PP&L

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April 17, 1980

Mr. Robert T. Carlson
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U. S. Nuclear Regulatory Commission
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SUSQUEHANNA STEAM ELECTRIC STATION
NRC INSPECTIONS REPORTED IN
REPORT NO. 50-387/79-20
ER 100450 FILE 840-4
PLA-471

Dear Mr. Carlson:

Reference is to your letter of March 4, 1980 which forwarded IE Inspection Report No. 50-387/79-20 and Enclosure (1) thereto, "Appendix A, Notice of Violation".

Your letter advised that PP&L was to submit, within thirty (30) days of receipt, a written explanation addressing (1) corrective steps which have been taken and the results achieved, (2) corrective steps which have been taken to avoid further items of noncompliance, and (3) the date when full compliance will be achieved.

The Notice of Violation, which identifies Item A as an Infraction and Item B as a Deficiency, is delineated below along with the measures being taken to correct the respective noncompliances:

A. 10 CFR 50, Appendix B, Criterion 1, states: "...persons and organizations performing quality assurance functions shall report to a management level such that this required authority and organizational freedom, including sufficient independence from cost and schedule ... are provided."

Contrary to the above, the project files for 1973-1979, including the minutes of the scheduled monthly meetings that were held at G.E. between 1977-1979, show that PP&L's Engineering Department was responsible for both (1) quality assurance for the ACR/PGCC equipment and (2) expediting deliveries of this equipment when the schedule slipped. This apparent lack of independence of quality assurance functions was further substantiated by interviews with PP&L personnel.

This item is an Infraction.

1. CORRECTIVE STEPS WHICH HAVE BEEN TAKEN AND RESULTS ACHIEVED:

In response to the referenced finding, PP&L management has reviewed past practices and the inspector's assessment of their adequacy and has

directed its Nuclear Quality Assurance organization to accomplish the following:

(a) For the record, review (after the fact) the ACR/PGCC documents to satisfy the requirements of PP&L's QA Program as they apply to the supplier (GE).

(b) Where possible, for unfinished work or repairs performed under the GE Quality Program, establish Customer Notification Points (CNP) for the purpose of performing in-process reviews of ACR/PGCC safety related components or systems.

(c) Become involved in PP&L's review process relative to the ACR/PGCC.

While Bechtel has primary responsibility for managing the day-to-day engineering and quality control considerations through administration of the NSSS Contract, PP&L will involve itself in a parallel review of significant ACR/PGCC additions, modifications, and retesting. PP&L NPE will include NQA in the review cycle for quality control requirements, or changes thereto, which are proposed by GE or Bechtel. The Work Instructions of NPE and NQA will be modified to identify the ACR/PGCC in the engineering and quality assurance review process.

2. CORRECTIVE STEPS WHICH WILL BE TAKEN TO PRECLUDE FURTHER ITEMS OF NONCOMPLIANCE:

(a) While there was considerable reliance on the GE quality program during the ACR/PGCC manufacturing process, functional testing was observed at GE, San Jose, CA, by PLNPE upon the completion of the Unit #1 equipment. For those portions of the ACR/PGCC that required rework and retesting in the field, GE committed to provide for additional testing to verify the equipment's integrity. While the NQA organization was not witness to the factory test, the staged testing in the field, including testing of reworked items, will be performed with appropriate controls and the NQA organization will be included in the review and comment process relative to said controls.

(b) In assessing its past performance, PP&L recognizes that the safety implications of the ACR/PGCC evolved during the equipment processing phase and that NQA was late in being introduced in the overview process; however, PP&L is now attentive and responsive to the issue. Therefore, as regulatory guidelines and other safety issues evolve, the NQA organization will be involved in PP&L's formal review of the safety related classification of systems.

3. DATE WHEN FULL COMPLIANCE WILL BE ACHIEVED:

The organizational definitions of responsibilities to accomplish (a) and (b) above will be accomplished by June 1, 1980.

B. 10 CFR 50, Appendix B, Criterion VII, states: "Measures shall be established to assure that purchased materials, equipment ... conform to the procurement documents.... The effectiveness of the control of quality be contractors and subcontractors shall be assessed by the applicant...."

PP&L QA Manual Procedure 8.1 specifies that the Manager-Nuclear Quality Assurance is responsible for timely evaluation of the proposed contractors QA/QC system by auditing the contractors operations or by reviewing the documents which describe his QA/QC system.

Contrary to the above, General Electric, a contractor, supplied defective power generation control complex electrical equipment to the project with product quality certificates which certified "that the products identified herein have been manufactured under a controlled quality assurance program...." The licensee had not carried out a timely evaluation of the effectiveness of the contractor's quality control department responsible for the quality control of the defective equipment and preparation of the certificate of quality.

This item is a deficiency.

Before addressing the corrective actions to which PP&L has committed, it is appropriate to clarify one point regarding the deficiency wherein it is stated that the contractor "supplied defective power generation control complex equipment to the project with product quality certificates...." In this regard, PP&L believes that while there have been noncompliances noted for various items within the complex structure of the ACR/PGCC equipment, it should not be construed that the ACR/PGCC was defective in terms of its ability to meet the requirements as defined in procurement documents. Furthermore, anomalies found subsequent to the shipment of ACR/PGCC equipment do not negate the fundamental basis for/or validity of the certificates provided by GE via its PQC. For PP&L's Unit #1 ACR/PGCC, G.E. QC inspected for attributes which were prescribed by their engineering and quality assurance organizations. Several manufacturing problems could not have been anticipated and became additional considerations through discovery. However, it is our understanding that the PQC, as issued, certified that the equipment met the established requirements at the time of its manufacture.

1. CORRECTIVE STEPS WHICH HAVE BEEN TAKEN AND RESULTS ACHIEVED:

The inspector appropriately identified PP&L QA Manual Procedure 8.1 as the basis for evaluating and accepting the QA/QC system of the Contractor. The Contractor's (GE) program had been evaluated initially and on a continuing basis for the basic scope of supply under the NSSS Contract; therefore, the GE Program, as originally reviewed and accepted, was, and is, considered acceptable for the amendment covering the ACR and those components/elements/systems which fall within the bounds and definition of Q-listed. PP&L NQA and Bechtel QA did, however, fail to identify specific inspection "hold points" (CNP) for observing activities during the ACR/PGCC fabrication process.

However, PP&L believes that certain of the BWRO audits which preceded the emergence of the pin/connector problem at the SSES site were conducted in conformance with the SSES QA Program objectives. However, the existence

of the pin connector problem on the ACR/PGCC is mute testimony to the fact that neither the PP&L investigations nor the GE quality control program, as initially defined, detected the connector pin deficiencies.

The inspector's report lists several occasions when Bechtel/PLNQA audited G.E. but discounts their direct applicability to the issue at hand. PP&L believes there is some relevance to the referenced audits. The BWRO-11 (9/27/77) audit led to PP&L DR-0129 and two follow-up inspections and NQA's issuance of a "stop shipment" which delayed Unit #1 shipment beyond January, 1978.

Additionally, in the BWRO-13 (10/10-12/78) audit, PP&L specifically addressed GE FDIs and FDDRs which involved ACR/PGCC items (not necessarily those which were under investigation by the NRC inspector in 1979).

Finally, in conjunction with PP&L DR-0129, NQA conducted an investigation of the Unit #2 ACR/PGCC on June 26-28, 1979. This investigation followed PP&L's original verbal report of the pin connector problem to the NRC on 01/09/79 (ref. PLA-313, dated 1/15/79). During the June 26-28, 1979 inspection by NQA at GE San Jose, the final document package for Floor Section U-703 and the in-process package for Floor Section U-702 were reviewed. NQA also verified that the inspection records for these Unit #2 packages reflected the fact that the cables included in each floor section were being subjected to connector pin pull tests.

PP&L concludes that the corrective steps which have been taken by GE in response to its own investigations and in response to PP&L initiatives and the subsequent Bechtel receipt and in-process inspections and modifications at SSES constitute significant remedial action. The results of which, supplemented by the numerous inspections of GE original work and the inspection of the Bechtel work which has been performed at the SSES site, reflect an inspection process which will result in the achievement of an acceptable quality level. Therefore, based upon the extensiveness of the inspection program applied, PP&L has the necessary confidence in the equipment's ability to perform its safety function.

2. CORRECTIVE STEPS WHICH WILL BE TAKEN TO PRECLUDE FURTHER ITEMS OF NONCOMPLIANCE:

During the discussions with the General Electric Company on March 18 and March 20, 1980, NQA established that GE had, on hand, records which were purported to substantiate issuance of the respective PQCs for Unit #1 items. NQA also established that quality control planning did exist for the Unit #1 ACR/PGCC fabrication process. Formal investigation of this information and supporting GE inspection records will be examined in an NQA audit of GE San Jose on May 19, 1980.

3. DATE WHEN FULL COMPLIANCE WILL BE ACHIEVED:

All the commitments in response to the Item B, Deficiency will be completed by July 1, 1980.

We trust the Commission will find these measures acceptable.

Very truly yours,

A. R. Sabol
Manager-Nuclear Quality Assurance

ARS:mcb
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