

P R O P R I E T A R Y

Washington Public Power Supply System

3000 George Washington Way P.O. Box 968 Richland, Washington 99352-0968 (509)372-5000

Docket No. 50-460
September 6, 1985
G01-85-0171

Responds to:
Response required by: **October 19, 1985**

Director of Nuclear Reactor Regulation
Attention: Elinor G. Adensam, Chief
Licensing Branch No. 4
Division of Licensing
U. S. Nuclear Regulatory Commission
Washington, D. C. 20555

Subject: NUCLEAR PROJECT NO. 1
EVALUATION OF ELECTRICAL CABLE TRAY AND
CONDUIT SYSTEM SEISMIC DAMPING FOR WNP-1

The WNP-1 Project currently uses 4% and 7% equivalent viscous damping for dynamic analyses of electrical cable tray systems for the OBE and SSE respectively and 2% and 3% damping for analyses of electrical conduit systems.

Bechtel Power Corporation has completed evaluation of electrical cable tray and conduit systems for several projects which substantiates the use of higher damping values. The primary justification for use of the higher damping values was provided by Bechtel's Cable Tray and Conduit Raceway Seismic Test Program, which is described in reference 1 of the attachment to this letter.

Bechtel performed a review of the WNP-1 cable raceway system design and installation, compared these with the systems of the test program, and determined that the results of the test program are applicable to WNP-1. The attachment provides Bechtel's evaluation of the cable tray and conduit system damping for WNP-1.

Bechtel's program has been reviewed by the Supply System and our conclusion is that the OBE and SSE damping for the WNP-1 cable tray system can be increased to 20% and that the OBE and SSE conduit system damping can be increased to 7%. The actual damping values to be used as a function of the zero period acceleration are shown in Figure 1 of the attachment.

Most of the material presented in the attachment, and its reference, has been presented to the NRC and received favorable NRC acceptance for the following plants:

8509160296 850906
PDR ADCK 05000460
A PDR

*W/Check
4/150
131760*

*P1301
1/15 Prop
15 Work Prop*

*Change: 4. Encl
24X 1 INP
LPOR 1 INP
NRC FOR 1 INP*

Elinor G. Adensam, Chief
Evaluation of Electrical Cable Tray and
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Grand Gulf Nuclear Station, Units 1 and 2
Wolf Creek Generating Station, Unit No. 1
Palo Verde, Units 1, 2 and 3
Vogtle, Units 1 and 2
Calloway, Units 1 and 2

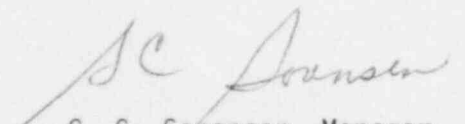
The Supply System requests the NRC's review of this information for application on WNP-1. Review of this material is of importance to the Supply System during the extended shutdown period because conformance analyses of the electrical raceway system are currently underway. The use of higher damping would more realistically predict the response of the system to earthquake loading and would alleviate the need for design modification, and at the same time enable optimization of the design and installation. It is imperative that this task be completed prior to construction restart in order to obtain maximum benefits for the WNP-1 program.

The Supply System therefore requests that the NRC complete the review of this submittal by **October 19, 1985**.

The Supply System and the Bechtel Power Corporation consider Figures 8 through 15 of the attachment as proprietary and, as such, should be withheld from public disclosure under the provisions of 10CFR2.790. Appropriate affidavits executed by officials of the Supply System and the Bechtel Power Corporation are attached.

The attachment includes 15 copies of the proprietary version which includes Figures 8 through 15 and 15 copies of the nonproprietary version which does not include these figures.

Also included is the \$150 application fee required by 10CFR170.12.


G. C. Sorensen, Manager
Regulatory Programs (280)

GCS:AGH:pp

cc: T. Kenyon, NRC (116)
N. Reynolds, BLCPR
E. Revell, BPA
NRC Doc. Control Desk

Evaluation of Electrical
Cable Tray & Conduit System Seismic
Damping for WNP-1

STATE OF WASHINGTON }
 }
County of Benton)

Subject: _____

I, G. C. SORENSEN, being duly sworn, subscribe to and say that I am the Manager, Regulatory Programs for the WASHINGTON PUBLIC POWER SUPPLY SYSTEM, the applicant herein; that I have full authority to execute this oath; that I have reviewed the foregoing; and that to the best of my knowledge, information and belief the statements made in it are true.

The accompanying affidavit executed by Mr. Charles W. Lacey of Bechtel Power Corporation identifies certain documents which Bechtel considers to be proprietary information. These documents, being submitted to the NRC by the Supply System in support of our cable tray damping evaluation, are handled as proprietary information by the Supply System. The Supply System requests, for the reasons stated in Mr. Lacey's affidavit, that these materials be withheld from public disclosure in accordance with 10CFR 2.790

DATE 6 SEPT, 1985

G. C. Sorensen
G. C. Sorensen, Manager
Regulatory Programs

On this day personally appeared before me G. C. Sorensen to me known to be the individual who executed the foregoing instrument and acknowledge that he signed the same as his free act and deed for the uses and purposes therein mentioned.

GIVEN under my hand and seal this 6 day of September, 1985.

S. R. Michaels
Notary Public in and for the
State of Washington

Residing at Richland, wa.
Dec. "85"

State of California)
) ss
County of Los Angeles)

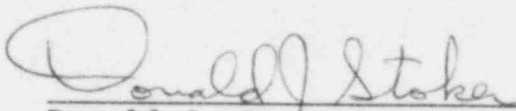
AFFIDAVIT OF DONALD J. STOKER

Donald J. Stoker, being first duly sworn, deposes and says:

1. That I am a Vice President of Bechtel Power Corporation ("Bechtel"), for its Western Power Division.
2. That, except for the matters expressly stated to be on information and belief, I have personal knowledge of the facts set forth herein, and could competently testify thereto.
3. That I have been specifically delegated, by Bechtel, the function of reviewing the documents discussed herein and am authorized to apply for their withholding on behalf of Bechtel which is the owner of this information.
4. That, based on my information and belief, the Nuclear Regulatory Commission ("NRC") has requested production of certain documents by Bechtel to be used by NRC personnel.
5. That, based on my information and belief, the following documents are among the documents sought:
 - a. Input Acceleration Chart, "Damping vs. Input Level for Various Braced Strut Hanger Systems.
 - b. Input Acceleration Chart, "Cable Tray Damping for Earthquake Excitation: Type A."
 - c. Input Acceleration Chart, "Cable Tray Damping for Earthquake Excitation: Type M."
 - d. Input Acceleration Chart, "Cable Tray System Damping for Earthquake Excitation: LB = Longitudinal bracing.
 - e. Input Acceleration Chart, "System Damping of Hanger & Rigid Support Tray Systems for T/V Earthquake Excitation: (T/V = transverse & vertical: A = Type A).
 - f. Systems Dampings of 3-Tier, All TB, Ladder Type Tray Systems under T/V Earthquake Excitation.
 - g. System Dampings of MPC Ladder, B-Line Ladder & B-H Trough Tray, with Rigid Support.

- h. Separate Data Analyses for Rigidly Supported Systems with Ladder Type (o) and Trough Type (o) Trays.
 - i. PSEUDO-TRIAXIAL VS. BIAXIAL INPUT.
6. That the documents identified in Paragraph 5 are Bechtel documents.
7. That the documents identified in Paragraph 5 should not be subject to public inspection and copying because they are Bechtel's procedure describing Bechtel's means and methods for performing calculations relating to the design and construction of nuclear power plants. As such:
- a. The documents contain trade secrets of Bechtel.
 - b. The documents contain proprietary and confidential commercial information and data of Bechtel.
 - c. The documents contain proprietary and confidential discoveries and records of Bechtel.
8. That the following considerations are applicable to the reasons set forth in Paragraph 7:
- a. The information is held in confidence by Bechtel.
 - b. The information is of a type customarily held in confidence by Bechtel and there is rational basis for holding the information in confidence as set forth in Paragraph 7 above and in this paragraph.
 - c. The information is being transmitted to the NRC in confidence.
 - d. The information is not available in public sources.
 - e. Public disclosure of the information is likely to cause substantial harm to the competitive position of Bechtel for the following reasons:
 - 1) The information is valuable to Bechtel because it represents unique approaches and capabilities for resolving complex safety, technical, commercial and industry factors to comply with applicable laws, statutes and regulations.
 - 2) Substantial and significant effort and money have been and are being expended by Bechtel to develop, acquire and maintain the necessary expertise and capability in these highly specialized areas.

- 3) Others would have difficulty in properly acquiring or duplicating this information which includes special applications of theoretical principles, complex analytical procedures and sophisticated design techniques.
9. For the reasons set forth in this affidavit, Bechtel requests that the documents listed in paragraph 5 be designated as exempt from disclosure pursuant to 10 CFR 2.790.

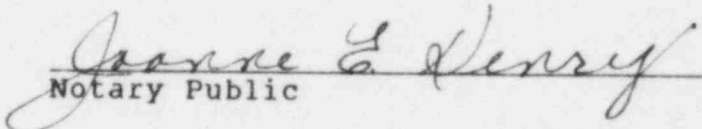


Donald J. Stoker
Vice President
Bechtel Power Corporation

STATE OF CALIFORNIA)
) ss
County of Los Angeles)

Subscribed and sworn to before me this 5th day of
September, 1985.




Notary Public

