

UNITED STATES OF AMERICA  
ATOMIC ENERGY COMMISSION

In the Matter of

THE TOLEDO EDISON COMPANY and  
THE CLEVELAND ELECTRIC ILLUMINATING  
COMPANY

Davis-Besse Nuclear Power Station

1-15-71

Docket No. 50-346

APPLICANTS' REPLY TO MOTION FOR PRODUCTION OF  
DOCUMENTS AND TO INTERROGATORIES TO  
APPLICANTS SERVED BY INTERVENORS  
LIVING IN A FINER ENVIRONMENT,  
IRWIN I. OSTER AND WILLIAM E. REANY  
ON JANUARY 12, 1971

I. Motion for Production of Documents

1. On January 5, 1971, the Atomic Safety and Licensing Board ("Board") granted intervenor status to Irwin I. Oster, William E. Reany and Living in a Finer Environment (collectively referred to herein as "LIFE") based on LIFE's December 26, 1970, motion for reconsideration of the Board's denial of LIFE's previous late petition for leave to intervene. In its supporting memorandum, LIFE asserted that it does "not intend duplication of other intervenors' efforts" (pages 10 and 14). The only two matters in controversy proposed by LIFE in its supporting memorandum related to contentions by LIFE that:

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- (a) the present proceedings violate the National Environmental Policy Act of 1969, and
- (b) the present radiation protection standards are not within the Commission's authority and are not a reasonable exercise of the broad discretion given the AEC by the Atomic Energy Act of 1954, as amended.

2. The Board admitted LIFE for the limited purpose of considering contentions (a) and (b) above and determined that (a) is "essentially a matter of legal consideration" to be briefed by the parties without any introduction of evidence (tr. 618-620) and that LIFE may present evidence as to (b) consistent with the Commission's memorandum in the Calvert Cliffs proceeding in AEC Docket Nos. 50-317 and 50-318 (tr. 611). The Board further stated:

"In accordance with the regulations of the Commission and in the interest of an orderly proceeding, direct evidence, cross examination, motions for discovery, motions for depositions, proposed findings of fact and conclusions of law and similar opportunities afforded Intervenors are to be confined to those contentions determined by the Board at the time of admission to the proceeding to have been properly raised by that particular Intervenor."  
(tr. 763).

3. On January 12, 1971, LIFE served on Applicants a Motion for Production of Documents pursuant to section 2.741 of the Commission's Rules of Practice, and a Supporting Memorandum, requesting twenty-nine documents or categories

of documents. In support of the motion, LIFE implicitly acknowledged that all or part of the documents requested may not be relevant to the matters put in controversy by its participation in the hearing, and may be relevant only to the contentions of other parties to the proceeding, in that LIFE cites a portion of section 2.741 suggesting that the documents to be produced may relate to "the claim or defense of the examining party or to the claim or defense of any party." It need only be observed that section 2.741 provides that the movant for the production of documents must show good cause for the production of the documents and that the Commission may, but is not required to, order the production of documents regarding any matter that is relevant to the subject matter involved in the pending action. Section 2.741(b) further requires that the evidence sought must be reasonably calculated to lead to the discovery of admissible evidence. To be admissible such evidence must be relevant to the matters in controversy in the instant proceeding. Thus, if the documents do not relate to matters in controversy, they need not be produced.

4. In its Supporting Memorandum, LIFE asserts with respect to the documents designated in items 1 through 8, which are all identified as Babcock & Wilcox documents:

"By examining these documents LIFE and its expert witnesses will be able to understand the Applicants' contentions as to safety precautions and engineered safety devices that have been utilized in the design of this

plant. These documents should clarify the extent to which there is scientific basis for the Applicants' intended design."

The contents of the documents designated in items 1 through 8 are described in the affidavits attached hereto as Appendix A. It is clear that such documents are not relevant to LIFE's contentions.

5. With respect to the documents designated in items 9 through 12, LIFE asserts:

"In terms of safety and compliance with justifiable radiological production [sic] standards there is a question raised as to the nature and adequacy of the proposed reactor design. Items 9 through 12 and other items listed herein relate to the design of the proposed reactor, especially those parts most heavily subjected to radiation, and for the associated structures, as well as the nature and quality of the fuel."

The contents of these documents are described in the affidavits attached hereto as Appendix B. They are not relevant in any respect to LIFE's contentions. LIFE's contention (b) is solely related to the validity of the Commission's radiation protection standards. It does not include any question with respect to the ability of the proposed reactor design to assure compliance with such standards.

6. With respect to item 13, LIFE asserts that:

"Tritium concentration levels have been referred to but not fully discussed by the Applicants in response to the AEC questions at the prehearing. It is expected that further clarification will be obtained from the report requested in item 13."

Presumably LIFE was referring to Applicants' response to question number 1 asked by the Board at the prehearing conference. That answer states that, "During station operation, a sampling network will be set up to monitor local tritium background levels. At this time, however, no record of Lake Erie background determination has been made." The request by LIFE in item 13 is not sufficiently specific to allow a positive response by the Applicant. Furthermore, as noted in Applicants' above quoted response, the applicant has no records available of Lake Erie background tritium levels.

7. With respect to item 14, LIFE states:

"Much of the Applicants' contention concerning the safety of the proposed plant depends upon the Ph.D. thesis referred to in Amendment 5 to Volume 1 of the PSAR. This thesis, however, was not yet completed at the time the Amendment was prepared. Since crucial aspects of the public health and safety depend upon the conclusions drawn in this unfinished Ph.D. thesis, the thesis in its final form should be made available for further evaluation and study by this intervenor and by its expert witnesses."

The PhD thesis is referenced at the end of Amendment No. 5 to the PSAR which is a description and progress report of the comprehensive limnology study undertaken for the Applicants by the Great Lakes Research Division, Institute of Science and Technology at the University of Michigan. The purpose of the limnology study is to gather lake data which will be used to establish certain station design

criteria such as flood protection criteria. The PhD thesis involves the evaluation of Pontoporeia affinis, a benthic amphipod native to Lake Michigan, as a monitor of radionuclides found in radioactive wastes. This information will be considered in designing the radiological environmental monitoring program. The safety of the proposed plant obviously does not depend upon the PhD thesis.

8. LIFE asserts that items relating to studies of the need for power and feasibility of alternative sources of power (presumably referencing items 15 and 16), "directly bear on the question of whether on balance this plant is sufficiently safe to justify its construction at this time and are therefore relevant and important to this intervenor's preparation." This assertion patently is not true and does not provide good cause for the production of such documents. Furthermore the documents contain no material relevant to LIFE's contention (b), the only matter controverted by LIFE with respect to which evidentiary material is appropriate. Item 16 is the subject of an affidavit attached hereto as Appendix C.
9. Nothing is said in LIFE's supporting memorandum justifying the production of items 17 through 29 other than perhaps the general statement on the last page of the memorandum which states that "[a]ll of the items requested are directly related to the issues in contention and are

needed by this intervenor to prepare its case." (Items 18 and 20 are the same as items 8 and 7 respectively.) Thus there is no showing of good cause for the production of such documents as required by section 2.741 of the Commission's Rules of Practice. The contents of the documents identified in these items are attached hereto as Appendix D. None of these documents bear any relevance to the matters placed in controversy by LIFE.

10. Item 29 is a broad request for any of the documentation underlying the conclusions stated in the PSAR. Applicants have no way of responding to this vague request and are unable to interpret this request in relation to the matters controverted by LIFE in this proceeding.
11. In view of the foregoing, Applicants object to LIFE's motion for the production of documents except as it relates to the documents designated in items 14 and 15 both of which are being made available to LIFE without waiver of any objection by Applicants to their relevancy to the matters controverted in this proceeding by LIFE.

## II. Interrogatories to Applicants

12. Accompanying LIFE's Motion for Production of Documents was a document entitled "Interrogatories to Applicants" consisting of a list of 52 questions which LIFE directed be answered under oath by appropriate person or persons designated by the Applicants.

13. The request for interrogatories is deficient in that it was not filed in the form of a motion to the Board requesting an order that the Applicants' deposition be taken by written interrogatories, as required in section 2.740 of the Commission's Rules of Practice. More importantly, by failing to file such a motion along with a supporting memorandum or brief, LIFE has not shown good cause why such interrogatories should be ordered, as required by section 2.740. Good cause at a minimum would require that LIFE must disclose the relevance of the proposed questions to the matters in controversy in this proceeding. LIFE has failed to offer any such showing of relevance.
14. With the possible exception of interrogatories 17, 18, 19 and 21, all of the interrogatories addressed to the Applicants are patently not relevant to the matters controverted by LIFE and Applicants respectfully object to such irrelevant interrogatories. Applicants are responding to interrogatories 17, 18, 19 and 21 without waiver of any objection by Applicants to their relevancy to the subject matter involved in the hearing.
15. If the Board wishes, the Applicants are prepared to introduce answers to LIFE's irrelevant interrogatories as if such questions were asked by limited appearors in this

proceeding, and Applicants would do so when they reply  
to the limited appearors at the conclusion of the hearing.

Respectfully submitted,

SHAW, PITTMAN, POTTS,  
TROWBRIDGE & MADDEN

By Gerald Charnoff  
Gerald Charnoff  
Counsel for  
The Toledo Edison Company

Dated January 18, 1971

UNITED STATES OF AMERICA  
ATOMIC ENERGY COMMISSION

In the Matter of	)	
	)	
THE TOLEDO EDISON COMPANY	)	
	)	
and	)	Docket No. 50-346
	)	
THE CLEVELAND ELECTRIC ILLUMINATING COMPANY	)	
	)	
Davis-Besse Nuclear Power Station	)	

AFFIDAVIT

I, William S. Little, being first duly sworn, depose and say that;

- 1) I am the Babcock & Wilcox Company's Licensing Supervisor for the Toledo Edison contract.
- 2) I am fully knowledgeable with the content of Babcock & Wilcox Company document BAW-10009, "Effect of Fuel Rod Failure on Emergency Core Cooling Effectiveness".
- 3) Babcock & Wilcox Company document BAW-10009, "Effect of Fuel Rod Failure on Emergency Core Cooling Effectiveness", contains only the following information:
  - a) Analytical investigation of the effect of fuel rod failure at three levels of complexity: single channel, single fuel assembly, and the entire core.
  - b) Research and development test results used to substantiate the models and the geometry used in the analysis of post-LOCA reactor core cooling.
  - c) Conclusion that neither analysis nor tests have revealed any potential fuel failure mechanisms that would prevent adequate cooling of the core following a LOCA.

*William S. Little*  
William S. Little

Sworn to before me and subscribed in my presence this 14 day of January, 1971.

*Lynchburg, Virginia*

*Eleanor M. Sankey*  
Notary Public  
My Commission Expires October 11, 1972

UNITED STATES OF AMERICA  
ATOMIC ENERGY COMMISSION

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Davis-Besse Nuclear Power Station )

Docket No. 50-346

AFFIDAVIT

I, William S. Little, being first duly sworn, depose and say that;

- 1) I am the Babcock & Wilcox Company's Licensing Supervisor for the Toledo Edison contract.
- 2) I am fully knowledgeable with the content of Babcock & Wilcox Company document BAW-10014, "Analysis of Sustained Departure from Nucleate Boiling Operation".
- 3) Babcock & Wilcox Company document BAW-10014, "Analysis of Sustained Departure from Nucleate Boiling Operation", contains only the following information:
  - a) A summary of the thermal-hydraulic methods used to investigate the effects of the postulated sustained operation of a reactor fuel pin at departure from nucleate boiling conditions.
  - b) A discussion of the results of the analyses for sustained DNB operation.
  - c) An evaluation of the results relative to the possibility of fuel pin damage or DNB propagation.

*William S. Little*  
William S. Little

Sworn to before me and subscribed in my presence this 14 day of January, 1971.

*Eleanor M. Rankin*  
Notary Public

My Commission Expires October 11, 1972

*Lynchburg, Virginia*

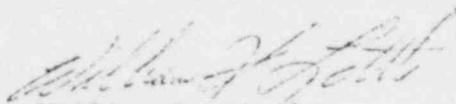
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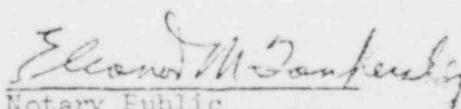
AFFIDAVIT

I, William S. Little, being first duly sworn, depose and say that;

- 1) I am the Babcock & Wilcox Company's Licensing Supervisor for the Toledo Edison contract.
- 2) I am fully knowledgeable with the content of Babcock & Wilcox Company document BAW-10018, "Analysis of the Structural Integrity of a Reactor Vessel Subjected to Thermal Shock".
- 3) Babcock & Wilcox Company document BAW-10018, "Analysis of the Structural Integrity of a Reactor Vessel Subjected to Thermal Shock", contains only the following information:
  - a) A description of the thermal, hydraulic and stress analyses performed for a Babcock & Wilcox PWR vessel during thermal shock induced by emergency core cooling system operation following a postulated loss-of-coolant accident.
  - b) A discussion of the results obtained from the analyses and an evaluation of the structural integrity of the reactor pressure vessel based on these results.

  
William S. Little

Sworn to before me and subscribed in my presence this 14 day of January, 1971.

*Lynchburg, Virginia*   
Notary Public  
My Commission Expires October 11, 1972

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ATOMIC ENERGY COMMISSION

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and )  
THE CLEVELAND ELECTRIC ILLUMINATING COMPANY )  
Davis-Besse Nuclear Power Station )

Docket No. 50-346

AFFIDAVIT

I, William S. Little, being first duly sworn, depose and say that;

- 1) I am the Babcock & Wilcox Company's Licensing Supervisor for the Toledo Edison contract.
- 2) I am fully knowledgeable with the content of Babcock & Wilcox Company document BAW-10008, Part 1, "Reactor Internals Stress and Deflection Due to Loss-of-Coolant Accident and Maximum Hypothetical Earthquake".
- 3) Babcock & Wilcox Company document BAW-10008, Part 1, "Reactor Internals Stress and Deflection Due to Loss-of-Coolant Accident and Maximum Hypothetical Earthquake", contains only the following information:
  - a) Bases for calculating loads and allowable stresses on the reactor internals.
  - b) Reactor vessel dynamic model and analytical methods used for internals stress analysis.
  - c) Conclusion that internals can withstand the combined effects of an earthquake and a loss-of-coolant accident.

*William S. Little*  
William S. Little

Sworn to before me and subscribed in my presence this 14 day of January, 1971.

*Edward M. Bakersley*  
Notary Public  
*Lynchburg, Virginia* My Commission Expires October 11, 1972

UNITED STATES OF AMERICA  
ATOMIC ENERGY COMMISSION

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THE TOLEDO EDISON COMPANY	)	
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Davis-Besse Nuclear Power Station	)	

AFFIDAVIT

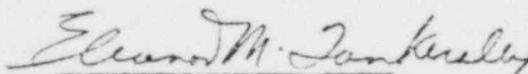
I, William S. Little, being first duly sworn, depose and say that;

- 1) I am the Babcock & Wilcox Company's Licensing Supervisor for the Toledo Edison contract.
- 2) I am fully knowledgeable with the content of Babcock & Wilcox Company document BAW-10008, Part 2, "Fuel Assembly Stress and Deflection Analysis for Loss-of-Coolant Accident and Seismic Excitation".
- 3) Babcock & Wilcox Company document BAW-10008, Part 2, "Fuel Assembly Stress and Deflection Analysis for Loss-of-Coolant Accident and Seismic Excitation", contains only the following information:
  - a) Description of the reactor vessel and internals with a detailed description of the fuel assembly and the structural design criteria.
  - b) Discussion of models used in analysis of the fuel assembly and the tests conducted to verify these models.
  - c) Conclusion that the fuel assemblies can withstand a LOCA, the combined effects of a LOCA and a design basis earthquake (DBE), a DBE, and an operational basis earthquake without exceeding the respective allowable limits.

  
William S. Little

Sworn to before me and subscribed in my presence this 15 day of January, 1971.

*Lynchburg, Virginia*

  
Eleanor M. Tankersley  
Notary Public My Commission Expires October 11, 1971.

UNITED STATES OF AMERICA  
ATOMIC ENERGY COMMISSION

In the Matter of	)	
	)	
THE TOLEDO EDISON COMPANY	)	
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and	)	Docket No. 50-346
	)	
THE CLEVELAND ELECTRIC ILLUMINATING COMPANY	)	
	)	
Davis-Besse Nuclear Power Station	)	

AFFIDAVIT

I, William S. Little, being first duly sworn, depose and say that;

- 1) I am the Babcock & Wilcox Company's Licensing Supervisor for the Toledo Edison contract.
- 2) I am fully knowledgeable with the content of Babcock & Wilcox Company document BAW-1338, "Scoping Study - The Problem of Prompt Detection of Gross Fuel Failure".
- 3) Babcock & Wilcox Company document BAW-1338, "Scoping Study - The Problem of Prompt Detection of Gross Fuel Failure", contains only the following information:
  - a) Calculation of possible primary coolant activities which could occur as a result of defective fuel.
  - b) An evaluation of the ability to detect these coolant activity levels during normal reactor operation.

*William S. Little*  
 William S. Little

Sworn to before me and subscribed in my presence this 1<sup>st</sup> day of January, 1971.

*Thomas L. Catha*  
 Notary Public, Thomas L. Catha  
 My Commission Expires July 1, 1974.

UNITED STATES OF AMERICA  
ATOMIC ENERGY COMMISSION

Appendix A  
Item 6

In the Matter of )  
THE TOLEDO EDISON COMPANY )  
and ) Docket No. 50-346  
THE CLEVELAND ELECTRIC )  
ILLUMINATING COMPANY )  
Davis-Besse Nuclear Power Station )

AFFIDAVIT

I, William S. Little, being first duly sworn, depose and say that;

1. I am the Babcock & Wilcox Company's Licensing Supervisor for The Toledo Edison contract.
2. I am fully knowledgeable with the content of the Babcock & Wilcox Company study being performed to evaluate anticipated reactor transients without reactor trip.
3. This work has not been completed and therefore a report on the subject has not been written. The work now in progress includes the analysis of the following transients assuming no reactor trip:
  - a. Loss of load
  - b. Load increase
  - c. Loss of feedwater
  - d. Loss of primary flow
  - e. Total loss of offsite power
  - f. Inactive loop startup
  - g. Rod withdrawal at zero power
  - h. Rod withdrawal at full power
  - i. Opening of the largest single primary system valve
  - j. Control rod maloperation
  - k. Boron dilution
  - l. Loss-of-coolant resulting from a small line break

Sworn to before me and subscribed  
in my presence this 15th day of  
January, 1971.

  
William S. Little

  
Thomas L. Catha, Notary Public

My Commission Expires July 1, 1974.

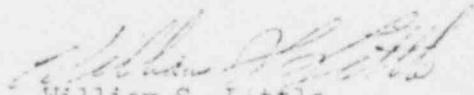
UNITED STATES OF AMERICA  
ATOMIC ENERGY COMMISSION

In the Matter of	)	
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THE TOLEDO EDISON COMPANY	)	
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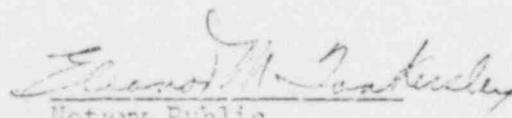
AFFIDAVIT

I, William S. Little, being first duly sworn, depose and say that;

- 1) I am the Babcock & Wilcox Company's Licensing Supervisor for the Toledo Edison contract.
- 2) I am fully knowledgeable with the content of Babcock & Wilcox Company document BAW-10006, "Reactor Vessel Material Surveillance Program".
- 3) Babcock & Wilcox Company document BAW-10006, "Reactor Vessel Material Surveillance Program", contains only the following information:
  - a) A description of the reactor vessel material specimen requirements including a discussion of specimen source, preparation, identification and dosimetry.
  - b) A discussion of the design of the surveillance capsules and specimen holders with a description of the supporting design analyses.
  - c) A summary of the integrated surveillance program with emphasis on the integrated withdrawal schedules and disposition of withdrawn specimens.

  
William S. Little

Sworn to before me and subscribed in my presence this 14 day of January, 1971.

  
Notary Public  
My Commission Expires October 11, 1972  
Richburg, Virginia

UNITED STATES OF AMERICA  
ATOMIC ENERGY COMMISSION

In the Matter of )  
THE TOLEDO EDISON COMPANY )  
and ) Docket No. 50-346  
THE CLEVELAND ELECTRIC ILLUMINATING COMPANY )  
Davis-Besse Nuclear Power Station )

AFFIDAVIT

I, William S. Little, being first duly sworn, depose and say that;

- 1) I am the Babcock & Wilcox Company's Licensing Supervisor for the Toledo Edison contract.
- 2) I am fully knowledgeable with the content of Babcock & Wilcox Company document BAW-10002, "Once-Through Steam Generator Research and Development Report."
- 3) Babcock & Wilcox Company document BAW-10002, "Once-Through Steam Generator Research and Development Report", contains only the following information:
  - a) Results of 7, 37 and 19 tube steam generator tests conducted to obtain data on heat transfer, control and dynamic response, structural integrity and vibration, feedwater heating, secondary cleanliness, tube leakage, and primary side flow.
  - b) Applicability of test results to the steam generator design.
  - c) Field test program to confirm the performance of a full size unit.

  
William S. Little

Sworn to before me and subscribed in my presence this 14 day of January, 1971.

  
Notary Public

My Commission Expires October 11, 1972

*Lynchburg Virginia*

UNITED STATES OF AMERICA  
ATOMIC ENERGY COMMISSION

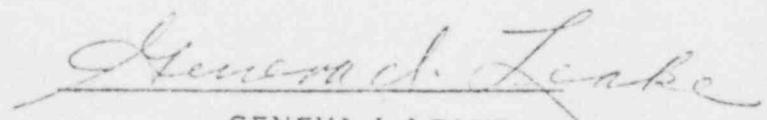
In the Matter of	)	
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THE TOLEDO EDISON COMPANY	)	Docket No. 50-346
	)	
and	)	
	)	
THE CLEVELAND ELECTRIC ILLUMINATING COMPANY	)	AFFIDAVIT
	)	
Davis-Besse Nuclear Power Station	)	

I, Lowell E. Roe, being first duly sworn, depose and say that;

1. I am Chief Mechanical Engineer for The Toledo Edison Company.
2. I am fully knowledgeable with all bid documents and quotations submitted by prospective suppliers for the nuclear steam supply system for the Davis-Besse Nuclear Power Station.
3. The bid documents and quotations submitted by prospective suppliers for the nuclear steam supply system for the Davis-Besse Nuclear Power Station contain only the following information:
  - A. Technical description of equipment and services offered.
  - B. Scope of supply offered.
  - C. Terms and conditions related to the offering.
  - D. Price information for the offering.

  
 Lowell E. Roe

Sworn to before me and subscribed in my presence this 14th day of January, 1971.

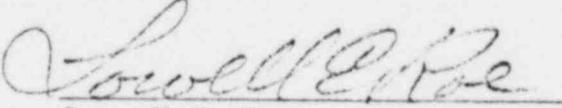
  
 GENEVA I. LEAKE  
 Notary Public, Lucas County, Ohio  
 My Commission Expires Sept. 2, 1974

UNITED STATES OF AMERICA  
ATOMIC ENERGY COMMISSION

In the Matter of )  
THE TOLEDO EDISON COMPANY ) Docket No. 50-346  
and )  
THE CLEVELAND ELECTRIC )  
ILLUMINATING COMPANY ) AFFIDAVIT  
Davis-Besse Nuclear Power Station

I, Lowell E. Roe, being first duly sworn, depose and say that;

1. I am Chief Mechanical Engineer for The Toledo Edison Company.
2. I am fully knowledgeable with all proposal documents submitted by organizations to provide architect-engineering services, construction management services, and construction for the Davis-Besse Nuclear Power Station.
3. Proposal documents submitted by organizations to provide architect-engineering services, construction management services, and construction for the Davis-Besse Nuclear Power Station contain only:
  - A. Scope of services proposed.
  - B. Terms and conditions covering services proposed.
  - C. Cost information covering services proposed.

  
Lowell E. Roe

State of Maryland  
County of Montgomery

Sworn to before me and subscribed  
in my presence this 15th day of  
January, 1971.

  
Thomas L. Catha, Notary Public

My Commission Expires July 1, 1971

UNITED STATES OF AMERICA

ATOMIC ENERGY COMMISSION

In the Matter of )  
THE TOLEDO EDISON COMPANY ) Docket No. 50-346  
and )  
THE CLEVELAND ELECTRIC )  
ILLUMINATING COMPANY ) AFFIDAVIT  
Davis-Besse Nuclear Power Station )

I, Lowell E. Roe, being first duly sworn, depose and say that:

1. I am Chief Mechanical Engineer for The Toledo Edison Company.
2. I am fully knowledgeable with agreements with Babcock & Wilcox covering the furnishing of the nuclear steam supply system and initial fuel for the Davis-Besse Nuclear Power Station, and with Bechtel for architect-engineering and construction management services.
3. The agreements pertain to:
  - A. Scope of supply for equipment and services.
  - B. Terms and conditions relating to the furnishing of the equipment and services.
  - C. Costs associated with the furnishing of the equipment and services.



Lowell E. Roe

State of Maryland  
County of Montgomery

Sworn to before me and subscribed  
in my presence this 15th day of  
January, 1971.

  
Thomas L. Catha, Notary Public

My Commission Expires July 1, 1974.

UNITED STATES OF AMERICA..

ATOMIC ENERGY COMMISSION

In the Matter of	)	
THE TOLEDO EDISON COMPANY	)	Docket No. 50-346
and	)	
THE CLEVELAND ELECTRIC	)	
ILLUMINATING COMPANY	)	AFFIDAVIT
Davis-Besse Nuclear Power Station	)	

- I, Lowell E. Roe, being first duly sworn, depose and say that;
1. I am Chief Mechanical Engineer for The Toledo Edison Company.
  2. I am fully knowledgeable with the contents of all documents in The Toledo Edison Company's possession showing the stages of the project presently completed.
  3. These documents contain only:
    - A. Major engineering, procurement and construction items.
    - B. Time schedule for these items.
    - C. Present status of time schedules.

  
 \_\_\_\_\_  
 Lowell E. Roe

State of Maryland  
 County of Montgomery

Sworn to before me and subscribed  
 in my presence this 15th day of  
 January, 1971.

  
 \_\_\_\_\_  
 Thomas L. Catha, Notary Public

My Commission Expires July 1, 1974.

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ATOMIC ENERGY COMMISSION

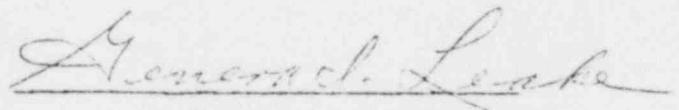
In the Matter of	)	
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THE TOLEDO EDISON COMPANY	)	Docket No. 50-346
	)	
and	)	
	)	
THE CLEVELAND ELECTRIC ILLUMINATING COMPANY	)	AFFIDAVIT
	)	
Davis-Besse Nuclear Power Station	)	

I, Lowell E. Roe, being first duly sworn, depose and say that;

1. I am Chief Mechanical Engineer for The Toledo Edison Company.
2. I am fully familiar with cost analysis data used to study an alternate type of generating unit for the Davis-Besse Nuclear Power Station.
3. Cost analysis data used to study an alternate type of generating unit for the Davis-Besse Nuclear Power Station contains only:
  - A. Capital cost data.
  - B. Fixed cost, fuel cost and other operating cost data.

  
 Lowell E. Roe

Sworn to before me and subscribed in my presence this 14th day of January, 1971.

  
 GENEVA I. LEAKE  
 Notary Public, Lucas County, Ohio  
 My Commission Expires Sept. 2, 1974

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I, William S. Little, being first duly sworn, depose and say that;

- 1) I am the Babcock & Wilcox Company's Licensing Supervisor for the Toledo Edison contract.
- 2) I am knowledgeable with the content of Babcock & Wilcox Company document, "Stress Analysis of Closure Report #3, B&W Contract 620-0003-51 and 52, Section B-20, Rotation of Flanges (Gasket Sealing)".
- 3) Babcock & Wilcox Company document, "Stress Analysis of Closure Report #3, B&W Contract 620-0003-51 and 52, Section B-20, Rotation of Flanges (Gasket Sealing)", contains only the following information:

Analysis of flange rotation and gasket behavior for the most adverse flange rotation: a ramp heatup of 100°F/hr. Analysis shows that the outer "O" ring gasket will gain compression and will therefore remain sealed.

*William S. Little*  
William S. Little

Sworn to before me and subscribed in my presence this 15<sup>th</sup> day of January, 1971.

*Thomas L. Catha*  
Notary Public  
Thomas L. Catha  
My Commission Expires July 1, 1974.

UNITED STATES OF AMERICA  
ATOMIC ENERGY COMMISSION

In the Matter of	)	
	)	
THE TOLEDO EDISON COMPANY	)	
	)	
and	)	Docket No. 50-346
	)	
THE CLEVELAND ELECTRIC ILLUMINATING COMPANY	)	
	)	
Davis-Besse Nuclear Power Station	)	

AFFIDAVIT

I, William S. Little, being first duly sworn, depose and say that;

- 1) I am the Babcock & Wilcox Company's Licensing Supervisor for the Toledo Edison contract.
- 2) I am knowledgeable with the content of ASTM-E-185-66, "Recommended Practice for Surveillance Tests on Structural Materials in Nuclear Reactors".
- 3) American Society for Testing Materials document ASTM-E-185-66, "Recommended Practice for Surveillance Tests on Structural Materials in Nuclear Reactors", contains only the following information:
  - a) Type and preparation of test specimens
  - b) Irradiation conditions
  - c) Method of measuring neutron exposure
  - d) Type and method of tests to be performed on the test specimens
  - e) Requirements for reporting test information.

*William S. Little*  
 William S. Little

Sworn to before me and subscribed in my presence this 15<sup>th</sup> day of January, 1974.

*Thomas L. Catha*  
 Notary Public, Thomas L. Catha  
 My Commission Expires July 1, 1974.

UNITED STATES OF AMERICA  
ATOMIC ENERGY COMMISSION

In the Matter of	)	
THE TOLEDO EDISON COMPANY	)	
and	)	Docket No. 50-346
THE CLEVELAND ELECTRIC	)	
ILLUMINATING COMPANY	)	
Davis-Besse Nuclear Power Station	)	

AFFIDAVIT

I, William S. Little, being first duly sworn, depose and say that;

1. I am the Babcock & Wilcox Company's Licensing Supervisor for The Toledo Edison contract.
2. I am knowledgeable with the content of Babcock & Wilcox Company documents BAW-3647-3, "Physics Verification Program-Final Report" and BAW-3647-4, "Physics Verification Program, Part II".
3. Babcock and Wilcox Company Document BAW-3647-3, "Physics Verification Program-Final Report" described Part I of this work and contains only the following information:

Experimental verification of the analytical models used to calculate reactor core neutron flux, power distribution, criticality and reactivity.

Babcock & Wilcox Company document BAW-3647-4, "Physics Verification Program, Part II", contains only the following information:

Description of a test program carried out jointly with the U.S. Atomic Energy Commission to determine the count rate of in-core and out-of-core startup detectors as a function of reactor coolant moderator boron concentration.

Sworn to before me and subscribed in my presence this 15th day of January, 1971.

  
 \_\_\_\_\_  
 William S. Little

  
 \_\_\_\_\_  
 Thomas L. Catha, Notary Public

My Commission Expires July 1, 1974.

ATOMIC ENERGY COMMISSION

In the Matter of )

THE TOLEDO EDISON COMPANY )

and )

THE CLEVELAND ELECTRIC ILLUMINATING COMPANY )

Davis-Besse Nuclear Power Station )

) Docket No. 50-346

AFFIDAVIT

I, William S. Little, being first duly sworn, depose and say that;

- 1) I am the Babcock & Wilcox Company's Licensing Supervisor for the Toledo Edison contract.
- 2) I am knowledgeable with the content of ASME Paper No. 63-WA-100, "Reactor-Vessel Design Considering Radiation Effects".
- 3) American Society of Mechanical Engineers document ASME Paper No. 63-WA-100, "Reactor-Vessel Design Considering Radiation Effects", contains only the following information:

Design steps to be taken to cope with the reactor vessel materials property changes as a result of fast-neutron irradiation effects.

*William S. Little*  
 William S. Little

Sworn to before me and subscribed in my presence this 15<sup>th</sup> day of January, 1971.

*Thomas L. Catha*  
 Notary Public, Thomas L. Catha  
 My Commission Expires July 1, 1974.

UNITED STATES OF AMERICA  
ATOMIC ENERGY COMMISSION

In the Matter of	)	
	)	
THE TOLEDO EDISON COMPANY	)	
	)	
and	)	Docket No. 50-346
	)	
THE CLEVELAND ELECTRIC ILLUMINATING COMPANY	)	
	)	
Davis-Besse Nuclear Power Station	)	

AFFIDAVIT

I, William S. Little, being first duly sworn, depose and say that;

- 1) I am the Babcock & Wilcox Company's Licensing Supervisor for the Toledo Edison contract.
- 2) I am fully knowledgeable with the content of Babcock & Wilcox Company document BAW-10001, "In-Core Instrumentation Test Program".
- 3) Babcock & Wilcox Company document BAW-10001, "In-Core Instrumentation Test Program", contains only the following information:
  - a) The description of the In-Core Monitoring System and the operational design basis.
  - b) Environmental, pressure seal and mechanical insertion-withdrawal, and lifetime irradiation development tests to qualify instrumentation.
  - c) Conclusion that in-core instrumentation is acceptable from standpoint of detector lifetime, detector sensitivity, reproducibility of detector capability, and assembly design.

*William S. Little*  
 William S. Little

Sworn to before me and subscribed in my presence this 14 day of January, 1971.

*Lynchburg, Virginia*

*Eleanor M. Conkley*  
 Notary Public  
 My Commission Expires Oct. 1972

UNITED STATES OF AMERICA  
ATOMIC ENERGY COMMISSION

In the Matter of )  
THE TOLEDO EDISON COMPANY )  
and )  
THE CLEVELAND ELECTRIC ILLUMINATING COMPANY )  
Davis-Besse Nuclear Power Station )

Docket No. 50-346

AFFIDAVIT

I, William S. Little, being first duly sworn, depose and say that;

- 1) I am the Babcock & Wilcox Company's Licensing Supervisor for the Toledo Edison contract.
- 2) I am fully knowledgeable with the content of Babcock & Wilcox Company document BAW-10010, Part 1, "Stability Margin for Xenon Oscillations - Modal Analysis".
- 3) Babcock & Wilcox Company document BAW-10010, Part 1, "Stability Margin for Xenon Oscillations - Modal Analysis", contains only the following information:
  - a) The results of analysis of xenon induced oscillations in Babcock & Wilcox's current PWR design as obtained by modal analysis techniques.
  - b) A discussion of the theory of modal analysis and the approximations and assumptions implicit in the method.

*William S. Little*  
William S. Little

Sworn to before me and subscribed in my presence this 14 day of January, 1971.

*Eleanor M. Sunkersley*  
Notary Public

My Commission Expires October 11, 1972

*Lynchburg, Virginia*

UNITED STATES OF AMERICA  
ATOMIC ENERGY COMMISSION

In the Matter of	)	
	)	
THE TOLEDO EDISON COMPANY	)	
	)	
and	)	Docket No. 50-346
	)	
THE CLEVELAND ELECTRIC ILLUMINATING COMPANY	)	
	)	
Davis-Besse Nuclear Power Station	)	

AFFIDAVIT

I, William S. Little, being first duly sworn, depose and say that;

- 1) I am the Babcock & Wilcox Company's Licensing Supervisor for the Toledo Edison contract.
- 2) I am fully knowledgeable with the content of Babcock & Wilcox Company document BAW-10010, Part 2, "Stability Margin for Xenon Oscillations - One Dimensional Digital Analysis".
- 3) Babcock & Wilcox Company document BAW-10010, Part 2, "Stability Margin for Xenon Oscillations - One Dimensional Digital Analysis", contains only the following information:
  - a) The theory and calculational methods used to study the effect of xenon induced oscillation in large PWRs by one dimensional diffusion theory.
  - b) A description of the analyses which were performed for the current Babcock & Wilcox PWR design.
  - c) A discussion and evaluation of the analytical results for xenon induced oscillations with and without reactivity feedback. The ability of axial power shaping rod to control xenon oscillations is evaluated based on the analyses.

*William S. Little*  
 William S. Little

Sworn to before me and subscribed in my presence this 14 day of January, 1971.

*Eleanor M. Conkley*  
 Notary Public  
 My Commission Expires October 11, 1972

*Lynchburg, Virginia*

UNITED STATES OF AMERICA  
ATOMIC ENERGY COMMISSION

In the Matter of )  
THE TOLEDO EDISON COMPANY )  
and )  
THE CLEVELAND ELECTRIC ILLUMINATING COMPANY )  
Davis-Besse Nuclear Power Station )

Docket No. 50-346

AFFIDAVIT

I, William S. Little, being first duly sworn, depose and say that;

- 1) I am the Babcock & Wilcox Company's Licensing Supervisor for the Toledo Edison contract.
- 2) I am fully knowledgeable with the content of Babcock & Wilcox Company document BAW-10010, Part 3, "Stability Margin for Xenon Oscillations - Two and Three Dimensional Analyses".
- 3) Babcock & Wilcox Company document BAW-10010, Part 3, "Stability Margin for Xenon Oscillations - Two and Three Dimensional Analyses", contains only the following information:
  - a) A description of the two and three dimensional calculations performed for the purpose of studying xenon oscillations in Babcock & Wilcox's current PWR design.
  - b) A discussion and evaluation of the multi-dimensional results for various conditions.
  - c) An evaluation of the adequacy of the axial power shaping rods in controlling axial oscillations.

*William S. Little*  
William S. Little

Sworn to before me and subscribed in my presence this 14 day of January, 1971.

*Lynchburg, Virginia*  
*Eleanor M. Jankeley*  
Notary Public  
My Commission Expires October 11, 1972

UNITED STATES OF AMERICA  
ATOMIC ENERGY COMMISSION

In the Matter of	)	Docket No. 50-346
	)	
THE TOLEDO EDISON COMPANY	)	
	)	
and	)	AFFIDAVIT
	)	
THE CLEVELAND ELECTRIC ILLUMINATING COMPANY	)	
	)	
Davis-Besse Nuclear Power Station	)	

I, Howard W. Wahl, being first duly sworn, depose and say that;

1. I am the Bechtel Project Engineer for the Davis-Besse Nuclear Power Station.
2. I am fully knowledgeable with the contents of AWS D12.1-61, "Recommended Practice for Welding Reinforcing Steel, Metal Inserts, and Connections in Reinforced Concrete Construction".
3. AWS D12.1-61, "Recommended Practice for Welding Reinforcing Steel, Metal Inserts, and Connections in Reinforced Concrete Construction" contains only recommended practices relative to all welding to be utilized in reinforced concrete construction. This project has used Section 3, Paragraph 303 for the Indirect Butt Welding Procedure for sleeve splices of #14 and #18 reinforcing bars.

  
 \_\_\_\_\_  
 Howard W. Wahl

State of Maryland  
County of Montgomery

Sworn to before me and subscribed  
in my presence this 15<sup>th</sup>  
day of January 19 71.

  
 \_\_\_\_\_  
 Thos. L. Catha, Notary Public

My Commission Expires July 1, 1974.

ATOMIC ENERGY COMMISSION

In the Matter of )  
 )  
 THE TOLEDO EDISON COMPANY )  
 )  
 and )  
 )  
 THE CLEVELAND ELECTRIC ILLUMINATING COMPANY )  
 )  
 Davis-Besse Nuclear Power Station )

Docket No. 50-346

AFFIDAVIT

I, Howard W. Wahl, being first duly sworn, depose and say that;

1. I am the Bechtel Project Engineer for the Davis-Besse Nuclear Power Station.
2. I am fully knowledgeable with the appropriate sections of ASCE - Manuals of Engineering Practice - No. 42, "Design of Structures to Resist Nuclear Weapons Effects", 1964 Edition.
3. ASCE - Manuals of Engineering Practice - No. 42, "Design of Structures to Resist Nuclear Weapons Effects", 1964 Edition contains the following information used for this project:
  - a. Chapter 7: "Dynamic Strength of Materials"
  - b. Chapter 8: "Elasto-Plastic Behavior of Structural Elements"
  - c. Chapter 9: "Dynamic Analysis"
  - d. The Elasto-Plastic behaviors of the reinforced concrete and structural steel during dynamic loading due to a missile (Chapter 8) and the dynamic analysis of a missile on a simple or complex systems (Chapter 9) has been used in the dynamic analysis (Chapter 9) of the Reactor Vessel Building and its Class I systems.

  
 \_\_\_\_\_  
 Howard W. Wahl

State of Maryland  
County of Montgomery

Sworn to before me and subscribed  
in my presence this \_\_\_\_\_  
day of \_\_\_\_\_ 19\_\_\_\_.

  
 \_\_\_\_\_  
 Thos. L. Catha, Notary Public

My Commission Expires July 1, 1974.

UNITED STATES OF AMERICA  
ATOMIC ENERGY COMMISSION

In the Matter of )  
THE TOLEDO EDISON COMPANY )  
and )  
THE CLEVELAND ELECTRIC ILLUMINATING COMPANY )  
Davis-Besse Nuclear Power Station )

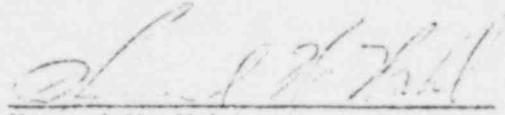
Docket No. 50-346  
  
AFFIDAVIT

I, Howard W. Wahl, being first duly sworn, depose and say that;

1. I am the Bechtel Project Engineer for the Davis-Besse Nuclear Power Station.
2. I am fully knowledgeable of the appropriate sections of AD 221 586, "Effects of Impact and Explosion: Vol. I", 1946.
3. AD 221 586, "Effects of Impact and Explosion: Vol I", 1946 contains the following information used for this project:
  - a. Chapter 6: "Terminal Ballistics of Armor Steel as a Protective Material"
  - b. Chapter 7: "Terminal Ballistics of Concrete. Nomograms for Estimating Penetration, Scabbing and Perforation of Concrete Targets"
  - c. Chapter 12: "Behavior of Materials Under Dynamic Loads"
  - d. Chapter 15: "Structural Protection"  
Section 15.2.5 "Impact Tests of Reinforced Concrete Beams"
  - e. Appendix: "Incident Summaries"

-continued-

- f. The experimental results, theories and information in the above listed four chapters and appendix were the main references and approaches used in the design and analysis for missiles (PSAR, Section 5.2.2.3.10).



Howard W. Wahi

State of Maryland  
County of Montgomery

Sworn to before me and subscribed  
in my presence this 15<sup>th</sup>  
day of January 1974.

  
Thos. L. Catha, Notary Public

My Commission Expires July 1, 1974.

UNITED STATES OF AMERICA

ATOMIC ENERGY COMMISSION

In the Matter of	)	Docket No. 50-346
	)	
THE TOLEDO EDISON COMPANY	)	
	)	
and	)	AFFIDAVIT
	)	
THE CLEVELAND ELECTRIC ILLUMINATING COMPANY	)	
	)	
Davis-Besse Nuclear Power Station	)	

I, Oscar M. Esteves, being first duly sworn, depose and say that;

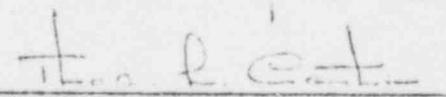
1. I am the Bechtel Electrical Group Supervisor for the Davis-Besse Nuclear Power Station.
2. I am fully knowledgeable with the contents of IEEE 279, "Proposed IEEE Criteria for Nuclear Power Plant Protection Systems", August 1968.
3. IEEE 279, "Proposed IEEE Criteria for Nuclear Power Plant Protection Systems", August 1968 contains only the following:
  - a. Criteria establishing minimum requirements for the protection systems which in case of an emergency will cause the safe shutdown and isolation of the nuclear reactor.

These protection systems activate the reactor safety trip, containment vessel isolation, and containment pressure reduction.

  
 Oscar M. Esteves

State of Maryland  
County of Montgomery

Sworn to before me and subscribed  
in my presence this 15th  
day of DECEMBER 1971.

  
 Thos. L. Catha, Notary Public

My Commission Expires July 1, 1974.