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R.O. WILLIAMS, JR.  
VICE PRESIDENT  
NUCLEAR OPERATIONS

August 31, 1988  
Fort St. Vrain  
Unit No. 1  
P-88286

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

Docket No. 50-267

SUBJECT: QAL Parts Issue-Final Report

REFERENCE: 1. PSC Letter, R. O. Williams,  
Jr. to Document Control Desk,  
dated May 12, 1988 (P-88141)

Gentlemen:

This letter discusses how Public Service Company of Colorado (PSC) resolved issues associated with the QAL parts issue for NRC information as committed in PSC's Reference 1 letter. Reference 1 provided the status of PSC's actions to ensure that an adequate level of quality has been provided for the procurement of parts in safety-related equipment installed in the Fort St. Vrain Nuclear Generating Station (FSV). Attachment 1 of this letter documents the results of PSC's actions discussed in Attachment 2 of Reference 1.

The QAL parts issue, associated with parts procured from a vendor with a multi-level quality assurance program, has been found to be unique to General Atomics (GA). PSC has determined that equipment installed in the reactor is capable of performing its safety functions, despite the fact that some parts were procured using a less stringent quality level than should have been applied. Material and parts that were improperly procured and are still in GA's or PSC's warehouses will either be scrapped or evaluated for upgrade to the required quality level to assure the proper quality level for parts that will be installed in safety-related equipment at FSV.

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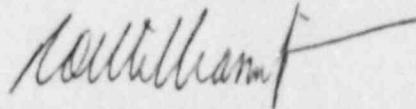
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August 31, 1988

As stated in Attachment 1, PSC has taken appropriate action to assure that this QAL parts issue does not recur with procurement of safety-related parts from GA or any other vendor having a multi-level quality assurance program. Therefore, PSC considers the QAL parts issue to be resolved.

If you have any questions concerning this QAL parts issue, please contact Mr. H. Holmes at (303) 480-6960.

Very truly yours,



R. O. Williams, Jr.  
Vice President  
Nuclear Operations

ROW/AHW:tmk

Attachment

cc: Regional Administrator, Region IV  
ATTN: Mr. T. F. Westerman, Chief  
Projects Section B

Mr. R. E. Farrell  
Senior Resident Inspector  
Fort St. Vrain

PSC's ACTIONS FOR RESOLUTION OF THE QAL PARTS ISSUE

To resolve the QAL parts issue that was reported to the NRC by PSC Letter, R. O. Williams, Jr. to the Document Control Desk, dated May 12, 1988 (P-88141), PSC has completed the following actions which assess the extent and effect of the QAL parts issue:

Action A

Compare the differences between GA's QAL I and QAL II to determine what element(s) of quality, if any, have been jeopardized by this difference in QAL and determine an approach to the solution of any problem(s) caused by differences in QAL.

Status of Action A

GA's Quality Assurance Program defines three quality levels which are applied to nuclear related activities. These levels are defined as shown in Attachment 1 of PSC Letter P-88141, dated May 12, 1988. Attachment 1 infers that QAL I applies to safety-related items while QAL II explicitly applies to nonsafety-related items.

From the definition of QAL II in Attachment 1, QAL II is designed to provide a high level of quality even though it does not meet all of the 10 CFR 50 Appendix B requirements. The difference between QAL I and QAL II quality levels is that QAL I requires the use of an approved vendor or methods of verifying compliance to the quality requirements, while QAL II has no such requirement. GA has frequently used approved vendors for QAL II parts or has specified additional quality assurance provisions in purchase orders to assure that quality requirements are met. However, these actions are not mandatory for QAL II procurement.

In summary, even though QAL II specifically states that it applies to nonsafety-related items, these items frequently receive a quality level inspection and verification which can be considered as justification for use in QAL I or safety-related service. This is one of the processes used for resolution of the QAL II issue for parts previously procured and installed in the FSV plant. Other processes used to resolve the QAL parts issue are discussed in the status of Actions B through F below.

This Action A was completed per Attachment 2 of PSC Letter P-88141, dated May 12, 1988.

Action B

Review the procurement QAL classification of parts being used in GA's refurbishment of spare circulator, C-2101 and associated tailpipe, to ensure that components of this equipment, which are safety-related, are procured to QAL I.

Status of Action B

To ensure that all applicable new parts and those parts furnished for the GA refurbishment of helium circulator C-2101 meet appropriate QAL requirements, all of PSC's applicable open and new purchase orders to GA have been supplemented with a new PSC quality statement which reads:

"Unless otherwise noted by PSC all items on this purchase order are safety-related (QAL I) and must be supplied under 10 CFR 50 Appendix B. Deviations from QAL I must be approved by PSC in writing prior to beginning work. PSC must be notified immediately of any deviations from approved Quality Assurance Levels which are identified during work, and these deviations must be approved by PSC in writing prior to releasing the items for shipment."

Therefore, all new parts and those used for C-2101 refurbishment will have been procured to the appropriate QAL Levels.

This Action B is now complete.

Action C

Evaluate the effect of the QAL parts issue on parts in both PSC's and GA's warehouses. In addition, review PSC's previous procurement of parts from GA for the past refurbishment of the C-2104 helium circulator (which has been installed in place of the C-2101 circulator), the 1984-1985 refurbishment of the control rod drives (CRD) and refurbishment of the dew point moisture monitors (DPMM). These parts are for equipment which perform important FSV safety functions and are therefore designated by PSC as safety-related equipment.

### Status of Action C

Parts still in stock at PSC have been reviewed to determine which parts were improperly procured. This review covers purchase orders extending back to July 1, 1979, the date that the Fort St. Vrain plant was turned over to PSC by GA. This is the date that PSC considered, in the amended version of Appendix B to the original FSAR, to be the date when GA supplied parts would comply with 10 CFR 50 Appendix B requirements. All improperly procured parts have been put on hold until dispositioned by a Non-Conformance Report (NCR), ensuring no use of those parts until an evaluation (NCR) has been completed.

Parts still in stock at GA have been identified, and will be reviewed for proper QAL before those parts are used. Improperly procured parts at GA will be controlled via the purchase order quality statement in Action B above. Any deviations from QAL I will require PSC written approval prior to shipment. PSC's criteria for approval will be primarily the part's effect on the ability of the equipment (in which the part will be installed) to maintain its safety function should the part fail to perform its function.

All parts for the refurbishment of the CRDs (1984-1985) and the DPMMs have been identified with their QALs. Parts remaining at GA are controlled by the new PSC quality statement discussed in Action Item B. Parts in PSC's warehouse that have been procured incorrectly have been placed on hold until evaluated via the NCR process.

GA's review of all parts for the C-2104 refurbishment revealed that most of the parts were taken from inventory, requiring a review of all circulator parts in inventory. This review was effectively completed since C-2104 has been in service since August, 1987 and the parts evaluation has been included as part of the helium circulators review in Action D. Material in GA stock is now controlled by the new P.O. quality statement and will be reviewed for QAL prior to shipment and use.

This Action C is now complete.

### Action D

Prepare an engineering evaluation to determine if the safety-related equipment's (Action C) safety functions have been maintained even though some of their parts have been procured to QAL II rather than QAL I.

Status of Action D

The engineering evaluation on the QAL parts issue for the helium circulators, CRD parts and DPMM parts, which perform important safety functions, was transmitted to NRC as Attachment 3 of PSC Letter P-88141, dated May 12, 1988. This report, EE-GA-QAL-0001 Rev. A, shows that, while these components contain some QAL II parts in lieu of the desired QAL I parts, safe operation of the plant with these QAL II parts has been demonstrated through normal operation, surveillance testing and inspections that provide indication of equipment condition and potential failure.

This Action D was completed per Attachment 2 of PSC Letter P-88141, dated May 12, 1988.

Action E

Identify, through a review of PSC and GA records, other safety-related equipment with component parts that may have been supplied by GA with QAL II parts, to determine the extent of this QAL parts issue.

Status of Action E

The review of PSC and GA records to identify other safety-related equipment with component parts supplied by GA has been completed. All open and closed purchase orders dating from July 1, 1979 to present were reviewed. This review encompassed those parts outside the circulators, control rod drives and moisture monitors. Material remaining in PSC stock which was improperly procured has been put on hold until it is evaluated by the NCR process. All parts remaining to be shipped from GA are controlled by the new P.O. quality statement as discussed in Action B.

This Action E is now complete.

Action F

Review PSC procurement activities with other PSC approved vendors to ensure that a similar QAL parts issue does not exist with these vendors.



Status of Action F

As a result of identifying the graded Quality Assurance Program at GA, PSC performed a review of all approved vendor programs in an effort to determine if the GA incident was an isolated case. The results of this review identified three additional vendors (Cooperheat Inc., Proto-Power Corp, and Weed Instrument Co.) which have multiple quality levels under one program.

Weed Instrument Co., which provides temperature sensors and related equipment, has three separate quality levels under their QA program. The audit of Weed Instruments by PSC identified the multilevel program and determined that only Quality Level A meets the requirements of 10CFR50 Appendix B. PSC's Approved Vendor List provides adequate control by requiring that Quality Level A be specified for all safety related purchase orders to Weed Instruments. Therefore, Weed's QA program does not represent a GA type of QAL problem.

Cooperheat Inc., which provides heat treating services, also has three separate quality levels under their QA program. PSC's audit of Cooperheat identified this situation. The restriction in PSC's Approved Vendor List (AVL) requires that all work must be performed to PSC procedures. In addition, PSC performs yearly audits of Cooperheat to verify equipment calibration and to verify compliance to PSC procedures. Therefore, Cooperheat's QA program does not represent a GA type of QAL problem.

Proto-Power provides engineering and computer services to PSC. Proto-Power's QA manual assigns the project engineer the responsibility for determining the appropriate quality level during the design process. PSC controls this process since Proto-Power uses PSC's design control procedures when performing design work for PSC. PSC then reviews and approves these design packages under PSC's QA program. In addition, PSC does not order hardware items from Proto-Power. Therefore, Proto-Power's QA program does not represent a GA type of QAL problem.

PSC's QA procedures have been changed to increase the auditor's awareness of multiple level QA programs. These multiple level QA programs will be controlled by PSC's Approved Vendor List through restrictions, limitations and purchase order quality statements.

Therefore, based on the above vendor reviews, it has been determined by PSC that the GA graded quality level program's QAL parts issue has occurred only with procurement of parts from GA.

This Action F was completed per Attachment 2 of PSC Letter P-88141, dated May 12, 1988.

Based upon the completion of the above actions, as documented in PSC Memorandum NFS-88-0321, dated July 29, 1988, PSC considers the QAL parts issue to be resolved.