

U. S. NUCLEAR REGULATORY COMMISSION
REGION V

Report No. 50-397/89-28

Docket No. 50-397

License No. NPF-21

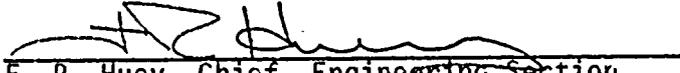
Licensee: Washington Public Power Supply System
P. O. Box 968
Richland, Washington 99352

Facility Name: Washington Nuclear Project No. 2 (WNP-2)

Inspection at: WNP-2, Benton County, Washington

Inspection Conducted: September 11-14, 1989

Inspectors: W. Wagner, Reactor Inspector
R. Wilson, Vendor Inspection Branch, NRR

Approved by: 
F. R. Huey, Chief, Engineering Section

10/6/89
Date Signed

Summary:

Inspection During the Period of September 11-14, 1989 (Report No. 50-397/89-28)

Areas Inspected: One inspector from the Office of Nuclear Reactor Regulation and one inspector from Region V conducted an announced inspection to review the licensee's reevaluation regarding the acceptability of 10 commercially procured items identified during a previous NRC inspection as not having been properly dedicated for safety related use.

Results:

General Conclusions:

The licensee's procurement program is weak with respect to the dedication of commercial grade items for safety-related use, in that critical characteristics of the items are not properly specified or fully verified by testing or inspections.

Significant Safety Matters: Failure to adequately assure the quality of installed replacement parts could result in failure of safety-related equipment.

Summary of Violations or Deviations: One previously identified potential violation was substantiated involving several examples wherein the licensee had not properly dedicated commercial grade items for safety-related applications.

Open Items Summary: None

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PDR ADOCK 05000397
Q PNU

DETAILS

1. Persons Contacted

Licensee

- *J. P. Burn, Director of Engineering
- *C. M. Powers, Plant Manager
- *G. C. Sorensen, Regulatory Programs Manager
- *L. T. Harrold, Manager, Generation Engineering
- *R. L. Koenigs, Technical Manager
- *M. E. Etchamendy, Manager, Materials
- *C. H. McGilton, Plant Operational Assurance Programs, Manager
- *R. E. Partrick, Plant Administration Manager (Acting)
- *S. H. Peck, Spare Parts Engineering Manager
- *G. H. Wooley, Plant Procurement Quality Assurance Manager
- *R. L. Webring, Plant Maintenance, Assistant Manager
- *J. T. Person, Engineer, Spare Parts Engineering
- *M. C. Bartlett, Procurement QA Engineer

Bonneville Power Administration

- *D. L. Williams, Nuclear Engineer
- *Attended the Exit Meeting on September 14, 1989.

In addition to the personnel annotated above, the following NRC personnel attended the exit meeting:

NRC Headquarters Office

- *U. Potapovs, Section Chief, Vendor Inspection Branch
- *R. C. Wilson, Senior Reactor Engineer, Vendor Inspection Branch

*NRC Region V Office

- *R. C. Sorensen, Resident Inspector, WNP-2
- *F. R. Huey, Chief, Engineering Section
- *W. J. Wagner, Reactor Inspector, Engineering Section

2. Background

A special Safety System Outage Modification Inspection (SSOMI) was conducted by an NRC Region V team during the period March 27 - April 7, and May 8-26, 1989. Inspection report 50-397/89-21 documented the SSOMI findings, which identified several examples of inadequate dedication of commercial grade items for safety related use. Specifically, the critical characteristics of 10 items were not fully identified or verified by testing or inspections. This potential violation was discussed during an enforcement conference held in Region V on June 28, 1989, and documented in inspection report 50-397/89-22. During the enforcement conference, the licensee agreed to reevaluate the 10 items, based on their current program, to determine whether they are suitable for safety related application.

3. Licensee Reevaluation of Commercial Grade Items For Safety Related Use

The results of the licensee's reevaluation of the 10 items was documented and provided to the inspectors. In several instances, the inspector's review of these records did not substantiate the licensee's conclusion that the installed or in stock items are acceptable for use. Comments resulting from this review are as follows:

Item No. 1: Potter and Brumfield Relays (Installed)

The licensee conducted a survey of Potter and Brumfield (P&B) of Princeton, Indiana on July 17-19, 1989. The survey scope, as documented in "WNP-2 Facility Survey Report No. 89-019" dated August 9, 1989, assessed the implementation of their QA Program for manufacture and supply of commercial grade electrical relays. This report qualified P&B to supply MDR relays to the requirements of MIL-R-19523A. Prior to this survey and at the time of installation (May 17, 1988) these P&B relays were of an indeterminate quality because:

- a. No survey/audit of P&B had been performed to determine if they were qualified to supply commercial grade MDR relays with a Certificate of Compliance to MIL-R-19523A.
- b. Critical characteristics were not verified by testing or inspections.

The licensee did, however, determine that P&B was audited by Wisconsin Electric Power Company (WEPCO) in July 11-13, 1988. This audit placed P&B on WEPCO's Qualified Suppliers List. A copy of the audit report (No. A-V-88-20) was requested by the licensee on June 2, 1989.

The licensee had obtained certification that the relays supplied through Newark Electronics were manufactured to the P&B's quality assurance program as verified by serial numbers on the relays. This certification was dated July 18, 1989.

The review also revealed that the P&B relays were procured through two distributors; Radar Electric Company in August 1987, and Newark Electronics in March 1988. The role of the distributor or middleman in the procurement chain is not adequately addressed by the licensee. Distributor controls, like supplier controls, are essential for product acceptance. Relay traceability was essentially lost when it came under the distributor's control since the distributors were not audited by the licensee. The inspectors were concerned over what measures were established to assure product quality while in the distributor's control, such as, storage environment (temperature, humidity), handling, shipping, preservation of the relays to prevent damage or deterioration, defect notification, and possibility of interchanging with items from distributor's stock. This loss of control/traceability of procurement through middleman handling is a major concern which could be mitigated if plant operating experience spanned the range of safety functions the installed relay is required to perform under. That is, if input voltage, frequency and other critical characteristics including seismic capability, could be verified based upon past operating conditions. Since the procurement quality/traceability chain was broken by the use of an unaudited middleman little credit can be taken for performance history, vendor audit, manufacturer's testing/inspection and approved vendor certification. Therefore, unless operating history can show that all the critical characteristics of the installed relay have been verified, the relay has not been properly dedicated, and is not acceptable for its application. Traceability of the installed MDR relay, however, provides some degree of confidence that the relay was manufactured and test under P&B's Appendix B QA program. The only concern is the potential improper handling when in the distributor's control. Since there have been no reported operability problems related to the installed relay, the inspectors have reasonable assurance that the relay integrity has not been comprised. Therefore, there doesn't appear to be an operability concern.

Item No. 2: Anchor Darling Valve Parts (Installed)

These parts comprise a stem, upper and lower wedges, and a wedge pin for use in repairing 12 inch gate valve HPCS-V-4. The parts were procured commercial grade, and the dedication evaluation did not address critical characteristics (e.g., tensile strength or hardness) or require special testing or inspections to verify these characteristics. Procurement was directly from Anchor Darling. The parts were installed by MWR AT 3142 dated April 11, 1988.

In response to questioning by the NRC, the licensee determined that Anchor Darling had been maintained on the licensee's Evaluated Supplier List as Appendix B Quality Class I, and was audited by the licensee as recently as June, 1987, six months before the parts were shipped. The licensee also determined that an October, 1988 audit of Anchor Darling, by a Nuclear Supplier Quality Assurance Committee team of auditors from three utilities, addressed commercial grade parts. The audit concluded that Anchor Darling's QA program was effective and satisfactory.

The licensee obtained certification from Anchor Darling, dated July 18, 1989, that the parts were "manufactured, inspected and prepared for

shipment in accordance with all the requirements of the purchase order and A/DV's Quality Assurance Program, as approved by the Supply System." The inspectors concluded that the audits and certification appear to provide adequate basis for regarding the valve parts as procured under an Appendix B program, therefore, commercial grade dedication is not required.

Item No. 3: Fuses (Installed)

The licensee's July 20, 1989 submittal stated that procurement and use of fuses is based on Standard Procurement and Use Policy No. 6, Rev. 5, dated June 30, 1987. Acceptance and commercial grade dedication of fuses is stated to be based on an understanding of the manufacturer's processes, Underwriter's Laboratory (UL) activities, and the licensee's experience with fuses. Critical characteristics were listed as manufacturer's part number, current rating, and UL listing, where the fuse is UL listed. Controlled application and trending were stated to provide further assurance of fuse acceptability, and credit was taken for determining restoration of circuit integrity at the time of installation.

The inspector's review of Policy No. 6 revealed that only Bussmann and Gould Shawmut fuses are permitted. The policy states that selection is to be based on manufacturer or supplier part/catalog number, voltage, current, symbol and tube type, as applicable; and on form fit, and function.

With regard to the claimed understanding of manufacturer's processes, no evidence was found of any inspection or audit of Bussmann. In 1988, licensee procurement QA evaluated Gould as a commercial grade supplier, based on a 1986 American Electric Power (AEP) audit of Gould. The AEP audit stated that design and procurement document control were not examined in depth. It also stated that, although Gould has four domestic locations, fuses that require certification must be bought through the Newburyport, MA location. Certain assembly operations were stated to be performed in Mexico, and the first documented audit of the Mexican facility was scheduled for 1987. The licensee's QA evaluation noted the certification restriction and approved commercial grade supplier listing of Gould with R. B. Shea listed as local distributor. Although the file contained an internal request for an audit of Gould, the NRC inspector was advised that the requested audit was cancelled.

The licensee contacted a Gould application engineer by telephone on June 27, 1989. The licensee's telecon memo stated that Gould no longer manufactured nuclear grade fuses, that production testing was governed by Gould's QA manual and that UL listed fuses are subject to quarterly testing at the factory by UL. Gould also faxed a nuclear certification sales policy dated May 1988, stating that sales of class 1E fuses was discontinued on April 8, 1985, because Gould lacked necessary material traceability and defect documentation procedures. Gould's policy offered a "Certification to Resistance" if requested at time of order placement, for orders "shipped direct from the factory - not from a distributor's fuse stock", providing a QA-measured resistance value for each fuse.

The licensee contacted Bussmann QA by telephone on June 24, 1985 and June 27, 1989. In each case only an internal licensee telephone memo was found as documentation. The 1985 telecon states that in-process testing

checked length and resistance at rated amperage with no mention of sample size. Random destructive tests were cited, and "IEEE qualified" fuse tests in 1982-3 were mentioned. The 1989 telecon memorandum stated that Bussmann no longer manufactured 1E certified fuses, and that production was governed by a QA manual calling for 100% resistance checks, physical checks, and UL specified tests. Bussmann's announcement earlier in 1989 that nuclear certified fuses were available from an authorized distributor was not mentioned.

Furthermore, although the licensee's July 20, 1989 submittal referenced an April 8, 1988 audit of UL's Northbrook, Illinois facility by a Niagara Mohawk materials engineer (faxed to the licensee on July 10, 1989) the inspectors noted that the referenced document was not an audit, only a memorandum of discussion with two UL personnel, and did not encompass witnessing of testing or review of procedures. The inspectors considered that licensee conclusions based on this memorandum appeared to be superficial and poorly substantiated.

Since files provided for NRC inspector review contained no purchasing or receiving inspection records concerning fuses, the inspectors requested examples of such information.

The licensee provided records for two fuse procurements, both through middlemen from Exide Electronics, an equipment manufacturer, in 1989; and from AMFAC Electric, a local distributor, in 1988. The Material Disposition and Inspection Report for the Exide procurement was dated June 29, 1989. It specifies quantity, Material Code number (WNP-2 part number), vendor part number and code, current and voltage rating. ID and marking, physical damage, and clean are marked satisfactory, dimension and weld prep. are marked not applicable.

The claim of understanding of the fuse manufacturer's processes is not supported by audit reports provided to the NRC inspectors. There was no evidence of any audit of Bussmann, nor of knowledge that Bussmann claims to have a nuclear grade distributor. Information concerning Bussmann's quality assurance was found only in the form of informal telephone memorandums written by licensee personnel. Even though the Bussmann telephone memorandums state that length and resistance are measured, no evidence was seen that the licensee considered such information as critical characteristics. Procurements appeared to be routinely accomplished through middlemen. The only audit of Gould shown to the NRC inspectors was partial, since it did not address areas such as design and procurement document control; however, it did warn of a Mexican assembly plant with no known documented audits, and cautioned that if any certification was desired, fuses should be ordered from a specific facility. Gould later provided a sales policy that again offered certifications apparently not sought by the licensee. Again, procurements appeared to be routinely accomplished through middle men.

The inspectors further noted that the June 27, 1989, telephone memorandums with Gould and Bussmann both stated the manufacturer "no longer manufactures" nuclear grade or class 1E fuses. This concern not only reinforces the question as to whether the fuses procured are the desired types, but also weakens the licensee argument that plant experience contributes significantly to dedication. If traceability through middlemen is not accomplished, if characteristics such as length

and resistance are not monitored, if multiple manufacturing facilities exist, and if the manufacturer does not maintain material traceability and defect documentation procedures, then, experience with fuses built under programs no longer used is of questionable value in dedicating fuses of recent or even unknown date of manufacture.

The only "audit of UL activities" shown to the NRC inspectors reinforces the conclusion that UL listing is not sufficient for commercial grade dedications. For example, the report states that UL "does not actually pull a listing mark unless a manufacturer shows continual poor performance through trending, has difficulties in implementing satisfactory corrective action, or is openly hostile towards U.L. followup inspectors." UL has also advised the NRC that the quarterly sample is much too small to derive any statistical inference with regard to product quality. In addition, since the licensee stated that not all fuses are UL listed, in such cases, UL listing obviously provides no support for dedication.

The inspectors concluded that the licensee's dedication of commercial grade fuses was not acceptable because it did not provide reasonable assurance that the desired fuse, with the desired characteristics was obtained. There doesn't appear to be an immediate operability concern regarding fuse failure for the following reasons: (a) loss of equipment operability in one division would not affect the ability of the redundant division equipment's ability to perform the required safety function; (b) the fuses are easily replaced in a minimal amount of time; and (c) the licensee trending program has not identified multiple fuse failures.

Item No. 4: Pressure Switch (Installed)

The licensee's July 20, 1989, submittal stated that the Square D Company pressure switch was procured commercial grade because the licensee "understood" the manufacturer no longer offered them as Quality Class I, although the licensee later learned that the switches were available as Class I. A Stoneway Electric invoice showed that three switches were shipped from Square D in Asheville, North Carolina, on September 4, 1987. Since three switches were receipt inspected by the licensee 12 days later, reasonable traceability through the middleman to the manufacturer appeared to exist in this case. However, other questions applicable to procurements through middlemen remain unanswered, such as storage conditions, packaging, shipping, defect notification, and possibility of interchanging with items from distributor's stock, and the like. The inspectors noted that this procurement is a clear example of procurement through a middleman (Stoneway Electric) with the associated loss of procurement control.

The licensee's July 20, 1989 submittal stated that "the manufacturer's Quality Assurance department stated that these switches were made under the same QA program even when not offered as Quality Class I." The file contained a July 19, 1989 letter to the licensee from Square D's manager of quality assurance, stating that all such pressure switches on the purchase order were "manufactured, inspected and accepted as conforming to all applicable Engineering Specifications." When the NRC inspector asked for clarification of this statement, the licensee provided a telephone memo written by the licensee and dated the day following the

request (September 14, 1989). It stated that Square D's QA manager said the switch did not come from a nuclear batch; "the same tests and inspections are done, but no records are kept for non-QCI batches." Thus no documentation was found to show that the switch was manufactured under a Quality Class I program.

The licensee's July 20, 1989 submittal listed six critical characteristics and stated that four of them were verified as part of standard receipt inspection: range, contact rating, part no., and differential. The receiving inspection report dated September 16, 1987 stated only "ITEMS 1 & 2 ACCEPTED" and a dashed line is typed through twelve columns with headings ranging from "ID and Marking" to "Weld Prep." and "Lube/Oils". The licensee explained that the dashed line signified that all twelve characteristics were satisfactory, and that identification information provided in the purchase order would be covered in the inspection. Contrary to the July 20 letter, the inspector noted that contact rating was not addressed in the receiving inspection documentation.

The licensee's July 20, 1989 submittal also stated that the manufacturer stated that no significant design changes occurred which would affect the mechanical integrity of the switch. The inspector's request for documentation of this statement was addressed in the September 14, 1989 telephone memo cited above, with Square D's QA manager, as follows:

"He did confirm that no design changes have taken place that decrease the pressure integrity of the switch. He was also able to say that the only material change in approx. 5 years has been the plastic used in the terminal blocks. He was unable to address all design changes made to the switch in the last 20 years because he did not have time. However he did state that all design changes are analyzed/approved by engineering before they are implemented."

The licensee's retrospective dedication process was heavily dependent on verbal discussion with Square D (see quotes above). For example, seismic integrity was identified in the July 20, 1989 as a critical characteristic, stated to be "assured by the switch being a like for like replacement". This assurance by the licensee was based on their claim of no significant design changes that invalidated the like-for-like integrity of the replacement parts. This assurance by the licensee was based on the cursory discussion noted in the paragraph above where assurances in generality were given by the vendor. The inspector concluded that the September 14, 1989 telephone memo between the vendor and licensee does not fully support the claim of component acceptability by the licensee in the July 20, 1989 submittal to the NRC, and since no prior supporting documentation was provided, the acceptability of this component is still in question.

Identification and verification of critical characteristics was incomplete. For example, Rev. 1 of Evaluation 198 stated that materials need not be verified because there is a factor of two margin in the pressure rating, and performance as a pressure sensing instrument was not addressed except by reference to checks, calibrations, and tests at the time of installation. These areas should be addressed as part of the

dedication process to verify safety related functional performance, critical characteristics.

Summarizing, the licensee attempted to show retrospectively that the pressure switch was adequately dedicated, largely by means of certifications that were qualitative in nature and did not adequately tie the switch to an Appendix B program. Without adequate certifications, the other elements of the dedication process such as identification and verification of critical characteristics are also inadequate.

Although the documentation reviewed by the inspectors doesn't support a proper dedication process, there is reasonable evidence which indicates that the pressure switch was built to an Appendix B QA program. Therefore, there doesn't appear to be an operability concern.

Item No. 5: Metal O-Rings (Installed)

These metallic O-rings are fabricated from ANS 5582 Seamless Inconel X-750 tubing supplied by Superior Tube Company. The tubing is formed into an O-ring, welded, smoothed to remove any welding irregularities, and silver plated per AMS 2410 at 1500°F. These operations, performed by American Seal and Engineering Company, were not audited by the licensee. The O-ring material and the silver plate are not considered to be critical characteristics by the licensee, only O-ring diameter and height (tube diameter).

The licensee stated in their response to Region V on July 20, 1989, that these O-rings are specifically exempted as pressure boundary parts by ASME Code. Also, that these O-ring seals constitute a part of the containment pressure boundary between ECCS system relief valves and the containment suppression pool. Subsection NB-2121(b) of ASME Section III, "Permitted Material Specifications," provides exemptions from Code requirements for items not associated with the pressure retaining boundary. It wasn't made clear to the inspectors how the O-rings in question would qualify to be exempt from this section of the Code. Regardless of any ASME exemptions these O-rings, or any other parts with safety functions, are not excluded from 10 CFR Part 50, Appendix B, QA requirements (NRC Information Notice No. 88-95).

A HUB Inc. audit report of Superior Tube was included in the documentation reviewed. The audit was performed on February 10, 1989 for evaluation per ASME Section III NCA 3800, ANSI N45.2 and 10 CFR 50, Appendix B. Although this was a satisfactory audit of Superior Tube no credit is claimed by the licensee towards acceptability of the O-rings. Besides, the O-rings were installed in 1988 with a Superior Tube CMTR dated June 2, 1977 via a packing slip of October 5, 1987.

Based on the information provided to the inspectors, no new evidence was provided to show that the critical characteristics were verified, or to support the licensee conclusion that the O-rings are acceptable as installed. The licensee's evaluation of the impact of failure of the O-ring on plant safety gave seal leakage or failure as the only plausible failure mode, with insignificant effects on operability due to the small size of the leak.

Item No. 6: EMD Diesel Engine Parts (In Stock)

Various spare parts for the emergency diesel generators were procured commercial grade from General Motors Electro-Motive Division (EMD) without being properly dedicated.

In their description of critical characteristics the licensee did not include material composition or properties, such as, chemical, tensile, heat treatment or impact properties. Two audit reports of EMD were provided in the documentation package reviewed by the inspectors. The first was a Wisconsin Electric audit performed by Gasser Associates. This audit of EMD, performed on July 22, 1986, did not verify procurement document control or control of purchased material, equipment and services because General Motors considers that to be proprietary information. Therefore the critical characteristics noted above could not be verified at EMD. The second audit of EMD encountered the same situation. This audit, performed by TVA on January 20-21, 1987, revealed that General Motors considers it to be TVA's responsibility to dedicate commercial grade replacement parts. This issue was not addressed by the licensee.

EMD recently reassigned their Authorized Distributorship for Nuclear Applications to Morrison-Knudsen (M-K). The licensee audited M-K on August 15-17, 1989, to put M-K on the ESL for a source of third party dedication for EMD replacement parts. The audit report was still in progress during the NRC inspection; therefore no draft copy or other information on the audit results were made available to the inspectors. The documentation reviewed failed to substantiate the licensee conclusion that the EMD diesel parts were properly dedicated. Accordingly, the inspectors consider these parts to be of indeterminate quality and should not be installed until properly dedicated.

Item No. 7: HPCS-P-1 Pump Shaft (In Stock)

During the SSOMI, the pump shaft was identified as having been procured from a vendor not listed on the ESL. Additional information provided to the inspectors revealed that the wrong vendor was identified and that Ingersoll-Rand, who is on the ESL, supplied the pump shaft. According to the licensee response of August 15, 1989, at the time of procurement, engineering wrongly determined the pump shaft not to be part of the pump pressure boundary. Therefore, the part was procured as commercial grade from a vendor qualified to supply safety related parts, but was not audited to determine if the Ingersoll-Rand QA Program also covered commercial grade parts (in this instance the pump shaft). During a telecon to Ingersoll-Rand on June 27, 1989, the licensee was informed that disregarding Quality Class (QC) commercial grade or QC-1 requirements there is no possible way the subject shaft could have been manufactured other than to the original drawing and specifications. However, there was no official documentation issued by Ingersoll-Rand to support this telecon. Until this documentation is received, which will serve as a certification attesting to the quality of the item, this pump shaft is considered to have been inadequately dedicated and unacceptable for use.

Item No. 8: GE Protective Relays (In Stock)

Various types of GE relays were purchased commercial grade through North Coast Electric in 1988 on purchase orders 094920 and 094921. They are intended for general plant use in safety-related applications.

Samples were selected from the delivered equipment and subjected to seismic type qualification testing by the licensee. The test program included extensive performance measurements according to detailed type-specific procedures. Brief review of the seismic test program indicated that it was satisfactory for dedication except for the following concerns.

The relays were ordered through a middleman. The inspector found no evidence of traceability to specific GE manufacturing lots or time frames, or of a basis other than random selection of test samples. As a result, it is difficult to relate the test results to any relays other than those tested. This traceability concern is exacerbated because the inspector found no evidence of audits of the manufacturing facility. In fact, the file contained an internal licensee letter dated July 13, 1989 requesting an audit of GE's relay division, but when the inspector requested the status of that audit the licensee advised that it was cancelled.

Detailed performance-related critical characteristics were not spelled out in the dedication evaluation, but were covered by reference to plant procedures, intended to be performed at the time of installation. The inspectors noted that the licensee's procedures had not been revised to ensure that all specified critical characteristics are in fact addressed when each individual component or part is installed. Furthermore, procedures do not ensure that subsequent revisions to the plant procedures continue to address all critical characteristics, or that completed installation test data are reviewed by dedication personnel. The inspectors also noted that it would further be necessary to maintain items with incomplete dedication in a special restricted-use category until dedication is completed. The simple assumption that a referenced plant procedure will always verify the functional critical characteristics at the time of installation is not acceptable.

Summarizing, the licensee's seismic test program provides important input for the dedication process, but additional efforts are necessary to complete the dedication of GE relays.

Item No. 9: Chiller Shaft (In Stock)

The chiller shaft was procured from York International on March 17, 1989. Two audits were performed of York International by the licensee, one at the York, Penn. facility on August 1-2, 1989 and the other audit on August 10, 1989, at the Baltimore Parts and Distribution Center in Baltimore, Maryland. The audits were performed in accordance with an Interoffice Memorandum (IOM) from the Plant Technical supervisor to the QA Procurement Manager, dated June 20, 1989. This IOM requested that the audits be performed as defined on the audit criteria sheets. Three important criteria were not addressed during the audits as documented in QA Evaluation Report Nos. 89-26 and 89-27; these are:



- a. Under Design Control, "j. Does the vendor identify critical characteristics to be controlled?"
- b. Under Procurement Control, "i. Are receipt inspections performed to assure critical characteristics and quality are acceptable?" and
- c. Under Test and Inspection Controls, "b. Are any tests and inspections conducted to verify critical characteristics?"

These 3 criteria were not audited or addressed in the commercial grade audits of York International, yet, the licensee concluded that they maintain sufficient control of materials. The inspectors concluded that the shaft was inadequately dedicated and that these additional audits did not address the critical characteristics necessary to support a proper dedication process therefore the part is still considered to be of indeterminate quality.

Item No. 10: Ashcroft Pressure Gauge (In Stock)

These bourdon tube type pressure gauges were purchased commercial grade through Paramount Supply in 1986 on purchase order 083283. They provide local indication of emergency diesel generator oil pressure; the only safety-related function is to maintain pressure integrity to 40 psig.

The licensee relied on a Portland General Electric survey report of Ashcroft, dated February 1989, for assurance that Ashcroft's QA controls permit reliance on the part number for verification of materials and configuration. The NRC inspector briefly reviewed the survey report, which appeared to cover most of the areas significant to commercial grade listing of the manufacturer. However, the licensee addressed neither the three year period by which the procurement preceded the survey, nor the impact of the licensee's procurement through a middle man.

Although the Receiving Inspection Report was as vague as that described above for the fuses, the body of the purchase order did specify certain configurational aspects cited in the licensee's August 15, 1989 submittal. One must assume that the entry "ITEM 1 ACCEPTED" and a line typed through columns headed "ID and Marking" and "Dimension" cover such characteristics as flush mounting and 4½ inch diameter dial face. Part number and certain other characteristics were also verified.

The licensee's evaluation states that one gauge is already installed, and operating experience with that gauge adds further assurance concerning the others. The evaluation also states that each gauge will be calibration/bench tested to 60 psig, or 150% of required, prior to installation.

4. Conclusions

The licensee appears to be taking a strong position that their commercial grade procurement program currently is, and always has been, in full compliance with NRC requirements. The NRC does not agree and is concerned that there have been several meetings and exchanges of correspondence with the licensee which indicate a lack of licensee

recognition and understanding of NRC concerns involving commercial grade procurement deficiencies at WNP-2. Specifically:

- a. The NRC has applied limited resources to the review of specific instances of commercial grade procurement and has identified several problem areas. Although the specific examples do not appear to involve significant plant safety concerns, they all involve root causes which imply a generic deficiency in the controls which have been exercised by the licensee over commercial grade procurements.
- b. It is not enough to only upgrade efforts in this area for future procurement activities. It is important to realize that past practices have not been adequate and that further actions are needed to ensure that other examples of greater safety significance do not remain undetected.
- c. The NRC is concerned with the apparent reluctance of the licensee to aggressively pursue the areas of NRC concern. For example:
 - (1) In several instances, recent WPPSS responses to NRC concerns have stated conclusions which, upon independent review by the NRC, are not supported by the referenced documents. (e.g., as noted in items 3, 4, 6 and 9 above.)
 - (2) In most instances, the WPPSS responses to NRC concerns have been superficial, dealing in generalities rather than focusing on quantitative evidence (e.g. numerous instances of telecons used as the basis for WPPSS determination of the acceptability of commercially supplied material, as noted in items 3, 4 and 7 above).
 - (3) In several instances, the WPPSS responses have lacked rigor and continuity in their thought processes (e.g., failing to address "middle man" suppliers, as noted in items 1, 3, 4 and 8 above).
 - (4) In several instances, the responses continue to fail to address proper definition of component critical characteristics or proper verification of these critical characteristics. (e.g. as noted in items 3, 5, 6 and 9 above).
 - (5) In some instances, the licensee continues to purchase important safety related parts as commercial grade, without adequate site dedication, although the parts are available with supplier dedication (e.g. fuses).

5. Exit Meeting

The inspectors met with licensee representatives denoted in paragraph 1. on September 14, 1989. The scope and findings of the inspection were discussed as described in this report.