



Portland General Electric Company

Bart D. Withers Vice President

October 14, 1985

Trojan Nuclear Plant  
Docket 50-344  
License NPF-1

Mr. John B. Martin  
Regional Administrator, Region V  
U.S. Nuclear Regulatory Commission  
Creekside Oaks Office Park  
1450 Maria Lane, Suite 210  
Walnut Creek CA 94596

Dear Mr. Martin:

Inspection Report 50-344/85-025  
Vendor Program Branch Inspection

The results of the Vendor Program Branch Inspection of the Trojan Nuclear Plant conducted on August 9-16 were transmitted by NRC Office of Inspection and Enforcement letter dated September 26, 1985. In reviewing this letter and inspection report, we feel a need to provide supplementary information that clarifies our vendor interface practices and interpretation of the associated regulatory requirements, and also to provide some additional details on certain specific inspection findings. This information is provided in the attachment.

We are well along with a major updating of our vendor interface programs, as a result of the previous findings in this area by our quality assurance organization and our Nuclear Operations Board, and as a result of the impetus added by the Vendor Program Branch findings. However, we believe our past practices have been in compliance with a literal interpretation of the regulations of 10 CFR Part 21 and Appendix B to 10 CFR Part 50. Following discussions with the Vendor Program Branch, we do understand their current interpretation of the intent of these regulations and how they are being interpreted and enforced elsewhere, even though our procurement and quality programs have been previously approved by the NRC.

A principal reason for differing interpretations of both 10 CFR Part 21, Appendix B to 10 CFR Part 50, and associated ANSI standards (ANSI N18.7 and N45.2.13) involves the application of quality assurance controls to commercial grade, or commercially available, off-the-shelf items. This was the major cause for both of the potential violations identified by the Vendor Program Branch at Trojan. We believe that the nuclear industry and the NRC

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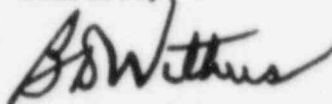
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need to resolve this generic issue in concert, so that it becomes better understood what commercial grade items are, and what level of quality assurance and associated documentation is required or necessary.

In summary, while we are committed to make immediate improvements in our vendor interface programs, we do not believe there have been any violations of regulatory requirements. Most importantly, based on our follow-up evaluations and improvements to date, we do not believe that our past procurement practices have jeopardized the quality or safety of the operation of Trojan.

Sincerely, \*

A handwritten signature in dark ink, appearing to read "B D Withers", written in a cursive style.

Bart D. Withers  
Vice President  
Nuclear

Attachment

c: Mr. Lynn Frank, Director  
State of Oregon  
Department of Energy

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PGE RESPONSE AND COMMENTS ON  
INSPECTION REPORT 50-344/85-025

NRC Item 3b - Procurement

PGE's safety-related procurement activities are inadequate in that they fail to meet their commitments to ANSI 45.2.13 and Regulatory Guide 1.123 with respect to verifying the validity of their suppliers' certificates and the effectiveness of their supplier's certification program.

PGE Response

The thrust of this finding is that certain safety-related equipment purchased as PGE QA Code D did not have verified suppliers' certificates. Our procedures, namely NPEP 300-1, allowed the use of QA Code D for procurement of off-the-shelf or standard design quality-related equipment when some form of documentation was required, but for which the supplier was not required to have a quality assurance (QA) program. PGE engineering evaluations were performed to establish the requisite requirements and controls to be applied to such purchases. This is in compliance with the requirements of ANSI N18.7-1976, Section 5.2.13, for commercially off-the-shelf procurements. It is important to note that many of PGE's Code D purchases were for quality-related equipment that was not safety-related.

ANSI 45.2.13-1976 does require that "means should be provided to verify the validity of supplier certificates and the effectiveness of the certification system, such as during the performance of audits of the supplier or independent inspection or test of the items. Such verifications should be conducted by the purchaser at intervals commensurate with the supplier's past quality performance." This requirement is subject to varied interpretation. Evaluation and approval of Code D purchases by both Engineering and QA personnel provided reasonable assurance of past quality performance by the selected supplier. Certification of testing by independent laboratories, together with PGE's receipt inspection and any preinstallation checks and tests, further served to verify certification.

Five Nuclear Division Procedures (NDPs) have been drafted to strengthen the Nuclear Division procurement program. We are qualifying current Code D vendors via available industry registers, engineering evaluation records, available Plant testing and/or performance records or audits of the supplier to verify certifications. Purchase orders for the last year by the Nuclear Plant Engineering Department (NPED) and for the last six months by the Plant have been reviewed. To date, only 11 vendors who supplied equipment or services under Code D purchase orders have been identified that are not qualified by being listed in the CASE register, Bechtel's qualified supplier list, or the ASME vendor "white book". These 11 were either services or products supplied through a distributor. Two

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of the 11 have been qualified based on the engineering evaluation performed; two were for engineering services that have been evaluated as not safety-related, and one was for a Plant service performed to our procedures (and therefore only our QA program applied). The remaining six suppliers will be qualified by one of the above methods. We are confident that they can be qualified based on our efforts to date.

#### NRC Item 3c - Procurement

The thrust of this potential violation of 10 CFR Appendix B is that PGE improperly procured safety-related components from two vendors by not verifying that the vendors had effective QA programs and by not imposing any specific quality requirements on the vendors in the purchase orders.

#### PGE Response

Neither of the two examples cited for this item are safety-related, per 10 CFR 50, Appendix B, since neither component prevents or mitigates the consequences of postulated accidents that could cause undue risk to the health and safety of the public. (See Introduction to Appendix B.) The auxiliary feedwater square root extractor feeds a control room flow indicator; the RCS pressure recorder is also for control room indication.

Neither of these components is utilized as an active part of the Reactor Protection or Engineered Safety Features Actuation Systems. Accordingly, neither of these two examples support a finding related to noncompliance with 10 CFR 50, Appendix B, since this regulation does not apply.

While safety-related components have been purchased under similar PGE QA Code D purchase orders, it is our position that a graded level of QA, per General Design Criterion 1 of Appendix A to 10 CFR 50, has been applied to such components through the requirements of PGE's own QA program and implementing procedures for design, procurement, documentation, receipt, testing, and installation, even though specific QA requirements and/or 10 CFR 50, Appendix B, itself may not have been imposed on the vendor.

The Nuclear Division procurement program requires safety-related items purchased to a specific Trojan specification or unique to Trojan, be bought from a vendor with a QA program. Items that were commercial, such as relays, breakers, solenoid valves, recorders, switches, etc., that had been qualified by the manufacturer for the nuclear industry were bought Code D. We did not believe that Appendix B was required to be applied by PGE on the vendors of these commercial items. The qualification by the manufacturer to a nuclear standard of one of his catalog items, in of itself, did not make it unique to the nuclear industry; further, referencing of certain nuclear standards (eg, IEEE 323) in purchase documents was considered in some cases to implicitly require application of a QA program by the vendor. Therefore, Appendix B requirements were not applicable to these commercial purchases.

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Although there was no objective evidence in the Nuclear Quality Assurance Department's (NQAD) files that vendors supplying Code D safety-related materials were qualified vendors, there was evidence in the NPED files that an appropriate quality evaluation was performed prior to purchasing these items. NQAD does review and sign-off on all quality-related purchase orders including those items in Table 1.

#### NRC Item 4 - 10 CFR Part 21

The thrust of this NRC-identified potential violation of the requirements of 10 CFR Part 21 is that PGE did not impose any specific QA or Part 21 requirements on a vendor that supplied breaker trip units, and that PGE's procedures are deficient since they did not require a Part 21 evaluation for a malfunction that occurred when the trip units were tested.

#### PGE Response

The subject breaker trip units were purchased as a standard design off-the-shelf item in accordance with Procedure NPEP 300-1, using a PGE QA Code D purchase requisition. The trip units were being provided as an Appendix R fire protection backfit to provide added breaker coordination protection of a safety-related bus from a nonsafety-related associated lighting circuit in which the breakers were provided.

While the trip units were identified on the PGE purchase order to be Class 1E and to meet seismic requirements, they are considered to be commercial grade components. The trip units were only labeled as Class 1E for vendor identification purposes - they were not to be utilized for a Class 1E application at Trojan. The devices were ordered from a catalog and are in general industrial use. The devices supplied to Trojan are no different than those supplied to other industrial users. Per Section 21.3 (a1) of 10 CFR 21, since neither the manufacturer's design nor specification of these trip units is unique to NRC-licensed facilities, they are clearly a commercial grade item, and are not subject to 10 CFR Part 21 evaluation and reporting requirements until after dedication. Further, a determination was performed and documented per Section 21.31 of Part 21, that 10 CFR 21 did not apply.

The engineer for this modification specified in the Detailed Construction Package that the trip units be tested prior to installation. During this test, the units failed and were returned to the vendor, who PGE informed by telephone. Since the trip units had not yet been designated for use, they were therefore not yet dedicated, per Section 21.3 (a4) and (c1) of Part 21. Accordingly, by both Part 21 and PGE's Part 21 procedure (NDP 700-4), no Part 21 evaluation nor report was mandated.

Even if the breaker trip units were considered to be basic components, the deviation which caused them to fail would not have resulted in a defect

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per Section 21.3 (d2), since they had not yet been installed or placed into use or operation. However, to comply with what the Vendor Program Branch considers to be the intent of Part 21, we have immediately processed a change to our Part 21 procedure to clarify when evaluation and reporting is required for basic components.

NRC Item 5 - Control of Nonconforming Material

The thrust of the unresolved item in this area is that several mechanical snubbers which had failed testing were found without QC hold tags. There was also a question about the appropriate use of Maintenance Requests (MRs) and Nonconformance Reports (NCRs).

PGE Response

The failed snubbers should have either been tagged with QC hold tags or should have been immediately returned to the vendor (which they now have been). Procedure NDP 600-1 is being revised to clarify the appropriate use and evaluations for NCRs and MRs.

NRC Item 6 - Emergency Diesel Generator (EDG) Maintenance

a. Valve Line-Up Verification

A discrepancy was noted that none of the EDG cooling system valves were marked or tagged with the appropriate designator, making identification of the valves difficult.

PGE Response

The subject valves do not require special marking or tagging. However, we will review the human factors aspect of this further to improve operational identification if needed.

b. Maintenance

The thrust of this finding is that PGE has failed to maintain an effective interface with the EDG supplier and that the EDG preventive maintenance program at Trojan is out of date.

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#### PGE Response

PGE has maintained close contact with Power Systems Division (PSD) of Morrison Knutson concerning preventive maintenance and modifications of the EDGs. This has included regular reviews by PSD of our maintenance program, including onsite reviews by their technical representatives. Vendor recommendations, including several Power Pointers, that have been received by Trojan have been evaluated and incorporated as appropriate. Because of our particular EDG service conditions, not all vendor recommendations are applicable. Numerous EDG modifications recommended by EMD-GM and provided through PSD have been made, such as turbocharger replacement, soak back lube oil addition, viscous vibration damper installation, etc.

We will formally request a complete set of past and future vendor recommendations for use in updating our vendor manual for the EDGs.

#### NRC Item 7 - Terry Turbines

The thrust of this unresolved item is that PGE accepted and installed equipment which did not conform to the design analyzed in the seismic analysis.

#### PGE Response

The alignment pins have been installed to restore the terry turbine to its original, analyzed seismic level.

#### NRC Item 9b - Centrifugal Charging Pump Speed Increaseers

The thrust of this NRC-identified weakness is that PGE failed to perform a timely 10 CFR Part 21 evaluation of a potentially serious common mode failure involving the keyed coupling of the CCP speed increaser and pump.

#### PGE Response

PGE identified the problem using a Part 21 evaluation form (SPI 200-25) on April 1, 1985. In addition, a Maintenance Engineer discussed the keyway condition with the speed increaser vendor during the first week of April. A major revision to our Part 21 procedure was issued (Revision 0 to NDP 700-4) on April 4, 1985. As a result, the Maintenance Department was requested to resubmit 10 CFR Part 21 evaluations that were in progress using the new forms in NDP 700-4. During discussions regarding this request for resubmittal, it was determined that the problem was not a Part 21 type defect. The problem appeared to be confined to an undersized key on one CCP only, rather than being generic to the other CCP on the diesel-driven AFW pump speed changers. Because of the isolated nature of the problem, it did not appear to warrant further evaluation under



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Part 21. This problem was further discussed between PGE's OERP Coordinator and the Maintenance Supervisor in June with the conclusion remaining that Part 21 reporting was not warranted. Because of NRC concern in this inspection, we have initiated a formal Part 21 evaluation.

#### NRC Item 10 - Post-Modification Testing

The thrust of NRC comments in this area is that test documentation was incomplete, missing, or unavailable for several modifications.

#### PGE Response

As part of an evaluation in August of AFW System problems and a special surveillance during the first week of October, the PGE Nuclear Quality Assurance Department addressed four specific concerns expressed in the subject inspection report.

- a. RHR System Modification - In every modification reviewed (including RHR System modification), we have determined that documentation existed which demonstrated that appropriate installation checks and tests were performed, even though it may not have been included in the As-Built Packages. However, if testing was performed via an existing POT, PICT, or MP, these testing data were located in the files associated with the POT, PICT, or MP.
- b. MSIV Isolation Modification - Both DCP 1 (Electrical) and DCP 2 (Mechanical) were reviewed. It was determined that combinations of portions of three POTs, one PICT, FCN #8 to DCP 1, and a system pressure test were completed that verified proper operation.
- c. AFW Flow Control Modification - TPT-137 was reviewed. This Plant test extensively tested the control aspects of the AFW flow control valves including the high flow condition valve closure function. Additionally, it was determined that as part of the I&C flow instrumentation calibration procedure, the high flow valve closure function is verified. (It should be noted that POT and PICT data sheets are located separately in their chronological files. However, the above data for the MSIVs and AFW modifications were available at the time of the inspection.)
- d. Control of Testing - Inconsistencies associated with the identification of testing requirements for modifications were identified in PGE's August 1985 QA evaluation of AFW System problems. The process has been reviewed. Action is being taken to clearly identify responsibility and provide additional guidance in preparing and reviewing modification packages.



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e. Verification of C of C Data

No specific examples are provided to support a conclusion that functional tests do not verify the validity of the vendor's certification systems. Such tests most frequently do serve to verify that newly installed components perform their intended function as described or inferred by the procurement documents and any vendor certification, to this effect.

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