

# ACCELERATED DISTRIBUTION DEMONSTRATION SYSTEM

## REGULATORY INFORMATION DISTRIBUTION SYSTEM (RIDS)

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 RECIP. NAME: RECIPIENT AFFILIATION: Document Control Branch (Document Control Desk)

SUBJECT: Submits results of fastener testing program per NRC  
 Compliance Bulletin 87-02, "Fastener Testing...."

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## Washington Public Power Supply System

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

January 11, 1988  
G02-88-007

Docket No. 50-397

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

Gentlemen:

Subject: NUCLEAR PLANT NO. 2  
WNP-2 FASTENER TESTING PROGRAM

References: (1) NRC Compliance Bulletin No. 87-02, "Fastener Testing to Determine Conformance with Applicable Material Specifications"  
(2) Letter, dated 9/16/83, G02-83-839, C.S. Carlisle to J.B. Martin, "NRC Inspection Report 50-397/83-38, Notice of Violation"

In accordance with the requirements of Reference 1) results of the WNP-2 Fastener Testing Program are submitted. The following discussion summarizes WNP-2's program and results.

### NRC Item 1: Current Receipt Inspection and Internal Control of Fasteners

The Supply System Quality Control (QC) organization, in performing receipt inspections of fasteners, verifies that identification and markings are in accordance with codes, specifications, and drawings as indicated on the purchase order. The Certified Materials Test Report (CMTR) is reviewed for chemical and physical properties. In addition, the current Supply System procurement specification for commercial grade fasteners requires on site performance of hardness tests on samples of each lot to verify the fasteners meet the material specification.

During the receiving process, the fasteners are matched with their procurement documentation and the quality class is determined. All items or containers are tagged or marked to identify the purchase order number. Storage locations for the fasteners are entered into the Materials Management System and a unique matcode number is assigned.

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Withdrawal requests are handled through the store order process. The store order specifies quantity requested, part number, description, matcode numbers, and other information as required. Delivery Manifests document deliveries made by the Warehouse for direct purchase items (other than inventory).

All the procedures that address receipt inspection and internal controls of fasteners were provided to the NRC Resident Inspector for review and comment and are listed with a brief summary of responsibilities in Attachment 1.

NRC Item 2: Safety Related and Non-Safety Related Fasteners (Studs, Bolts and/or Cap Screws) for Testing

For the test program the Supply System selected ten safety related and ten non-safety related fasteners for testing. All the fasteners were selected in the presence of the NRC Resident Inspector. In addition, the NRC Resident Inspector randomly selected two additional bolts for testing. These two bolts were marked with an "M" and a "KS."

Each fastener was tagged and identified with a site specific I.D.# and a Lab I.D.#. The site specific number began with WNP-2 followed by the matcode number that tied the bolt to the warehouse tracking system. The Lab I.D.# is specific to each sample. The Lab I.D.# "XYZ" was developed in the following manner. The "X" can either be "B" for bolt or "N" for nut. The "Y" can either be "1" for Quality Class 1 or 1C, a "2" for Quality Class 2, CG, or "G". The "Z" is an alpha specific to each individual sample. The sample of fasteners selected included those most utilized at WNP-2. Based upon discussions with the NRC Resident Inspector, the number of the specific bolt types chosen was based on the approximate percent of usage (e.g, A193 B7 is used in larger quantities at WNP-2 than A490). For this reason, more A193 B7 bolts were tested than A490. Safety related fasteners were substituted for non-safety related fasteners when needed with the permission of the NRC Resident Inspector.

NRC Item 3: Selection of Safety Related and Non-Safety Related Nuts

In addition to the fasteners, matching nuts were chosen to be tested. There were 12 non-safety related nuts chosen and 11 safety related nuts chosen. As is the case with the fasteners when no non-safety related nuts were found, a safety related nut was substituted. This was performed with the permission of the NRC Resident Inspector. In some cases, the matching nut was not available in the inventory. In these cases, a substitute was made using the most commonly used nut in the plant which is A194 Gr. 2H.



NRC Item 4: Testing Program

The testing program followed the requirements outlined in the NRC Bulletin. Tensile test and chemical analysis were performed on the safety related fasteners. Chemical analysis and hardness tests were performed on all nuts and non-safety related fasteners. The tests were performed at a laboratory that is on the Supply System's approved vendor list. Some nut materials that required impact testing, per site design specifications were not impact tested due to insufficient material per nut from which to machine the test samples.

NRC Item 5: Reporting Test Results

Results of the test program are provided in Attachments 3, 4 and 5.

NRC Item 6: Discussion of Test Results

Our review of the test results disclosed no safety affecting deficiencies. However, the testing program disclosed several discrepancies, the nature of which are summarized below. The details are discussed in Attachment 2.

1. In some instances matcode information did not agree with the procurement document and QC green tags. These administrative discrepancies are being addressed.
2. Markings on two nuts (samples N1B and N1D from the same lot) did not meet ASTM marking requirements. Further investigation revealed that the nuts are regular hex nuts and not heavy hex as certified. This deficiency is being evaluated and the results will be submitted in a Supplemental report by March 1988.
3. A non-safety related A193 Gr. B8 stud exceeded the maximum hardness for A193 Gr. B8 Class 1 material. See Attachment 2 for resolution of this concern.

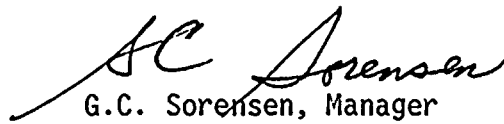
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WNP-2 FASTENER TESTING PROGRAM

In summary, the Supply System feels that there are no substantial problems relative to the use of fasteners that will affect the safe operation of WNP-2. In the past, prior to operation in 1983, a Construction Assessment Team (CAT) reviewed the usage of bolting at WNP-2 (Reference 2). During this review, samples of bolts were tested and bolt torquing was reviewed. In-plant inspections were performed. All problems relative to bolt usage were resolved.

As identified earlier, the Supply System is continuing to evaluate samples N1B and N1D. The results of this evaluation will be covered in the Supplemental report to be submitted by March, 1988.

If you have any questions, contact P.L. Powell, Licensing Manager, WNP-2.

Very truly yours,

  
G.C. Sorensen, Manager  
Regulatory Programs

TME/cd  
Attachments

cc: R.B. Samworth - NRC  
JB Martin - NRC RV  
N.S. Reynolds - BCP&R  
NRC Site Inspector - 901A  
DL Williams - BPA - 399



STATE OF WASHINGTON)  
COUNTY OF BENTON )

IEB 87-02 RESPONSE  
Subject: WNP-2 FASTENER  
TESTING PROGRAM

I, G. C. Sorensen, being dully 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.

DATE 1/11, 1988

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 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 11 day of Jan 1988.

S. R. Michael  
Notary Public in and for the STATE  
OF WASHINGTON

Residing at Rushland, WA.  
Dec 89

