENTS

4.7.9 Each snubber shall be demonstrated OPERABLE by performance of the following augmented inservice inspection program.

a. Inspection Types

As used in this specification, type of snubber shall mean snubbers of the same design and manufacturer, irrespective of capacity.

b. Visual Inspections

The first inservice visual inspection of each type of snubber shall be performed after four months but within 10 months of commencing POWER OPERATION and shall include all snubbers listed in Tables 3.7-4a and 3.7-4b. If less than two (2) snubbers of any type are found inoperable during the first inservice visual inspection, the second inservice visual inspection shall be performed 12 months ± 25% from the date of the first inspection. Otherwise, subsequent visual inspections shall be performed in accordance with the following schedule:

<u>No. Inoperable Snubbers of Each Type per Inspection Period</u>	<u>Subsequent Visual Inspection Period*#</u>
0	18 months ± 25%
1	12 months ± 25%
2	6 months ± 25%
3,4	124 days ± 25%
5,6,7	62 days ± 25%
8 or more	31 days ± 25%

\* The inspection interval for each type of snubber shall not be lengthened more than one step at a time unless a generic problem has been identified and corrected; in that event the inspection interval may be lengthened one step the first time and two steps thereafter if no inoperable snubbers of that type are found.

# The provisions of Specification 4.0.2 are not applicable.

## PLANT SYSTEMS

### SURVEILLANCE REQUIREMENTS (Continued)

---

#### c. Refueling Outage Inspections

During each refueling outage an inspection shall be performed of all snubbers listed in Tables 3.7-4a and 3.7-4b attached to sections of safety systems piping that have experienced unexpected, potentially damaging transients as determined from a review of operational data and a visual inspection of the systems. In addition to satisfying the visual inspection acceptance criteria, freedom of motion of mechanical snubbers shall be verified using one of the following: (i) manually induced snubber movement; (ii) evaluation of in-place snubber piston setting; (iii) stroking the mechanical snubber through its full range of travel.

#### d. Visual Inspection Acceptance Criteria

Visual inspections shall verify (1) that there are no visible indications of damage or impaired OPERABILITY, (2) attachments to the foundation or supporting structure are secure. Snubbers which appear inoperable as a result of visual inspections may be determined OPERABLE for the purpose of establishing the next visual inspection interval, provided that (1) the cause of the rejection is clearly established and remedied for that particular snubber and for other snubbers, irrespective of type, that may be generically susceptible; and (2) the affected snubber is functionally tested in the as found condition and determined OPERABLE per Specification 4.7.9.f. When a fluid port of a hydraulic snubber is found to be uncovered the snubber shall be declared inoperable and cannot be determined OPERABLE via functional testing unless the test is started with the piston in the as found setting, extending the piston rod in the tension mode direction. All snubbers connected to an inoperable common hydraulic fluid reservoir shall be counted as inoperable snubbers.

#### e. Functional Tests

During the first refueling shutdown and at least once per 18 months thereafter during shutdown, a representative sample of either: (1) At least 10% of the total of each type of snubber in use in the plant shall be functionally tested either in place or in a bench test. For each snubber of a type that does not meet the functional test acceptance criteria of Specification 4.7.9.f. an additional 10% of that type of snubber shall be functionally tested until no more failures are found or until all snubbers of that type have been functionally tested. (2) A representative sample of each type of snubber shall be functionally tested in accordance with Figure 4.7-1. "C" is the total number of snubbers of a type found not meeting the acceptance requirements of Specification 4.7.9.f. The cumulative number of snubbers of a type tested is denoted by "N." At the end of each day's testing, the new values of "N" and "C" (previous day's total plus current day's increments) shall be plotted on Figure 4.7-1. If at any time the point plotted falls in the "Reject" region, all

## PLANT SYSTEMS

### SURVEILLANCE REQUIREMENTS (Continued)

---

#### Functional Tests (Continued)

snubbers of that type design shall be functionally tested. If at any time the point plotted falls in the "Accept" region, testing of that type of snubber shall be terminated. When the point plotted lies in the "Continue Testing" region, additional snubbers of that type shall be tested until the point falls in the "Accept" region or the "Reject" region, or all the snubbers of that type have been tested.

The representative sample selected for functional testing shall include the various configurations, operating environments, and the range of size and capacity of snubbers of each type. The representative sample should be weighted to include more snubbers from severe service areas such as near heavy equipment. Snubbers placed in the same location as snubbers which failed the previous functional test shall be included in the next test lot if the failure analysis shows that failure was due to location.

#### f. Functional Test Acceptance Criteria

The snubber functional test shall verify that:

1. Activation (restraining action) is achieved within the specified range in both tension and compression.
2. Snubber bleed, or release rate where required, is present in both tension and compression, within the specified range.
3. Where required, the force required to initiate or maintain motion of the snubber is within the specified range in both directions of travel.
4. For snubbers specifically required not to displace under continuous load, the ability of the snubber to withstand load without displacement.
5. Fasteners for attachment of the snubber to the component and to the snubber anchorage are secure.

Testing methods may be used to measure parameters indirectly or parameters other than those specified if those results can be correlated to the specified parameters through established methods.

#### g. Functional Test Failure Analysis

An engineering evaluation shall be made of each failure to meet the functional test acceptance criteria to determine the cause of the failure. The results of this evaluation shall be used, if applicable, in selecting snubbers to be tested in an effort to determine the OPERABILITY of other snubbers irrespective of type which may be subject to the same failure mode.

## PLANT SYSTEMS

### SURVEILLANCE REQUIREMENTS (Continued)

---

#### Functional Test Failure Analysis (Continued)

For the snubbers found inoperable, an engineering evaluation shall be performed on the components to which the inoperable snubbers are attached. The purpose of this engineering evaluation shall be to determine if the components were adversely affected by the inoperability of the snubbers in order to ensure that the component remains capable of meeting the designed service.

If any snubber selected for functional testing either fails to lockup or fails to move, i.e., frozen in place, the cause will be evaluated and if caused by manufacturer or design deficiency all snubbers of the same type subject to the same defect shall be functionally tested. This testing requirement shall be independent of the requirements stated in Specification 4.7.9.e for snubbers not meeting the functional test acceptance criteria.

#### h. Functional Testing of Repaired and Replaced Snubbers

Snubbers which fail the visual inspection or the functional test acceptance criteria shall be repaired or replaced. Replacement snubbers and snubbers which have repairs which might affect the functional test result shall be tested to meet the functional test criteria before installation in the unit. These snubbers shall have met the acceptance criteria subsequent to their most recent service, and the functional test must have been performed within 12 months before being installed in the unit.

#### i. Snubber Seal Replacement Program

The seal service life of hydraulic snubbers shall be monitored to ensure that the seals do not fail between surveillance inspections. The maximum expected service life for the various seals, seal materials, and applications shall be estimated based on engineering information and the seals shall be replaced so that the maximum expected service life does not expire during a period when the snubber is required to be OPERABLE. The seal replacements shall be documented and the documentation shall be retained in accordance with Specification 6.10.2.

#### j. Exemption From Visual Inspection or Functional Tests

Permanent or other exemptions from the surveillance program for individual snubbers may be granted by the Commission if a justifiable basis for exemption is presented and, if applicable, snubber life destructive testing was performed to qualify the snubber for the applicable design conditions at either the completion of their fabrication or at a subsequent date. Snubbers so exempted shall continue to be listed in Tables 3.7-4a and 3.7-4b with footnotes indicating the extent of the exemptions.

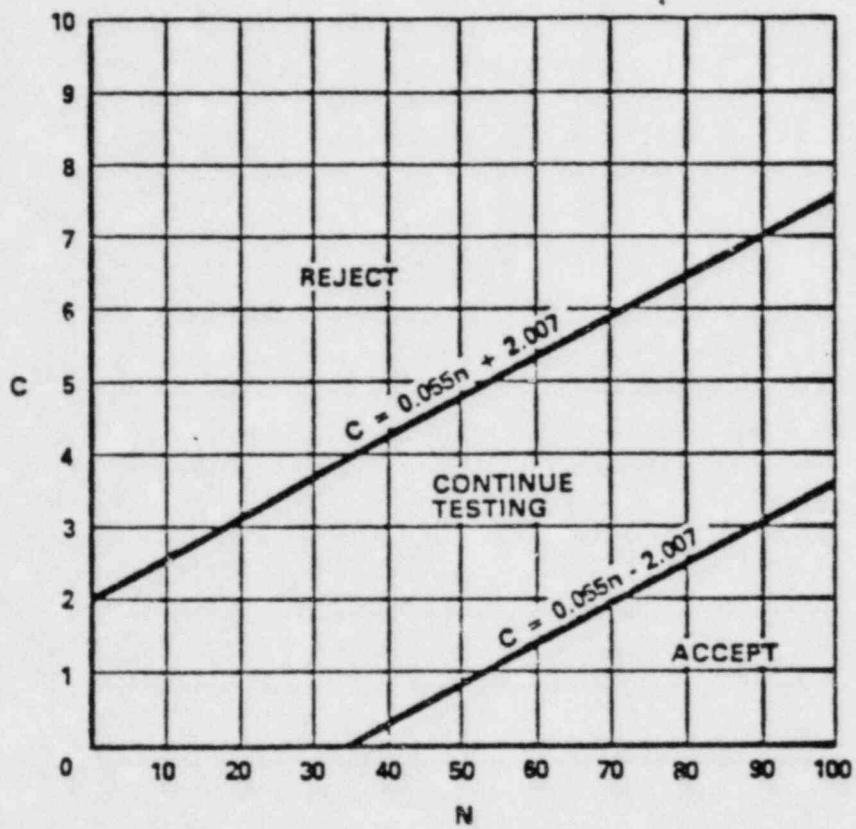


Figure 4.7-1 Sampling Plan for Snubber Functional Test

Table 3.7-4a

Safety-Related Hydraulic Snubbers\*

(Manufacturer)

System

Small  
( ) ( )

Size (Kips)  
Medium  
( ) ( )

Large  
( ) ( )

Subtotal-1

Subtotal-2

TOTAL

---

\* Snubbers may be added to safety-related systems without prior License Amendment to Table 3.7-4a provided that a revision to Table 3.7-4a is included with the next License Amendment request.

Table 3.7-4b

Safety-Related Mechanical Snubbers\*

System	(Manufacturer)					
	Small		Size (Kips) Medium		Large	
	( )	( )	( )	( )	( )	( )

Subtotal-1

Subtotal-2

TOTAL

---

\* Snubbers may be added to safety-related systems without prior License Amendment to Table 3.7-4b provided that a revision to Table 3.7-4b is included with the next License Amendment request.

09/03/82

UNITED STATES OF AMERICA  
NUCLEAR REGULATORY COMMISSION

BEFORE THE ATOMIC SAFETY AND LICENSING BOARD

In the Matter of	)	
CONSUMERS POWER COMPANY	)	Docket Nos. 50-329 OM & OL
(Midland Plant, Units 1 and 2)	)	50-330 OM & OL

AFFIDAVIT OF FRANK RINALDI

My name is Frank Rinaldi. I am a Senior Structural Engineer in the Structural Engineering Branch, Division of Engineering, Office of Nuclear Reactor Regulation, U.S. Nuclear Regulatory Commission.

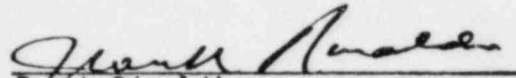
I have served since February 1980 as the technical monitor for the Midland portion of an interagency contractual agreement between NRC and the Naval Service Weapons Center. By this contract the NSWC has been assisting the staff of the Office of Nuclear Reactor Regulation (NRR) in the safety review of the Midland Project in the field of structural engineering. In addition to, and as consequence of, my serving as contract technical monitor, I have become directly involved in assessing the adequacy of remedial measures proposed by CPC relating to the structural adequacy of Category I structures affected by the plant fill settlement problem.

I am primarily responsible for providing a response to interrogatories 24c, 31d (second paragraph only), and 34. To the best




of my knowledge and belief, the above information and the responses to the above interrogatories are true and correct.

Respectfully submitted,

  
Frank Rinaldi

Sworn and subscribed before me  
this 5 day of September 1982

  
Notary Public

My commission expires: 7/1/86



UNITED STATES OF AMERICA  
NUCLEAR REGULATORY COMMISSION  
ATOMIC SAFETY AND LICENSING BOARD

In the Matter of  
CONSUMERS POWER COMPANY  
(Midland Plant, Units 1 and 2)

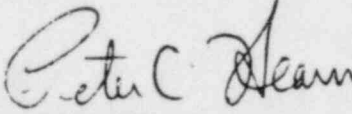
Docket No. 50-329 OM  
50-330  
Docket No. 50-329 OL  
50-330 OL

August 29, 1982

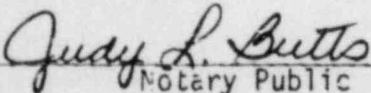
AFFIDAVIT OF PETER C. HEARN

My name is Peter C. Hearn. I am a Containment Systems Engineer in the Containment Systems Branch of the Office of Nuclear Reactor Regulation, U. S. Nuclear Regulatory Commission. In this position, I am responsible for the review and technical evaluation of containment related aspects for PWR applications for both construction permits and operating licenses.

I am primarily responsible for providing a response(s) to interrogatory(ies) numbered 17b-e, 18a, b, d - f. To the best of my knowledge and belief, the above information and the responses to the above interrogatory(ies) are true and correct.

  
Peter C. Hearn

Subscribed to and sworn before  
me this 2nd day of September, 1982.

  
Notary Public

My Commission Expires: July 1, 1986.

UNITED STATES OF AMERICA  
NUCLEAR REGULATORY COMMISSION  
ATOMIC SAFETY AND LICENSING BOARD

In the Matter  
CONSUMERS POWER COMPANY  
(Midland Plant, Units 1 and 2)

Docket No 50-329 OM  
50-330 OM  
Docket No 50-329 OL  
50-330 OL

August 20, 1982

AFFIDAVIT OF BARRY J. ELLIOT

My name is Barry J. Elliot. I am a Materials Engineer, Materials Applications Section, of the Material Engineering Branch of NRR. In this capacity, my responsibilities include reviewing material behavior in nuclear reactor systems.

I am primarily responsible for providing a response to Mary T. Sinclair's interrogatories numbered 11.b, c, d, e, f, g, h. To the best of my knowledge and belief, the above information and the responses to the above interrogatories are true and correct.

Signed

Barry J. Elliot

Sworn and Subscribed Before Me This 20 Day of <sup>August</sup> ~~Sept~~ 1982

Edgar S. Becker  
Notary Public

My Commission Expires

July 1, 1986

08/26/82

UNITED STATES OF AMERICA  
NUCLEAR REGULATORY COMMISSION

BEFORE THE ATOMIC SAFETY AND LICENSING BOARD

In the Matter of )  
CONSUMERS POWER COMPANY ) Docket Nos. 50-329 OM & OL  
(Midland Plant, Units 1 and 2) ) 50-330 OM & OL

AFFIDAVIT OF CARL FELDMAN

My name is Carl Feldman. I am employed by the U.S. Nuclear Regulatory Commission as a Nuclear Engineer in the Division of Engineering Technology, Office of Nuclear Regulatory Research. In my current capacity, I am involved in the development of NRC policy regarding decommissioning of nuclear facilities. This has included evaluation of contractor reports on the technology, safety and costs of decommissioning, and preparation of an environmental impact statmenet on decommissioning.

I am primarily responsible for providing the responses to interrogatories numbered 32a, 32b, 32c, 32d, 32e, and 32f. To the best of my knowledge and belief, the above information and the responses to the above interrogatories are true and correct.

Respectfully submitted,

Carl Feldman  
Carl Feldman

Sworn and subscribed before me  
this 26<sup>th</sup> day of August 1982

Patricia Fischetti  
Notary Public

My commission expires: 7/1/86

UNITED STATES OF AMERICA  
NUCLEAR REGULATORY COMMISSION  
ATOMIC SAFETY AND LICENSING BOARD

In the Matter of  
CONSUMERS POWER COMPANY  
(Midland Plant, Units 1 and 2)

Docket No. 50-329 OM  
50-330 OM  
Docket No. 50-329 OL  
50-330 OL

August 20, 1982

AFFIDAVIT OF EDWARD B. TOMLINSON

My name is Edward B. Tomlinson. I am a Mechanical Engineer (Reactor Systems) in the Power Systems Branch, Division of Systems Integration, Office of Nuclear Reactor Regulation, USNRC. In this capacity, my responsibilities are the review and evaluation of mechanical systems of the emergency diesel generators for conformance with safety requirements.

I am primarily responsible for providing responses to interrogatories numbered 31.a, 31.b, 31.c, and the first sentence of the first paragraph of the response to interrogatory numbered 31.d (Contention 52). To the best of my knowledge and belief, the above information and the interrogatory responses noted above are true and complete.

*Edward B. Tomlinson*

Edward B. Tomlinson  
Power Systems Branch  
Division of Systems Integration

Sworn and Subscribed Before Me This 20th Day of August 1982

*Claire A. Howard*  
Notary Public  
Montgomery County, Maryland

My Commission Expires: July 1, 1986

09/2/82

UNITED STATES OF AMERICA  
NUCLEAR REGULATORY COMMISSION

BEFORE THE ATOMIC SAFETY AND LICENSING BOARD

In the Matter of )  
  )  
CONSUMERS POWER COMPANY )     Docket Nos. 50-329 OM & OL  
  )                   50-330 OM & OL  
(Midland Plant, Units 1 and 2) )

AFFIDAVIT OF DALE A. POWERS

My name is Dale A. Powers. I am a Metallurgist in the Core Performance Branch. In this capacity, my responsibilities are to review the metallurgical aspects of applicants' fuel designs.

I am primarily responsible for providing the responses to interrogatories numbered 30a and 30b. To the best of my knowledge and belief, the above information and the responses to the above interrogatories are true and correct.

Respectfully submitted,

*Dale A. Powers*  
Dale A. Powers

Sworn and subscribed before me  
this 2<sup>ND</sup> day of September 1982

*Judy L. Butts*  
Notary Public

My commission expires: July 1, 1986.

08/19/82

UNITED STATES OF AMERICA  
NUCLEAR REGULATORY COMMISSION

BEFORE THE ATOMIC SAFETY AND LICENSING BOARD

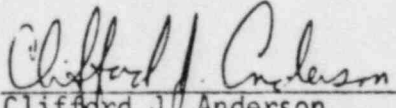
In the Matter of	)	
	)	
CONSUMERS POWER COMPANY	)	Docket Nos. 50-329 OM & OL
	)	50-330 OM & OL
(Midland Plant, Units 1 and 2)	)	

AFFIDAVIT OF CLIFFORD J. ANDERSON

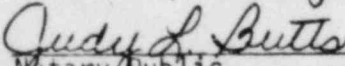
My name is Clifford J. Anderson. I am a member of the Generic Issues Branch in the U.S. Nuclear Regulatory Commission. In this capacity, I was responsible for coordinating the assessment of the Midland Project against the Unresolved Safety Issues for the Midland Projects.

I am primarily responsible for providing the responses to interrogatories numbered 1, 7a, 7b, 7e, 7f, 7h, 9a, 9b, 9e, 9f, 9h, 10b, 11a, 11i, 12a, 12b, 12e, 12f, 12h, 15a, 15b, 15c, 15d and 15f. To the best of my knowledge and belief, the above information and the responses to the above interrogatories are true and correct.

Respectfully submitted,

  
 \_\_\_\_\_  
 Clifford J. Anderson

Sworn and subscribed before me  
this 19<sup>th</sup> day of August, 1982.

  
 \_\_\_\_\_  
 Notary Public

My commission expires: July 1, 1986

08/20/82

UNITED STATES OF AMERICA  
NUCLEAR REGULATORY COMMISSION

BEFORE THE ATOMIC SAFETY AND LICENSING BOARD

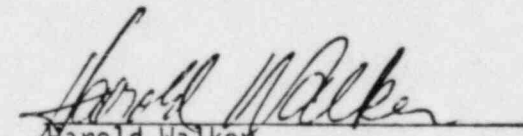
In the Matter of	)	
	)	
CONSUMERS POWER COMPANY	)	Docket Nos. 50-329 OM & OL
	)	50-330 OM & OL
(Midland Plant, Units 1 and 2)	)	

AFFIDAVIT OF HAROLD WALKER

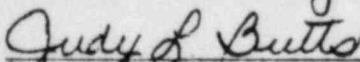
My name is Harold Walker. I am a Mechanical Engineer in the Equipment Qualification Branch. In this capacity, my responsibility includes reviewing equipment qualification information submitted to the NRC by both Licensees and Applicants for License to operate nuclear power plants.

I am primarily responsible for providing the responses to interrogatories numbered 19a, 19b, 19c, 19d, and 36c. To the best of my knowledge and belief, the above information and the responses to the above interrogatories are true and correct.

Respectfully submitted,

  
 \_\_\_\_\_  
 Harold Walker

Sworn and subscribed before me  
this 20<sup>th</sup> day of August, 1982.

  
 \_\_\_\_\_  
 Notary Public

My commission expires July 1, 1986.



UNITED STATES OF AMERICA  
NUCLEAR REGULATORY COMMISSION

BEFORE THE ATOMIC SAFETY AND LICENSING BOARD

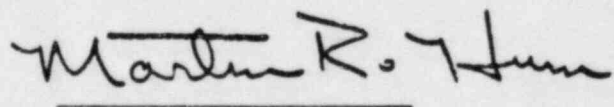
In the Matter of )  
 )  
CONSUMERS POWER COMPANY ) Docket Nos. 50-329 OM & OL  
 ) 50-330 OM & OL  
(Midland Plant, Units 1 and 2) )

AFFIDAVIT OF MARTIN R. HUM

My name is Martin R. Hum. I am a Materials Engineer in the Materials Engineering Branch of NRR. In this capacity, my responsibilities include reviewing the inservice inspection of nuclear reactor systems.

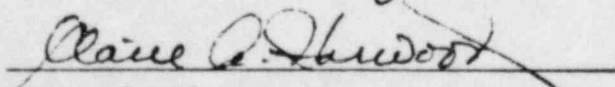
I am primarily responsible for providing a response to Mary P. Sinclair's interrogatories numbered 9i, 9j, 14a, 14b, 14e, and 14h. I contributed the response to interrogatory numbered 14g as specifically related to the response to interrogatories numbered 14a, 14b, and 14e. To the best of my knowledge and belief, the above information and the responses to the above interrogatories are true and correct.

Respectfully submitted,



Martin R. Hum

Sworn and subscribed before me  
this 3<sup>rd</sup> day of August 1982

  
Notary Public

My commission expires: July 1, 1986

09/01/82

UNITED STATES OF AMERICA  
NUCLEAR REGULATORY COMMISSION

BEFORE THE ATOMIC SAFETY AND LICENSING BOARD

In the Matter of	)	
CONSUMERS POWER COMPANY	)	Docket Nos. 50-329 OM & OL
(Midland Plant, Units 1 and 2)	)	50-330 OM & OL

AFFIDAVIT OF DARL S. HOOD

I, Darl S. Hood, being duly sworn, state as follows:

1. I am employed by the U.S. Nuclear Regulatory Commission as a Senior Project Manager in the Division of Licensing, Office of Nuclear Reactor Regulation. I am responsible for managing licensing activities by the Commission with respect to Midland Plant, Units 1 and 2.

2. The responses to Sinclair Interrogatories 2b, 2c, 2d, 2e, 3b, 3c, 3d and 14f were provided by me. To the best of my knowledge and belief, the above information and the responses to the above interrogatories are true and correct.

Respectfully submitted,

*Darl S. Hood*  
Darl S. Hood

Sworn and subscribed before me  
this 1st day of September 1982

*Patricia Fischer*  
Notary Public

My commission expires: 7/1/86

UNITED STATES OF AMERICA  
NUCLEAR REGULATORY COMMISSION  
ATOMIC SAFETY AND LICENSING BOARD

In the Matter of  
CONSUMERS POWER COMPANY  
(Midland Plant, Units 1 and 2)

Docket No. 50-329 OM  
50-330 OM  
Docket No. 50-329 OL  
50-330

AFFIDAVIT OF RANDALL EBERLY

My name is Randall Eberly. I am a staff Fire Protection Engineer,  
Fire Protection Section, of the Chemical Engineering Branch of NRR.  
In this capacity, my responsibilities include reviewing fire protection  
safety in nuclear power plants.

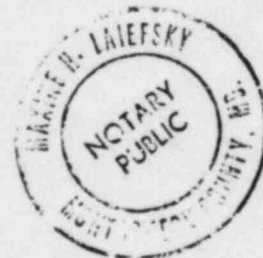
I am primarily responsible for providing a response to Mary T.  
Sinclair's interrogatory numbered 36. To the best of my knowledge  
and belief, the above information and the response to the above  
interrogatory are true and correct.

Signed Randall Eberly

Sworn and Subscribed Before Me This 27 Day of August 1982

[Signature]  
Notary Public

My Commission Expires 7/1/86



UNITED STATES OF AMERICA  
NUCLEAR REGULATORY COMMISSION

BEFORE THE ATOMIC SAFETY AND LICENSING BOARD

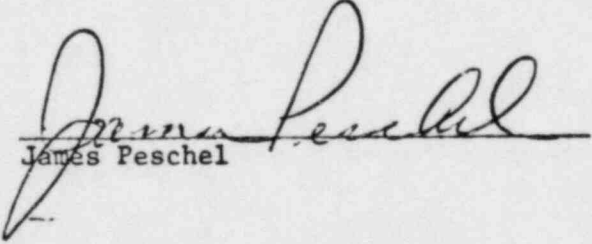
In the Matter of )  
 )  
CONSUMERS POWER COMPANY )  
 ) Docket Nos. 50-329 OM & OL  
(Midland Plant, Units 1 and 2 ) 50-330 OM & OL

AFFIDAVIT OF JAMES PESCHEL

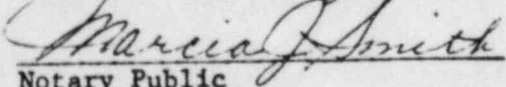
My name is James Peschel. I am a reactor inspector. In this capacity, my responsibilities are to: (a) perform direct inspection of licensee activities during construction and operations to ascertain compliance with the conditions of the license and rules, orders, and regulations of the Commission; (b) perform reviews of operating license applications to ascertain they meet the requirements of the Standard Review Plan and NRC rules, regulations, orders and policies.

I am primarily responsible for the responses to interrogatories 29d and 29e. To the best of my knowledge the above information and the responses to the above interrogatories are true and correct.

Respectfully submitted,

  
James Peschel

Sworn and subscribed before me  
this 31<sup>st</sup> day of August 1982.

  
Notary Public

My commission expires: 2/85

UNITED STATES OF AMERICA  
NUCLEAR REGULATORY COMMISSION  
ATOMIC SAFETY AND LICENSING BOARD

In the Matter of  
CONSUMERS POWER COMPANY  
(Midland Plant, Units 1 and 2)

Docket No. 50-329 OM  
50-330 OM  
Docket No. 50-329 OL  
50-330 OL

August 30, 1982

AFFIDAVIT OF RAYMOND O. GONZALES

My name is Raymond O. Gonzales. I am a Hydraulic Engineer in the Hydrologic Engineering Section, of the Hydrologic and Geotechnical Engineering Branch of NRR. In this capacity, my responsibilities include reviewing site flood levels and flood protection designs and nuclide migration of radioactive substances in surface and ground water.

I am primarily responsible for providing a response to Mary T. Sinclair's interrogatories numbered 26a, b and 27a, b, c, d. To the best of my knowledge and belief, the above information and the responses to the above interrogatories are true and correct.

Signed Raymond O. Gonzales 8/30/82

Sworn and Subscribed Before Me This 30<sup>th</sup> Day of August, 1982.

Judy L. Butts  
Notary Public

My Commission Expires July 1, 1986

UNITED STATES OF AMERICA  
NUCLEAR REGULATORY COMMISSION

BEFORE THE ATOMIC SAFETY AND LICENSING BOARD

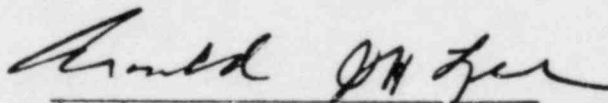
In the Matter of	)	
CONSUMERS POWER COMPANY	)	Docket Nos. 50-329 OM & OL
(Midland Plant, Units 1 and 2)	)	50-330 OM & OL

AFFIDAVIT OF ARNOLD J. H. LEE


My name is Arnold J. H. Lee. I am a Senior Mechanical Engineer in the Equipment Qualification Branch. In this capacity, my responsibilities are to review the applicant's equipment seismic and dynamic qualification program.

I am primarily responsible for providing the response to interrogatory numbered 24b. To the best of my knowledge and belief, the above information and the responses to the above interrogatory is true and correct.

Respectfully submitted,

  
 \_\_\_\_\_  
 Arnold J. H. Lee

Sworn and subscribed before me  
this 30th day of August, 1982

  
 \_\_\_\_\_  
 Notary Public

My commission expires: July 1, 1986

UNITED STATES OF AMERICA  
NUCLEAR REGULATORY COMMISSION  
ATOMIC SAFETY AND LICENSING BOARD

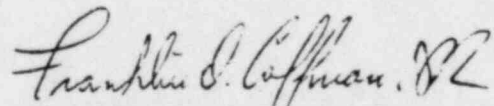
In the Matter of  
CONSUMER POWER COMPANY  
(Midland Plant, Units 1 and 2)

Docket Nos: 50-329  
330

AFFIDAVIT OF FRANKLIN D. COFFMAN, JR.

I serve as the Section Leader of the Systems Interaction Section, Reliability and Risk Assessment Branch, Division of Safety Technology. I provide both technical and organizational supervision for nuclear-systems engineers regarding systems interaction analyses, probabilistic risk assessments and reliability engineering programs. I have served in that capacity since April 1981.

I provided primarily the responses to interrogatories 15-e and 17-a. To the best of my knowledge and belief, the above information and the response to the above interrogatories are true and correct.

  
Franklin D. Coffman, Jr.  
Section Leader  
Systems Interaction Section  
Reliability & Risk Assessment Branch

  
Notary Public

My Commission Expires: July 1, 1986

08/19/82

UNITED STATES OF AMERICA  
NUCLEAR REGULATORY COMMISSION

BEFORE THE ATOMIC SAFETY AND LICENSING BOARD

In the Matter of	)	
CONSUMERS POWER COMPANY	)	Docket Nos. 50-329 OM & OL
(Midland Plant, Units 1 and 2)	)	50-330 OM & OL

AFFIDAVIT OF OM P. CHOPRA

My name is Om P. Chopra. I am employed by the U.S. Nuclear Regulatory Commission as a Senior Reactor Systems Engineer (Electrical) in the Division of Systems Integration. In this capacity, I am responsible for performing technical reviews, analyses and evaluations on electric power systems that supply power to the plant safety systems.

I am primarily responsible for providing the responses to interrogatories numbered 20a, 20b, 20c, 20d, 20e, 20f and 24a. To the best of my knowledge and belief, the above information and the responses to the above interrogatories are true and correct.

Respectfully submitted,

Om P. Chopra  
Om P. Chopra

Sworn and subscribed before me  
this 19th day of August 1982

Clair A. Harwood  
Notary Public

My commission expires: July 1, 1986



08/19/82

UNITED STATES OF AMERICA  
NUCLEAR REGULATORY COMMISSION

BEFORE THE ATOMIC SAFETY AND LICENSING BOARD

In the Matter of	)	
	)	
CONSUMERS POWER COMPANY	)	Docket Nos. 50-329 OM & OL
	)	50-330 OM & OL
(Midland Plant, Units 1 and 2)	)	

AFFIDAVIT OF WALTON L. JENSEN, JR.

I, Walton L. Jensen, Jr., being duly sworn, state as follows:

1. I am employed by the U.S. Nuclear Regulatory Commission as a Senior Nuclear Engineer in the Reactor Systems Branch, Division of Systems Integration, Office of Nuclear Reactor Regulation. I am responsible for the technical analysis and evaluation of the public health and safety aspects of Reactor Systems.

2. The responses to Sinclair Interrogatories 9c, 10a, 10c, 12c, 12d, 21a, 21b, 21c & 21d were prepared by me. I certify that the answers are true and accurate to the best of my knowledge.

Respectfully submitted,

*Walton L. Jensen, Jr.*  
 \_\_\_\_\_  
 Walton L. Jensen, Jr.

Sworn and subscribed before me  
this 19<sup>th</sup> day of August, 1982.

*Judy S. Butts*  
 \_\_\_\_\_  
 Notary Public

My commission expires: *July 1, 1986*

08/23/82

UNITED STATES OF AMERICA  
NUCLEAR REGULATORY COMMISSION

BEFORE THE ATOMIC SAFETY AND LICENSING BOARD

In the Matter of  
CONSUMERS POWER COMPANY  
(Midland Plant, Units 1 and 2)

)  
)  
)  
)

Docket Nos. 50-329 OM & OL  
50-330 OM & OL

AFFIDAVIT OF CHARLES S. HINSON

My name is Charles S. Hinson. I am a Health Physicist in the Radiation Protection Section of the Radiological Assessment Branch. In this capacity, my responsibilities are to review and provide guidance on the health physics program and inplant radiation protection features of the plant.

I am primarily responsible for providing the responses to interrogatories numbered 29a, 29b, 29c, 32g. To the best of my knowledge and belief, the above information and the responses to the above interrogatories are true and correct.

Respectfully submitted,

Charles S. Hinson  
Charles S. Hinson

Sworn and subscribed before me  
this 23 day of August 1982

Marvin H. Laiefsky  
Notary Public

My commission expires: 7/1/86



08/23/82

UNITED STATES OF AMERICA  
NUCLEAR REGULATORY COMMISSION

BEFORE THE ATOMIC SAFETY AND LICENSING BOARD

In the Matter of  
CONSUMERS POWER COMPANY  
(Midland Plant, Units 1 and 2)

}  
}  
}

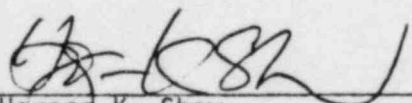
Docket Nos. 50-329 OM & OL  
50-330 OM & OL

AFFIDAVIT OF HORACE K. SHAW

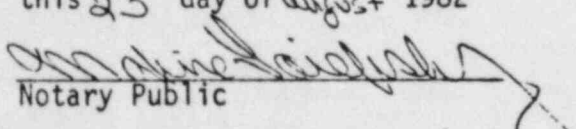
My name is Horace K. Shaw. I am Senior Mechanical Engineer in the Division of Licensing. In this capacity, one of my responsibilities is to provide guidance on application and in-service surveillance of snubbers.

I am primarily responsible for providing the responses to interrogatories numbered 9g, 13g and 13h. To the best of my knowledge and belief, the above information and the responses to the above interrogatories are true and correct.

Respectfully submitted,

  
\_\_\_\_\_  
Horace K. Shaw

Sworn and subscribed before me  
this 23 day of August 1982

  
\_\_\_\_\_  
Notary Public

My commission expires: 7/1/86



09/03/82

UNITED STATES OF AMERICA  
NUCLEAR REGULATORY COMMISSION

BEFORE THE ATOMIC SAFETY AND LICENSING BOARD

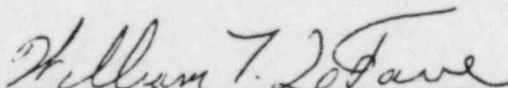
In the Matter of )  
CONSUMERS POWER COMPANY ) Docket Nos. 50-329 OM & OL  
(Midland Plant, Units 1 and 2) ) 50-330 OM & OL

AFFIDAVIT OF WILLIAM T. LEFAVE


My name is William T. LeFave. I am a Mechanical Engineer in the Auxiliary Systems Branch, Division of Systems Integration, Office of Nuclear Reactor Regulation. In this capacity, my responsibilities include the review and evaluation of the auxiliary systems at operating plants and proposed plants that are in the licensing process.

I am primarily responsible for providing the responses to interrogatories numbered 7c, 7d, 7g, 9d, 13d, 16e, 16f, 25a, 25b, 25c, 28a, 28b, 35a, 35b, 35c. To the best of my knowledge and belief, the above information and the responses to the above interrogatories are true and correct.

Respectfully submitted,

  
William T. LeFave

Sworn and subscribed before me  
this 3 day of September 1982

  
Notary Public

My commission expires: 7/1/86

