

ENERGY NORTHWEST

February 7, 2000
GO2-00-022

P.O. Box 968 ■ Richland, Washington 99352-0968

Docket No. 50-397

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

Gentlemen:

Subject: **WNP-2, OPERATING LICENSE NPF-21
REQUEST FOR AMENDMENT
TECHNICAL SPECIFICATION 4.3.1.2.b
(ADDITIONAL INFORMATION)**

Reference: Letter, dated January 3, 2000, Jack Cushing (NRC) to JV Parrish (Energy Northwest) "Request for Additional Information (RAI) for WNP-2, (TAC NO. MA7228)"

In the reference, the staff requested that additional information be provided to support review of our pending request for an amendment to revise Subsection 4.3.1.2.b of Technical Specification 4.3.1.

The additional information is included as attachments, which consists of a response to the RAI questions and a report from Asea Brown-Boveri (ABB) Combustion Engineering, Inc. Some of the material in Attachment B has been identified as proprietary and is marked accordingly (i.e., bracketed). Therefore, pursuant to the requirements of 10 CFR 2.790, an affidavit is enclosed to support the withholding of this information from public disclosure.

Should you have any questions or desire additional information regarding the matter, please call me or PJ Inserra at (509) 377-4147.

Respectfully,



DW Coleman (Mail Drop PE20)
Manager, Regulatory Affairs

Attachments

cc: EW Merschoff- NRC RIV
JS Cushing- NRC NRR
NRC Sr. Resident Inspector-927N

DL Williams - BPA/1399
TC Poindexter - Winston & Strawn

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AFFIDAVIT

STATE OF WASHINGTON)
)
)
COUNTY OF BENTON)

Subject: Report CE NSPSD-787-P, WNP-2
SVEA-96 Fuel Assemblies Dry Fuel
Storage Criticality Safety Evaluation,
Dated February, 1995

I, D.W. Coleman, being duly sworn, subscribe to and say that I am the Manager, Regulatory Affairs, for ENERGY NORTHWEST, the applicant herein; that I have the 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 attachment to this letter contains information [marked in brackets] that is considered by ABB Combustion Engineering, to be proprietary. Attached is an affidavit executed by I.C. Rickard, Director, Nuclear Licensing, of ABB Combustion Engineering Nuclear Power, Inc., dated January 25, 2000, which provides the basis on which it is claimed that the subject document should be withheld from public disclosure under the provisions of 10 CFR 2.790.

Energy Northwest treats the subject document as proprietary information on the basis of statements by the owner. In submitting this information to the NRC, Energy Northwest requests that the subject document be withheld from public disclosure in accordance with 10 CFR 2.790.

DATE February 7, 2000

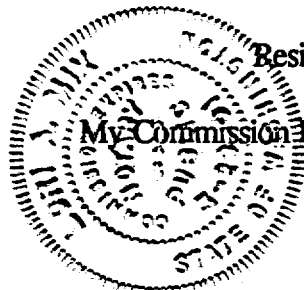
D.W. Coleman
D.W. Coleman
Manager, Regulatory Affairs

On this date personally appeared before me D.W. Coleman, to me known to be the individual who executed the foregoing instrument, and acknowledged that he signed the same as his free act and deed for the uses and purposes herein mentioned.

GIVEN under my hand and seal this 7th day of February 2000.

Eric A. Mix
Notary Public in and for the
STATE OF WASHINGTON

Residing at W. Richland
My Commission Expires 3-29-01



**REQUEST FOR AMENDMENT TECHNICAL SPECIFICATION 4.3.1.2.b
(ADDITIONAL INFORMATION)**

Attachment A

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Request for Additional Information Question # 1

Discuss briefly the types of analyses (including any seismic dynamic analysis) performed to determine the structural integrity of the various elements affected by the new geometrical limitations for storage of new fuel assemblies in the new fuel racks. This discussion should include the analyses related to the accidental drop of the fuel assemblies being supported by the pedestal.

Response to Request for Additional Information Question #1

A structural analysis has been performed to verify the structural integrity of the new fuel racks resulting from the new geometrical limitations of the new fuel rack support system. See attached diagrams of new fuel storage rack arrangement. The configuration control components used in the new fuel vault consist of a series of templates and working platform grating sections and a fuel support assembly (pedestal).

The templates and working platform grating sections allow only $\frac{1}{4}$ of the total design capacity of fuel assemblies to be installed (60 vs. 240 assemblies). The templates permit every other location in two fuel rack rows to be available for fuel assembly storage in a checkerboard pattern and then skips two rows in between where the working platform grating resides. The working platform grating prevents any fuel from being inserted. This pattern is repeated, as necessary, for the volume of fuel assemblies to be stored up to the limit of 60 fuel assemblies. Each template is fabricated from $\frac{1}{4}$ inch aluminum plate and is a non-structural element that adds no weight to the fuel rack beams or their supports. The template is securely mounted on and fastened to the working platform grating. The working platform is supported from the new fuel vault cover lip, independent from the fuel rack beams or their vault wall support box beams. Thus, neither the templates nor the working platforms provide any loading to the fuel rack or its support system.

The other component is a "fuel support assembly" or "pedestal" which is placed on the lower fuel rack and acts as a spacer to raise the fuel assemblies approximately 42 inches for ease of inspection, exchange of the shipping handle with the in-vessel bale handle, etc. The pedestal is constructed of $3\frac{1}{2}$ inch stainless steel schedule 40 pipe. The strength characteristics of the pedestal are sufficient to support the fuel assembly in the receptor cell in the lower fuel rack beam. This pedestal securely fits into the lower fuel rack beam in a structurally similar manner as a fuel assembly and accepts the new fuel assembly into its tube section in a structurally similar manner as did the lower fuel rack. The pedestal employs a 3 inch stainless steel schedule 40 pipe section to achieve a slip fit design and a square plate to assure proper centering and fit into the fuel rack receptor cell. The pedestal is less than 5% of the weight of a fuel assembly.

The new fuel vault fuel rack support system is composed of three levels of fuel rack beams supported by box beams attached to the walls of the vault. The upper two fuel rack beams hold the fuel laterally and the lower fuel rack beam holds the fuel vertically and laterally when

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(ADDITIONAL INFORMATION)**

Attachment A

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Response to Request for Additional Information Question #1 (continued)

an assembly is fully inserted. To address the potential for uplift of a fuel assembly mounted in the pedestal, a review of the floor response spectra and a calculation of the lower fuel rack beam was performed. The vertical load on any lower fuel rack beam is reduced to less than 55% of the original load (i.e., one half of the weight of the original number of fuel assemblies, plus the weight of the pedestals). Based on a conservative natural frequency and response spectrum analysis, the forces from a safe shutdown earthquake for the new fuel assembly support system are below 1.0 g in the vertical direction. Thus, no vertical uplift of the fuel assembly will occur and the implementation of this tool (pedestal) will not have an adverse structural impact (vertically).

To address the potential for lateral load increases due to the elevated fuel assemblies (through the use of pedestals), an analysis was performed comparing the original and elevated fuel assembly configurations. The proposed fuel storage limitations and the template assure only half (every other one) of the designed number of new fuel assemblies are placed in a row. The original design used three levels of fuel rack beams to carry the lateral load of fuel assemblies resulting in $\frac{1}{2}$ of the fuel assembly lateral load being carried by the center fuel rack beam and $\frac{1}{4}$ of the lateral load being carried by the other two fuel rack beams. When the 42 inch pedestal is used, only the center and upper fuel rack beams are assumed to carry the lateral load. However, since only half of the fuel assemblies are allowed (from that originally designed), the resulting lateral loads on each of the beams will be equal to (on the upper fuel rack) or less than (on the center fuel rack) the original load. This maintains adequate design margins for fuel rack loads.

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Request for Additional Information Question # 2

Provide a summary of the results of the above analyses and confirm that the (strength) "capacities" of the various structural elements (e.g., the pedestal, vault floor, rack walls, cover plates, etc.) are adequate to satisfy the demand imposed on them by the new configuration of the fuel assemblies as per the applicable industry codes.

Response to Request for Additional Information Question #2

The proposed limitations result in a new configuration of fuel assemblies that consists of only $\frac{1}{2}$ the number of original design fuel assemblies in a single fuel rack row and $\frac{1}{4}$ of the total number of original design fuel assemblies in the new fuel vault. This is a significant load reduction and a key to assuring that the strength capacities of various structural components are adequate. The templates and working platform gratings are supported independently from the fuel assembly racks and do not affect the strength of the new fuel rack structural elements. Therefore, the use of templates for loading configuration control and the use of pedestals do not result in load increases to the vault floor, rack walls, or other rack components. Furthermore, the strength capacities of FSAR Table 3.9-2s are maintained.

Calculations demonstrate that there is no mechanism resulting from the configuration control components that would adversely affect the configuration or integrity of the new fuel assembly and that they would not cause an accidental fuel drop. In addition, these configuration control components do not affect the previous testing results of accidental fuel drops on the fuel racks or vault floor described in FSAR Section 9.1.1.3.2.

Request for Additional Information Question # 3

Provide report CE NPSD-787-P, "WNP-2 SVEA-96, Fuel Assemblies Dry Fuel Storage Critical Safety Evaluation."

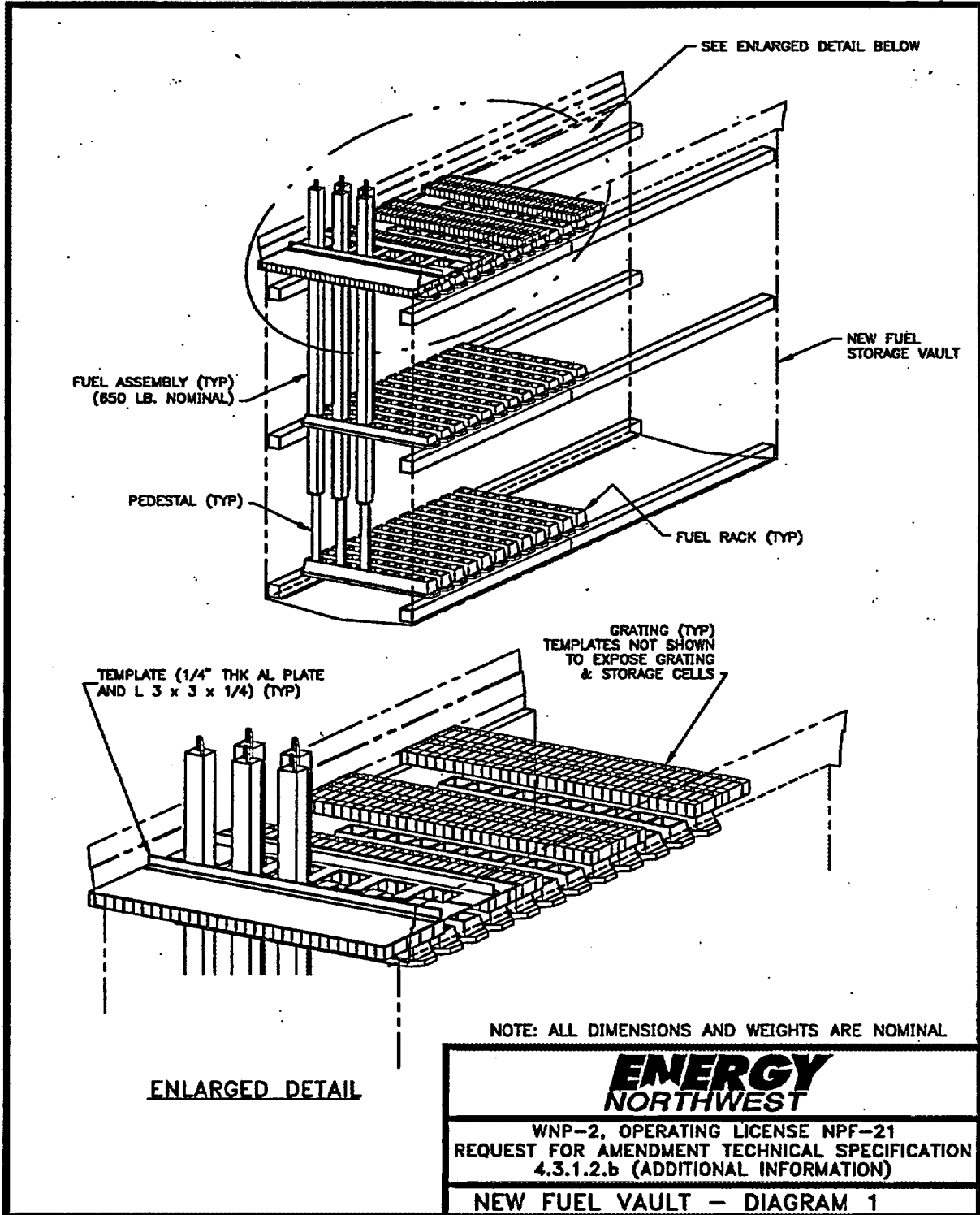
Response to Request for Additional Information Question #3

See attached proprietary report CE NPSD-787-P, "WNP-2 SVEA-96, Fuel Assemblies Dry Fuel Storage Critical Safety Evaluation."

**REQUEST FOR AMENDMENT TECHNICAL SPECIFICATION 4.3.1.2.b
(ADDITIONAL INFORMATION)**

Attachment A

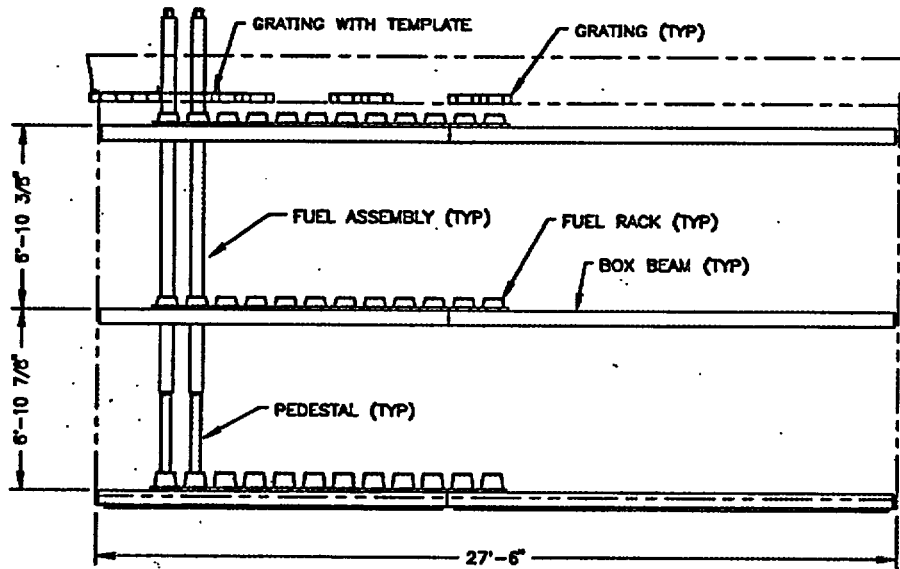
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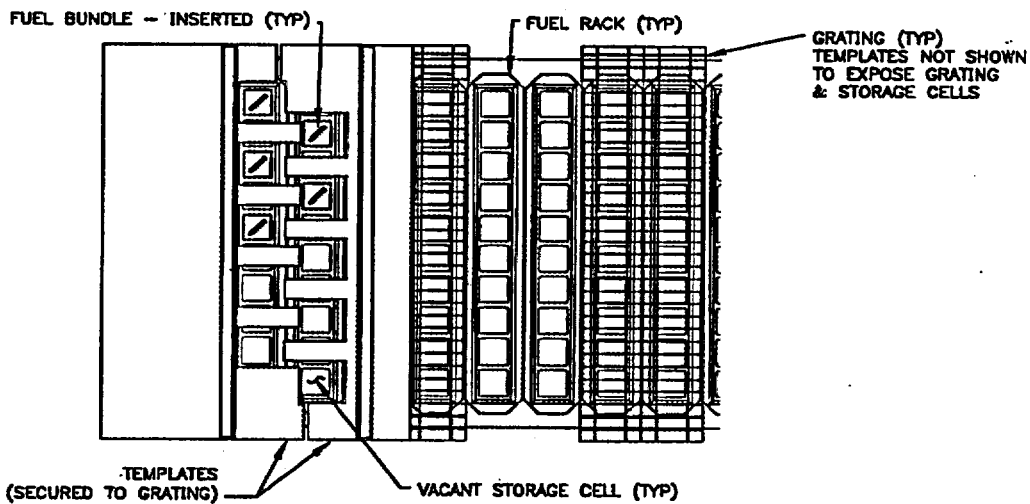
**REQUEST FOR AMENDMENT TECHNICAL SPECIFICATION 4.3.1.2.b
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Attachment A

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SIDE ELEVATION VIEW



ENLARGED PARTIAL PLAN VIEW

NOTE: ALL DIMENSIONS AND WEIGHTS ARE NOMINAL

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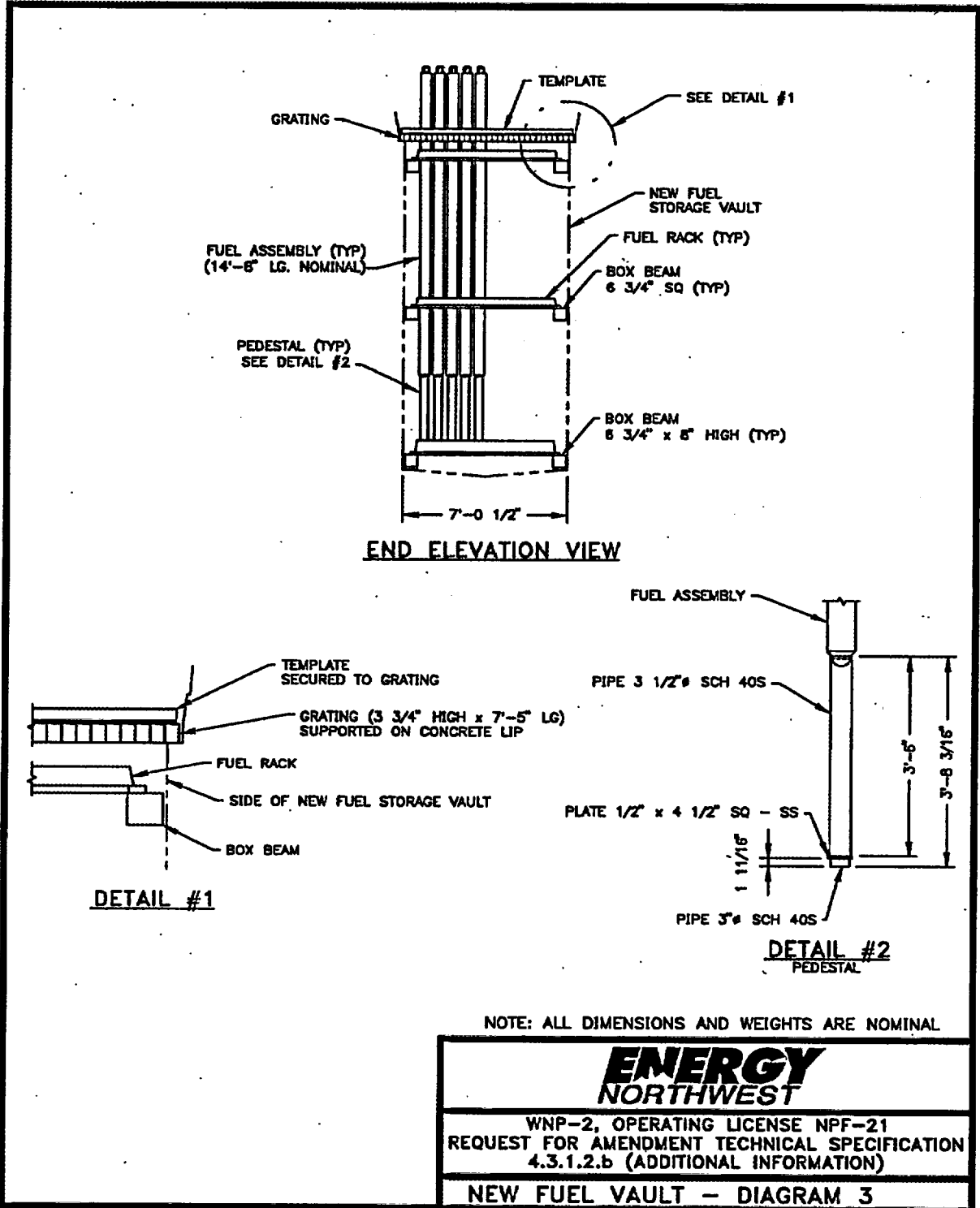
WNP-2, OPERATING LICENSE NPF-21
REQUEST FOR AMENDMENT TECHNICAL SPECIFICATION
4.3.1.2.b (ADDITIONAL INFORMATION)

NEW FUEL VAULT - DIAGRAM 2

**REQUEST FOR AMENDMENT TECHNICAL SPECIFICATION 4.3.1.2.b
(ADDITIONAL INFORMATION)**

Attachment A

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**REQUEST FOR AMENDMENT TECHNICAL SPECIFICATION 4.3.1.2.b
(ADDITIONAL INFORMATION)
Attachment B**

**Proprietary Report CE NPSD-787-P,
“WNP-2 SVEA-96, Fuel Assemblies Dry Fuel Storage Critical Safety Evaluation”**

I, Ian Rickard, depose and say that I am the Director, Nuclear Licensing, of ABB C-E Nuclear Power, Inc. (ABB), duly authorized to make this affidavit, and have reviewed or caused to have reviewed the information which is identified as proprietary and described below. I am submitting this affidavit in conformance with the provisions of 10 CFR 2.790 of the Commission's regulations for withholding this information.


I have personal knowledge of the criteria and procedures utilized by ABB in designating information as a trade secret, privileged or as confidential commercial or financial information. The information for which proprietary treatment is sought, and which document has been appropriately designated as proprietary, is contained in the following:

- CE NPSD-787-P, "WNP-2 SVEA-96 Fuel Assemblies Dry Fuel Storage Criticality Safety Evaluation," dated February, 1995.

Pursuant to the provisions of paragraph (b)(4) of Section 2.790 of the Commission's regulations, the following is furnished for consideration by the Commission in determining whether the information sought to be withheld from public disclosure, included in the above referenced document, should be withheld.

1. The information sought to be withheld from public disclosure is owned and has been held in confidence by ABB. It consists of methodology and calculational results for nuclear criticality of SVEA-96 fuel contained in dry storage vaults.
2. The information consists of analytical data or other similar data concerning a process, method or component, the application of which results in substantial competitive advantage to ABB.
3. The information is of a type customarily held in confidence by ABB and not customarily disclosed to the public.
4. The information is being transmitted to the Commission in confidence under the provisions of 10 CFR 2.790 with the understanding that it is to be received in confidence by the Commission.
5. The information, to the best of my knowledge and belief, is not available in public sources, and any disclosure to third parties has been made pursuant to regulatory provisions or proprietary agreements that provide for maintenance of the information in confidence.
6. Public disclosure of the information is likely to cause substantial harm to the competitive position of ABB because:
 - a. A similar product is manufactured and sold by major competitors of ABB.
 - b. Development of this information by ABB required thousands of dollars and hundreds of manhours of effort. A competitor would have to undergo similar expense in generating equivalent information.
 - c. The information consists of technical data and qualification information for ABB-supplied products, the possession of which provides a competitive economic advantage. The availability of such information to competitors would enable them to design their product to better compete with ABB, take marketing or other actions to improve their product's position or impair the position of ABB's product, and avoid developing similar technical analysis in support of their processes, methods or apparatus.
 - d. In pricing ABB's products and services, significant research, development, engineering, analytical, manufacturing, licensing, quality assurance and other costs and expenses must be included. The ability of ABB's competitors to utilize such information without similar expenditure of resources may enable them to sell at prices reflecting significantly lower costs.

Sworn to before me this
25th day of January, 2000



Ian C. Rickard
Director, Nuclear Licensing

