REGULATORY INFORMATION DISTRIBUTION SYSTEM (RIDS)

ACCESSION NBR: 8702020404 DOC. DATE: 87/01/21 NOTARIZED: NO DOCKET #
FACIL: 50-397 WPPSS Nuclear Project, Unit 2, Washington Public Powe 05000397
AUTH. NAME AUTHOR AFFILIATION
SORENSEN, G. C. Washington Public Power Supply System.
RECIP. NAME RECIPIENT AFFILIATION
Document Control Branch (Document Control Desk)

SUBJECT: Requests approval to apply ASME Code Case N411 on facility, to enhance sys reliability & personnel safety through optimization of snubber installations. Fee paid.

DISTRIBUTION CODE: A047D COPIES RECEIVED: LTR 1 ENCL 0 SIZE: 4
TITLE: OR Submittal: Inservice Inspection/Testing

NOTES:

	RECIPIENT ID CODE/NAME		COPIES LTTR	COPIES ENCL	RECIPIENT ID CODE/NAME		COPIES LTTR	COPIES ENCL
	BWR ADTS		1	1	BWR EB		1	1
	BWR PD3 LA		1	0	BWR PD3 PD	01	5	5
	BRADFUTE, J		1	1				
INTERNAL:	ACRS	16	10	10	ADM/LFMB		1	0
	AEOD/PTB		1	1	ELD/HDS2		1	0
	NRR/DSRO/EIB		1	1	NRR/TAMB		1	1
	REG FILE	04	1	1				
EXTERNAL:	LPDR	03	1	1	NRC PDR	02	1	1
	NSIC	05	1	1				

Rec'd w/check #150.00
#07119

TOTAL NUMBER OF COPIES REQUIRED: LTTR 28 ENCL ~~25~~ 0

Washington Public Power Supply System
P.O. Box 968 3000 George Washington Way Richland, Washington 99352 (509) 372-5000

January 21, 1987
G02-87-026

Docket No. 50-397

U.S. Nuclear Regulatory Commission
Attn: Document Control Desk
Washington, D.C. 20555

Gentlemen:

Subject: NUCLEAR PLANT NO. 2
REQUEST FOR ASME CODE CASE N411 APPROVAL

Reference: Letter, T. M. Novak (NRC) to D. W. Mazur (SS), "Approval of ASME Code Case N411 - Washington Nuclear Project No. 1", Docket No. 50-460, dated August 22, 1985

The reference letter documents the NRC's approval to apply ASME Code Case N411 at the Supply System's WNP-1 project. The purpose of this letter is to request approval to apply this code case on WNP-2.

The Supply System is vitally interested in enhancing system reliability and personnel safety through optimization of snubber installations at all of its projects. However, at this time there is no intent to implement a large scale snubber optimization program at WNP-2. In the near term it is believed that a slower-paced program is prudent. This position has been adopted in light of the several key issues important to the overall effectiveness of a snubber optimization effort that currently remain under industry and Staff advisement as to their overall licensing acceptability. For example, the application of independent support motion techniques with N411 damping and guidance on the broad scope leak-before-break ruling could have significant impact on the effectiveness of a snubber optimization effort.

As stated, approval is requested to incorporate into the licensing basis, and apply, Code Case N411 damping at WNP-2. At WNP-2 the N411 Code Case damping values would be applied as the need arises under the following circumstances:

A047
1/0

Rec'd w/check #150.00
#07119

REQUEST FOR ASME CODE CASE N411 APPROVAL

1. When existing WNP-2 piping is re-analyzed for system modification or repair.

2. When new piping systems are added to the plant.

3. Where the plant staff has identified snubbers which pose a significant in-service inspection man-rem exposure burden.

Code Case N411 will be applied in full compliance with all five requirements delineated in the current revision of USNRC Regulatory Guide 1.84. In brief, review of these requirements is as follows:

1. The code case damping values shall only be applied to piping analyses and only in those dynamic load cases in which the loads are building filtered with a frequency content not exceeding 33 Hertz. In those analysis load cases where Code Case N411 is applied, Regulatory Guide 1.61 damping values shall not be combined with the code case damping values.

2. The code case damping values shall only be applied in response spectrum analyses utilizing the "enveloped" or uniform support motion technique per NUREG/CR-3526. The spectrum envelopes at WNP-2 are founded on the general requirements of Regulatory Guide 1.60 and the resultant load reactions shall be generated from all three components of earthquake motion and applied concurrently to support structures.

3. As a result of possible increased dynamic deflections, optimized piping systems shall be physically walked down prior to snubber removal to ensure that sufficient clearances exist to preclude interferences with stationary and line mounted equipment.

4. The code case shall not be used in piping systems which utilize plastic strain energy absorption devices.

5. The code case shall not be applied to piping systems where stress corrosion cracking has occurred. WNP-2 has completed an extensive induction heating stress improvement program and, in addition, stress corrosion cracking resistant materials have been installed in critical locations. The plant is also implementing system improvements to attain water chemistry quality standards consistent with the BWR Water Chemistry Guidelines. At present no case of stress corrosion cracking has been identified and because of the efforts to mitigate this phenomenon at WNP-2, there is no intent to restrict the application of the code case on this basis (i.e., stress corrosion cracking).

REQUEST FOR ASME CODE CASE N411 APPROVAL

The original design basis for WNP-2 required that responses due to inertial loads be combined with pseudostatic responses (e.g., seismic anchor motions) by the absolute sum method (NUREG-0892, WNP-2 Safety Evaluation Report, pg. 3-16, Paragraph 3.7.3, dated March 1982). Based on the recommendations of NUREG-1061, Volume 4, approval to utilize the square-root-sum-of-squares methodology for the combination of inertial and pseudostatic loads is requested. This methodology would be applied in analyses utilizing the code case damping values. No other change or deviation from the current WNP-2 licensed piping and pipe support design methodology would be applied.

An additional action WNP-2 will implement, independent of any revision to the current licensing basis, is the selective (i.e., prioritized) replacement of snubbers which have thermal movements meeting the displacement criteria established by Welding Research Council Bulletin 300. These snubbers will be replaced with equivalent strength rigid struts. A review of the WNP-2 analysis bases is currently in progress to identify the candidate population of "zero" movement snubbers. It should be noted that the results of WNP-2's Power Ascension Test Program showed excellent agreement between measured piping system thermal movements and analytically predicted thermal expansion movements. This provides an experimental basis which lends confidence to the analytic evaluation of zero thermal movement snubbers.

Following Staff approval to implement the code case, the WNP-2 Final Safety Analysis Report (FSAR) will be amended to document the specific requirements and conditions under which the N411 Code Case can be applied. The Supply System will periodically revisit its licensing basis as the industry and Staff positions evolve and solidify on improved analysis techniques for snubber optimization.

It is reiterated that the Supply System is presently subscribing to a cautious snubber optimization effort at WNP-2 that is primarily focused on critical need areas. Minimal and conservative licensing basis changes are proposed that are in close harmony with the Staff's current position on advanced analysis techniques for snubber optimization. Albeit conservative, the requested piping analysis changes will afford the Supply System an opportunity to work towards enhanced reliability and improved ALARA performance.

REQUEST FOR ASME CODE CASE N411 APPROVAL

To assist the Supply System in attaining the WNP-2 interim snubber optimization program goals, a timely response to this request is sought. WNP-2's Spring outage is the first opportunity to realize the safety and economic benefits that can be attained through the reduction of redundant snubbers. Therefore, Staff action on this request by early March would be greatly appreciated.

In accordance with 10CFR 170.12(c), an application fee of One hundred fifty dollars ($150.00) is enclosed.

Should you have any questions, please contact Mr. P. L. Powell, Manager, WNP-2 Licensing.

Very truly yours,

GC Sorensen

G. C. Sorensen, Manager
Regulatory Programs

JRC/DMB/tmh
Attachment

cc: JO Bradfute - NRC
JB Martin - NRC RV
E Revell - BPA
NS Reynolds - BLCP&R
NRC Site Inspector

January 16, 1987

DISTRIBUTION: W/O Enclosures
Docket No. 50-397
BWD-3 r/f
EHylton (2)
JBradfute

DOCKET NO(S). 50-397

Mr. G. C. Sorensen, Manager
Washington Public Power Supply System
P. O. Box 968
3000 George Washington Way
Richland, Washington 99352

SUBJECT:

WNP-2

The following documents concerning our review of the subject facility are transmitted for your information.

☐ Notice of Receipt of Application, dated _____.

☐ Draft/Final Environmental Statment, dated _____.

☐ Notice of Availability of Draft/Final Environmental Statement, dated _____.

☐ Safety Evaluation Report, or Supplement No. _____, dated _____.

☐ Notice of Hearing on Application for Construction Permit, dated _____.

☐ Notice of Consideration of Issuance of Facility Operating License, dated _____.

☒ ~~Monthly~~ Bi-Weekly Notice; Applications and Amendments to Operating Licenses Involving no Significant Hazards Considerations, dated December 30, 1986. (See page 47088).

☐ Application and Safety Analysis Report, Volume _____.

☐ Amendment No. _____ to Application/SAR dated _____.

☐ Construction Permit No. CPPR- _____, Amendment No. _____ dated _____.

☐ Facility Operating License No. _____, Amendment No. _____, dated _____.

☐ Order Extending Construction Completion Date, dated _____.

☐ Other *(Specify)* _____

Office of Nuclear Reactor Regulation

Enclosures:
As stated

cc: See next page

OFFICE	LA:BWD3:DRL						
SURNAME	EHylton/vag						
DATE	01/16/87						

NRC FORM 318 (1/84) NRCM 0240

Mr. G. C. Sorensen, Manager
Washington Public Power Supply System

WPPSS Nuclear Project No. 2
(WNP-2)

cc:
Nicholas S. Reynolds, Esq.
Bishop, Liberman, Cook,
Purcell & Reynolds
1200 Seventeenth Street, N.W.
Washington, D.C. 20036

Regional Administrator, Region V
U.S. Nuclear Regulatory Commission
1450 Maria Lane, Suite 210
Walnut Creek, California 94596

Mr. G. E. Doupe, Esquire
Washington Public Power Supply System
P. O. Box 968
3000 George Washington Way
Richland, Washington 99532

Mr. Curtis Eschels, Chairman
Energy Facility Site Evaluation Council
Mail Stop PY-11
Olympia, Washington 98504

P. L. Powell, Licensing Manager
Washington Public Power Supply System
P. O. Box 968, MD 956B
Richland, Washington 99352

Mr. W. G. Conn
Burns and Roe, Incorporated
c/o Washington Public Power Supply
System
P. O. Box 968, MD 994E
Richland, Washington 99352

R. B. Glasscock, Director
Licensing and Assurance
Washington Public Power Supply System
P. O. Box 968, MD 280
Richland, Washington 99352

Mr. C. M. Powers
WNP-2 Plant Manager
Washington Public Power Supply System
P. O. Box MD 927M
Richland, Washington 99352