50-302

Florida Power
CORPORATION
Crystal River, Unit 3
Docket No. 50-302

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

Attention: Stephen A. Varga

Subject: Inspection of Procurement and Commercial Grade Dedication Programs at Crystal River Nuclear Plant, Unit 3 (Report No. 92-201)

Dear Mr. Varga:

Florida Power Corporation (FPC) appreciated the opportunity to discuss our views on the subject inspection report with members of the NRC Staff on August 13, 1992. We believe the meeting was productive. This letter provides a brief summary of the basic points we made at the meeting and copies of the slides we used are attached. FPC requests the NRC review this information and also review the subject inspection report in light of the current NRC management direction. FPC further requests the NRC to consider issuing a revised inspection report which would reflect the perspective gained through these reviews.

The following are the basic points we made at the meeting:

1) The report is incomplete and thereby misleading in several respects. These include omission of the following: discussion of significant self-assessment and corrective action activities; consideration of a major program upgrade that was delayed, in part, as a result of preparation for the inspection; and, acknowledgement of the effect of sampling many relatively early (1990) procurement packages that did not reflect FPC's improving program. The NRC noted at the meeting that these items were omitted since the inspection was performance-based. While this is true, a report as complete as possible should be provided to the Region for their deliberations. Further, we believe that the public interest is best served when reports issued by the agency are as complete and balanced as possible.

2) FPC outlined our understanding of the basic legal requirements as well as our plant-specific licensing basis. The NRC did not identify and address our licensing basis in either of the CR-3 procurement inspections (1989 or

IE01

1992) or their associated reports. FPC agrees with the NRC staff that 10 CFR 50, Appendix B is the basic applicable requirement. FPC's means for complying with Appendix B, and thus FPC's licensing basis, includes our plant-specific commitments to ANSI N18.7 and the EPRI NP-5652 guidelines. However, many of the criticisms made of FPC and general utility practices are not based on Appendix B's content or our licensing basis, but rather are based on the staff's new interpretations as contained in Generic Letters 89-02 and 91-05.

Neither FPC nor the industry in general has committed to meet Generic Letter 89-02 or 91-05. The Committee to Review Generic Requirements (appropriately) identified drafts of GL 91-05 as a backfit (CRGR Meeting No. 197 Minutes). The NRC staff's resolution of the CRGR concerns was to acknowledge that the positions contained in the attachment were not requirements, but then concluded that the letter was a compliance backfit. The industry does not agree that the positions reflected in these generic letters are necessary for compliance with existing regulatory requirements (as noted in NUMARC's letter dated June 20, 1991 from Alex Marion to Brian Grimes associated with the follow-up to the Hatch Assessment). The positions taken go beyond the industry's procurement initiative which has been endorsed by the NRC.

3) FPC attempted to identify the fundamental and potentially generic issues contained in the report. We were apparently able to reach a consensus on the differences between the industry and the NRC staff positions. (Please note that FPC is using the term "industry" to reflect our active participation in many of the key industry activities. These include significant dialogue with NUMARC as well as active participation in NUPIC and EPRI/JUTG.)

One basic issue is that the NRC staff guidance is based upon the position that the "Critical Characteristics for Acceptance" are all of those characteristics associated with all failure modes relevant to the part's safety function. According to the staff, each of these must be verified using one of the methods accepted by the staff. The industry continues to believe that such "Critical Characteristics for Acceptance" may be more limited. Identification of a sufficient set of "Critical Characteristics for Acceptance" is within the normal exercise of engineering judgement relied upon in many Appendix B activities. When properly implemented, such a program continues to provide the necessary basis for verification and meets the requirements of 10 CFR 50, Appendix B (suitability for application). FPC provided an illustrative diagram and excerpts from the associated EPRI guidance and NRC guidance to define the difference in the two positions. The discussion led us to believe the differences are now better understood.

Another key issue focusses on the required level of detail for certain plans, reports, and procedures. Of particular note was an NRC staff concern regarding whether or not qualified/certified source inspection personnel were required to generate a sufficiently detailed report to allow subsequent

reviewers to independently judge the adequacy of the inspection. The subject inspection report and related discussions indicates that the NRC staff believes that it must be able to independently validate, from the source inspection report, the basis for an inspector's conclusion or the dedication package is assumed to be deficient. FPC expressed the view that this was not required, was in excess of actions needed to provide reasonable assurance, and added significant unnecessary costs.

4) FPC reviewed the 1989 inspection results that were cited in the 1992 report as having not been corrected in a timely manner. FPC noted that the 1989 Notice of Violation was withdrawn without the staff having considered our backfit appeal (SECY 90-261, page 4). Aside from the legal issues, FPC has never agreed that these packages were inadequately dedicated or that the items were incapable of performing their safety function. Accordingly, FPC does not believe that corrective actions were required from a regulatory compliance standpoint. Continued use of some of the parts in question was evaluated and justified prior to restart from the then-current outage in an internal NCO made available to the NRC staff at that time. Some of the parts have been replaced for a variety of reasons. Nevertheless, FPC has never considered the parts to be of "indeterminate quality."

5) FPC also reviewed some of the identified packages from the 1992 inspection and left the staff with brief summaries of all of the packages as well as a more detailed technical assessment. An update to that technical assessment is attached.

6) FPC objected to comments included in the inspection report associated with our current organizational alignment. The NRC staff clarified the statement's intent. A revised report would provide the opportunity to document this clarification.

7) FPC did note that this review, like our own, identified areas where further strengthening of our program could occur. We have and will factor these inputs into future program revisions

8) It was noted that our current program required the procurement of parts from Appendix B suppliers whenever available. This program element was a means of implementing a limited commitment made in response to the 1989 inspection. That commitment was to buy from the Appendix B product line when an individual manufacturer maintained dual programs. FPC reserves the right to utilize appropriately dedicated commercial grade items even when "Appendix B" supplied parts are available. Fundamentally, FPC does not believe that "Appendix B" parts are necessarily of higher quality. Many commercial grade items are very successfully utilized in a wide variety of applications with similar quality demands (aerospace, aviation, defense, petro-chemical, etc.).

The inspection report asked FPC to assess the safety significance of the identified concerns. FPC has done so and does not consider any of the concerns

to be safety significant. More fundamentally, FPC considers all of the items to have been adequately dedicated. FPC disagrees with the characterization that the packages lacked adequate engineering input or that the inspection plans or reports lacked sufficient objective evidence that an adequate inspection was carried out. Clearly, some of the packages do not meet NRC staff expectations or the guidance suggested in GL 91-05. Further, we would handle some of them differently under our current program requirements. Nevertheless, as required by Appendix B and applicable industry guidance, the packages provide reasonable assurance that the items received were the items specified and that the components are capable of supporting the parent component's safety function.

FPC appreciates your attention to both the generic and plant-specific aspects of procurement. We hope that docketing these discussions will help facilitate bringing the industry generic procurement issue to closure. As you are aware, the industry has identified this issue as one of several which potentially contributes to excessive O&M costs. FPC will continue to participate in constructive discussions toward the end of reaching a mutually acceptable resolution on these issues that properly balances public health and safety with ratepayer costs. In this particular case, we accept the invitation to participate in the upcoming workshop and take other steps that may be helpful.

Sincerely,

P. M. Beard, Jr.
Senior Vice President
Nuclear Operations

PMB/KRW

Attachments

cc: W. T. Russell
B. K. Grimes
S. D. Ebneter, Administrator, Region II
Senior Resident Inspector
H. Silver

UPDATED TECHNICAL ASSESSMENT

2.5 MATERIAL UPGRADES

(1) MUF 0007-90 Dresser-Ashcroft Thermometers

INTRODUCTION

Thermometers were upgraded to safety-related upon discovery that they were installed without thermowells in the lube oil system for the Reactor Coolant Makeup Water Pump. Vendor drawings indicate the normal operating lube oil pressure is less than 30 psi.

NRC CONCERNS

The NRC noted the following concerns:

Lack of evidence of traceability

"Late" receipt inspection

Receipt Inspection Plan (RIP) did not address "all welded" characteristic

FPC EVALUATION

Since this item was purchased as a non-safety related component it should be recognized that traceability cannot be achieved via means normally imposed on safety-related purchase orders. Traceability is achieved by the upgrade process via a combination of means such as marking on the item, recognizable OEM vendor markings on the packaging, etc. Similarly, the comment on "late" receipt inspection is misleading in that the inspection was necessarily performed as part of the upgrade process, not the original receipt associated with the non-safety purchase.

The inspection report discusses the fact that the Receipt Inspection Plan (RIP) listed stainless steel construction but not "all welded". It appears that the Inspection Planner considered "all welded construction" as part of the configuration check - (Standard published Product Description). Additionally, the receipt inspection utilized a magnet to verify that material was stainless, not carbon steel.

CONCLUSION

Verification activities were adequate and reasonable in light of the application of these thermometers. This effort was in early 1990. Currently we would typically make "all welded construction" a separate line item on Inspection Plan and use an alloy separator to determine that the material was stainless steel.

(2) MUF 0013-90 Mounting Plate for States Terminal Block

INTRODUCTION

This package dedicates a non safety-related item for use in a specific safety-related application. The terminal block is the same model as that specified in the safety-related design. The Inspection report credits FPC as providing an adequate methodology for verification of the strength requirement associated with this mounting plate.

NRC CONCERNS

The NRC noted the following concerns:

FPC did not address evidence of corrosion in determining suitability of the mounting plate as a replacement item

FPC EVALUATION

The Inspection Team appears to be questioning the suitability of the block for its environment. This is not a Procurement issue because the upgrade was for a like for like replacement.

CONCLUSION

Material was adequately dedicated.

(3) MUF 0014-90 Amphenol BNC Coaxial Cable Connectors

INTRODUCTION

These items are used in the Acoustic Monitoring System which is a secondary indication of PORV and Block Valve position available to operator. The system is non safety-related but is a REG 1.97 item located in a harsh environment and treated safety-related for purchasing and maintenance purposes. This upgrade was associated with an pre-startup EQ Walkdown discovery of a configuration different than that shown on the drawing.

NRC CONCERNS

The NRC noted the following concerns:

Justification not provided for not choosing all characteristics associated with specifications listed in the material specification, vendor catalog and EQ test report.

Insulation resistance specified on the FA/CCR is less than that shown on the Manufacturer's Data Sheet.

FPC EVALUATION

FPC's dedication program does not require all product specifications to be identified with a corresponding critical characteristic for acceptance.

An error was made in transcription of insulation resistance from the manufacturer's data sheet to the FA/CCR. Suitability of the material for service is not jeopardized by the error. The item, as specified on the verification block of the MUF was verified to be marked with the Military Part Number marking as specified by the Sensor System manufacturer. Reasonable assurance of receipt of the specified item was therefore achieved.

CONCLUSION:

Material was adequately dedicated.

3 DEDICATION PACKAGE REVIEW

(1) PO F670284K

DESCRIPTION: Adaptor Nozzle Colt Diesel, Item 12
Adaptor Valve - Cylinder Liner, Item 17

FPC PACKAGE: M-1

INTRODUCTION

This item was a subcomponent identified as requiring replacement as part of the EDG upgrade/rebuild. Parts were identified and utilized by Coltec craft personnel performing the upgrade.

NRC CONCERNS

The NRC noted the following concerns:

Fracture and Thread Shear were listed on the FA/CCR as failure modes but material was not specified as a critical characteristic to be verified.

Source Inspector initiated "Statement of Conformance" did not clearly state whether or not the Inspector verified the dimensions to the vendor drawing.

FPC EVALUATION

FPC agrees that the critical characteristics specified for the item dedicated did not bound all of the failure modes listed. Verification of vendor part number and dimension/ configuration provided reasonable assurance that the part received was that which was ordered.

Failure to specify which dimensions to verify is an inconvenience to the inspection personnel. FPC recognized this problem several months ago and has internal letter guidance to the Procurement Engineers on this matter.

The summary paragraph for this item states that FPC did not adequately describe the safety function for dedication of the adapter nozzle and did not state all of the effects of the part's failure. Although the Safety Function listed on the FA/CCR is brief it appears to be correct and adequate for evaluation of critical characteristics. Longer discussions would not have improved the list of critical characteristics. The same is true for the effects of part failure. This is an area of professional opinion which can and will vary.

Due to the urgent need for this material the Source Inspection Plan was included in the body of the purchase order. This purchase order instructed the Inspector to verify part number and perform a Dimensional Inspection against the vendors drawing. The Source Inspector performed the inspection on 3/23/90, signed the "Statement of Conformance" attesting that the parts supplied met the requirements of the Procurement documents. He also attached a copy of the OEM Certificate of Conformance statement listing the part numbers inspected.

CONCLUSION

Since this dedication preceded the issue of the Hatch assessment report "reasonable assurance" was the guidance in place in the industry.

There is no reason to believe that the Inspection was not performed as directed. The Certified Inspector attested to conformance to the purchase order. The material was properly dedicated for service. Verification of manufacturer's part number and dimensions provide reasonable assurance that the item received is the item ordered. The item was provided by the diesel generator manufacturer/ designer and installed under the direction of their qualified service representative.

Future purchases of this material would be done as Appendix B procurements as long as Colt continues to supply them under an FPC approved program. Based upon this, Part Changes were written to revise these to "D", Attachment Q procurements.

(2) PO F670284K

DESCRIPTION: Adapter Valve Cylinder Liner

FPC Package M-2

INTRODUCTION

This item was a subcomponent identified as requiring replacement as part of the EDG upgrade/rebuild. Parts were identified and utilized by Coltec craft personnel performing the upgrade.

NRC CONCERNS

The NRC noted the following concerns:

Choice of EDG (provide emergency power) as parent component safety function was too far removed from specific part to be relevant. Air start system would have been more appropriate.

FA/CCR did not identify as a failure mode the possibility that EDG could fail to start as a result of loss of air

FPC EVALUATION

The comments on this item are very similar in nature to those under NRC item 1. This is because both items were on the same PO and dedicated by the same people at the same time. The discussions in Item 1 are applicable to this package.

Discussions with the FPC System engineer support the NRC position that the air start system would have been a more appropriate designator for the parent component.

CONCLUSION

Material was adequately dedicated.

(3) PO F670378V

DESCRIPTION: Bearing Set Thrust, MRC 8313

FPC PACKAGE: M-4

INTRODUCTION

Bearing changes were authorized by Modification Approval Record 90-04-13-01 which modified the bearing bracket support to address decay heat removal pump vibration problems. FPC's MAR (design change) process

provides for evaluation of performance requirements and material compatibility among others associated with the design change program that meets the requirements of ANSI N45.2.11.

NRC CONCERNS

The NRC noted the following concerns:

The critical characteristics specified were inadequate because they did not include material and load rating.

RIP did not include configuration as a critical characteristic.

RIP only required two of the four bearings to be inspected.

FPC EVALUATION

Load rating is generally not marked on the bearing and can not be verified through lab testing. Load rating is established by the design of the bearing. The only practical means for verifying this characteristic is by the vendor part number in conjunction with bearing configuration and material. However, material was not included as a critical characteristic in this dedication.

EPRI TWG CGIBE01 (Bearings) although not issued until 7/14/91, does not include material as a critical characteristic for acceptance. Bearing manufacturers assign unique numbers to their bearing styles which are indicative of application ratings and limitations. Materials and dimensions are selected to meet these requirements and published product literature reflects these. Equipment manufacturers then use this data to select specific bearings for an application. Therefore, the manufacturer has no incentive to use substitute materials or change ratings. Further, since bearings are produced in large quantities at inexpensive costs, there is no reason to suspect tampering, refurbishing, or other fraudulent activities.

The Inspection Planner did not list configuration as a separate verification requirement on RIP. However, the planner did specify the Inspection of the critical dimensions and attached a copy of the catalog page (as Page 2 of the RIP) including a pictorial sketch of the bearing configuration. Even though configuration was not explicitly identified as an inspection line item, in conducting the Dimensional Inspections using the catalog sketch a verification of configuration is inherent.

The use of sample inspection is an acceptable industry process. The selection of two samples in a lot of four is in accordance with MIL STD 105D. Since these items are mass produced and are of simple design there is no reason to focus on lot homogeneity.

STATUS

Installed bearing was located in a spare pump assembly, thus resolving any operability issue. Three bearing sets from the order remained in the warehouse. Material checks were performed on all remaining units and found to be acceptable. The installed bearing was replaced with one of the warehouse units.

CONCLUSION

The FA/CCR for FIMIS #61941046 has been revised to include additional critical characteristics. Nevertheless, the material was adequately dedicated.

(4) PO F842352K

DESCRIPTION: Impeller, Pump 6HND-134

FPC PACKAGE: M-12

INTRODUCTION

This impeller is for the Reactor Building Spray Pump BSP-1A/1B. This item was purchased directly from the OEM (Worthington Pump was purchased by Dresse Industries) with reference to the unique serial number for the associated pump.

NRC CONCERNS

The NRC noted the following concerns:

Critical Characteristics specified by NPES were not adequately translated from the FA/CCR to the Receipt Inspection Plan.

The FA/CCR specified specific dimensional inspections. However, the Source Inspection Plan specified a number of specific dimensions but also indicated random dimensional inspection.

Purchase order specifies material as ASTM A-296. The Source Inspector approved an alternate material type, A744 without engineering concurrence.

Non-destructive test adequacy was not verified.

FPC EVALUATION

During the preparation for the NRC Inspection, FPC identified the inconsistency in Inspection criteria. A Problem Report (FPC's nonconformance system) was issued to control the item. No root cause for the difference in FA/CCR and Inspection Plan was identified. FPC performed dimensional checks on 3/18/92 as part of the disposition for Problem Report 92-0002. All dimensions were within vendor drawing limits. FPC could not verify impeller geometry without sending unit back for three dimensional measurements. This was evaluated and determined to be beyond the requirement for reasonable assurance. This characteristic was therefore deleted as part of the actions associated with PR 92-0002.

The material change from A296 to A744 was technically acceptable but should have been submitted to FPC for approval prior to shipment. As noted during the inspection, ASTM A-296 was discontinued in 1980 and replaced by specifications A-743 and A-744.

The interpretation of the Inspection Planner relative to the NDE concern was that the requirement on the FA/CCR only specified that documentation of the results of NDE were to be available.

CONCLUSION

Based on additional verifications required by the Problem Report (performed prior to the NRC Inspection) the verification activity is adequate. A request for corrective action was issued to our Source Inspection Contractor relative to the material change. If NDE as a Special Process was specified as a critical characteristic, the Inspection Plan would have been different. Nevertheless, additional procedure changes have also been initiated to provide consistency in the completion of FA/CCR's and Inspection Plans.

(5) PO F842722K

DESCRIPTION: Lower Impeller Shaft Key for Blower on Colt Diesel

FPC PACKAGE: M-13

INTRODUCTION

This item was purchased directly from the OEM, Coltec Industries, by reference to the Coltec part number as a stock replenishment item for the Emergency Diesel Generator. The Coltec design control system is predicated on part number-level control.

NRC CONCERNS

The NRC noted the following concerns:

The critical characteristics shown in NF&SM Attachment 5A for a key are: configuration, dimensions, hardness, and material. Those selected by the engineer were: vendor part number, configuration/ dimensions.

The Receipt Inspection Plan (RIP) did not adequately verify the same characteristics specified by NPES, ie. part number, configuration, and dimensions.

The Source Inspection Plan (SIP) does not specify sufficient methods of verification to enable inspector determine item was acceptable.

The Source Inspection results provide was no indication that material was adequately verified.

The SIP was written and approved by the same QA individual.

FPC EVALUATION

Attachment 5A is provided as a guideline starting point for the procurement engineer. Failure to select all "typical" critical characteristics from Attachment 5A is not a violation of FPC's program. However, it is preferable that differences are explained so that the permanent documentation reflects the logic of the engineer performing the evaluation.

Since the failure mode shown on the FA/CCR indicates fracture, this would have been a stronger package if material or hardness had been specified as a critical characteristic. However, not including this does not mean that reasonable assurance was not achieved. Note that the Source Inspection Plan did specify a check for material and this attribute was accomplished.

The FA/CCR specified "configuration/dimensions" as a single critical characteristic indicating an understanding that with the benefit of a drawing depicting the item, configuration is an inherent element of dimensional verification.

The Receipt Inspection Plan (RIP) did not need to specify inspections of all critical characteristics because they were verified by Source Inspection.

Adequacy of instructions contained in the SIP regarding methods of verification appears to be based on a subjective position. The Source Inspector's Report and Statement of Conformance indicates acceptance of the material in accordance with the SIP.

In cases where the Supervisor developed the SIP he would have signed as the preparer and the approval Supervisor.

CONCLUSION

Since the part was purchased from the original diesel manufacturer and, the part number, dimensions, material and configuration were verified, reasonable assurance was achieved. The dedication process was suitable for dedicating this item for its intended application. Note that this part is no longer used on the modified diesel generator.

(6) PO F844359C

DESCRIPTION: Plate SS 4x8x¼ A-240 NP

FPC PACKAGE: M-21

INTRODUCTION

This item was an inventory replenishment. The "C" Commodity Purchase method allows purchase of certain items whose manufacture is controlled by recognized industry or military standards which provide assurance that requirements for the item have been met.

NRC CONCERNS

The NRC noted the following concerns:

The FA/CCR did not have any basis of purchase stated.

There was no certification from the material manufacturer, such as by CMTR, or verification and documentation of traceability such as by a heat number.

The NRC inspector was unable to tell from the receipt inspection report if the inspector did several checks of hardness and averaged them.

RIP did not require traceability to heat number.

FPC EVALUATION

The Basis of Purchase block on the FA/CCR form is intended to be used to explain the reason for purchase of the particular item. In several areas of the procurement documentation it is stated that this material is for structural use only. The restricted use is controlled by FPC's inventory and release process.

Requests for certification or CMTR would not have added any credible evidence to the acceptability of this product. Note that FPC performed an overcheck of material type at receipt using an alloy separator thus confirming certain elements controlled by the recognized ASTM controls.

Considering that a piece of sheet steel is probably formed from a single blank which is subjected to a rolling process there is no reason to believe that hardness would vary over the area of the sheet. Notation to one hardness reading in comparison to a average is not relevant. Inspectors are trained on the use of hardness equipment.

CONCLUSION

Material was properly dedicated.

(7) PC F670407K

DESCRIPTION: Seat Disc, DC 24" Anchor Darling

FPC PACKAGE: M-25

INTRODUCTION

This item was purchased directly from the OEM with reference to the associated valve's serial number and the Anchor Darling drawing.

NRC CONCERNS

The NRC noted the following concerns:

The Source Inspection Plan did not provide sufficient instructions to allow adequate verification of critical characteristics listed on FA/CCR which included dimensions, configuration and ASTM B127-4400 material

Basis of purchase ("like original") was not adequately verified

Material was not adequately verified because Source Inspector found material to be acceptable by review of C of C.

FPC EVALUATION

Source Inspection Plan was developed correctly in response to the FA/CCR. The Source Inspection Report contains a number of dimensional verifications. Material was verified by reviewing the material certification at the vendors (OEM) facility.

CONCLUSION

Additional details could have been provided on how the Inspector accomplished his verifications. However, the inspection detail he has provided in the Source Inspection Report is adequate to establish reasonable assurance we have received what we ordered.

Material was properly dedicated.

(8) PO F845035D

DESCRIPTION: Valve, ball, 3-way Stainless Steel Stem

FPC PACKAGE: M-28

INTRODUCTION

This item was purchased as an inventory replenishment item for a Worchester Controls valve from an authorized distributor, Epperson & Co. The valve supplies air to the actuators for the main steam isolation valves.

NRC CONCERNS

The NRC noted the following concerns:

> Not enough objective evidence was recorded to indicate what Source Inspector did to accept material.

FPC EVALUATION

Source Inspection was well specified. The Source Inspector noted his acceptance on the checklist-type Source Inspection Plan with reference to additional guidance received from FPC directing a review of the vendor's "administrative and process material controls" and attested to the acceptance of the material on the "Statement of Conformance".

CONCLUSION

The Inspections were adequate. The amount of objective evidence does vary from Inspector to Inspector and package to package.

Item was properly dedicated.

(9) PO F844057V

DESCRIPTION: Sensor, Type 124-LD, for Interscan LD-24 SO_2 Monitor

FPC PACKAGE: E-0

INTRODUCTION

This item is an inventory replenishment purchased directly from the OEM for the Control Room Toxic Gas Monitors.

NRC CONCERNS

The NRC noted the following concerns:

The description of parent system and part safety functions was incomplete, indicating pressure retention only.

Part failure modes were incomplete. The FA/CCR considered leakage (of connection to system), but not leakage of sensor water (which occurred shortly after first sensor was installed requiring its immediate replacement).

Fill fluid isn't verified.

No functional performance was required to be verified.

The SIP did not list weight, markings or what to verify by functional test, and dimensional inspection.

The Source Inspector only reviewed two drawings.

The Source Inspection Report was apparently not reviewed for adequacy by FPC Procurement Engineering or Procurement QA.

FPC EVALUATION

The design engineer was incorrect in his understanding of the safety function of the monitor. It's safety function is not system pressure retention for the air handling system. It is required to detect toxic gas levels in the make up air supply for the control room and place it in a recirculation mode within a prescribed time limit to protect control room operators. This resulted in an improper safety function, failure mode, and potential effects of part failure on the FA/CCR. This will be corrected. However this error did not have an adverse impact on the critical characteristics chosen.

Part failure mode inadequacies were addressed above. Leakage check for sensor water is not necessary at the time of dedication because the sensor would not have calibrated properly with any water leakage from the cell.

Verification of fluid is covered by Attachment A to the FA/CCR, A sub section d. "...both items filled per FPC Vendor Manual No. 1736 A Rev 1".

The Inspection Team statement regarding failure to address functional performance is not correct. Item number 2 on the FA/CCR is function. Attachment A to the FA/CCR says that this critical characteristic can be satisfied by CR3 monitor calibration or by witnessing a manufacturer's functional test at time of source inspection. The source inspection report indicates that the latter was performed. The Source Inspection Report clearly states that a functional test was witnessed in accordance with Interscan's Test Procedure, Revision 0 which is on file at FPC.

The Inspection Plan was responsive to the FA/CCR. Additional test specifics may have been provided by engineering, however, the FA/CCR did

refer to the option of witnessing a functional test which was done. The Source Inspection Plan was general and relied on the Inspector to decide on inspection depth to determine acceptance.

FPC has no requirement for Procurement Engineering to review source inspection results for adequacy. FPC agrees with NRC's comments in other sections of the Inspection Report that suggest improvements are warranted in the area of Procurement QA review of source inspection results. However, the report was reviewed per the established practice to review deliverables as a basis to approve source inspection charges.

CONCLUSION

The Inspector did various inspections, reviews, and witnessed functional testing. His overall conclusion was that the item was in accordance with the purchase order requirements.

Even though it is not required to be called out for dedication purposes due to source inspection calibration, the plant procedures do require calibration on installation. The associated Work Request also shows that this was done for this detector via performance of SP-372B.

The dedication package is adequate.

(10) PO F84236V

DESCRIPTION: Block, Terminal ZWN, BP, 600V

FPC PACKAGE: E-1

INTRODUCTION

This item is an inventory replenishment item for various Class 1E applications.

NRC CONCERNS

The NRC noted the following concerns:

The FA/CCR states harsh environment but listed no MELB/LOCA as restrictions.

Parent and part safety functions, failure modes, and critical characteristics were incomplete or inappropriate.

The basis of contact resistance of 100 milliohms, the 500V test and insulation dielectric test was questioned.

FPC EVALUATION

The FA/CCR is not inconsistent with respect to harsh environment conditions. The notation to disallow usage of the terminal block in a HELB/LOCA environment does not totally restrict it's usage in a harsh environment. This terminal block is subject to environmental qualification requirements. To obtain the detailed EQ requirements one would look in the EQ Manual and/or the limits in the referenced Qualification report.

The values for insulation resistance and dielectric strength were verified as originating from the Vendor Qualification Report.

CONCLUSION

This dedication is consistent with the EPRI Technical Evaluation package for Terminal Blocks and the FPC vendor qualification report. It is adequate as written.

(11) PO F842798V

DESCRIPTION: Pump with Motor, Burke 35G5

FPC PACKAGE: E-8 / E-9

INTRODUCTION

These items are inventory spares for the Emergency Diesel Generator standby jacket cooling water pumps. The items were purchased from a distributor with reference to published product descriptions from the original manufacturer. This was necessary because the item was not a basic component or dedicated commercial item available at the time from the diesel OEM, Coltec Industries.

NRC CONCERNS

The NRC noted the following concerns:

> The parent component was not named or described and its safety function was expressed as that of the entire EDG system which was too far removed from the parts description to provide meaningful information for determining the part safety function.
>
> The part safety function is marked active but is listed as pressure boundary only.
>
> Seismic qualification was not listed as a critical characteristic.

The Source Inspector did not identify that motor frame size provided was different than specified in the PO. It was not detected until installation was attempted.

EPC EVALUATION

By referencing the pump tag number (DJP-3 & 4), and with a reasonable knowledge of CR-3 tag convention, it is clear that DJP-3 is a Diesel Jacket coolant pump which is associated with the Diesel Generator EGDG-1A/1B. With loss of pressure boundary integrity the jacket cooling inventory would be lost resulting in an inoperable diesel. Therefore, this is a safety function. Insufficient flow characteristics on DJP-3 would result in jacket temperatures outside the described range. This would result in discovery by operators during routine shift surveillances or in response to alarms. The diesel would then be started. At this point DJP-3/4 which is a standby pump is no longer required since the diesel would provide jacket cooling flow via an engine driven pump. Therefore, flow from DJP-3/4 is not considered a safety function, while integrity is, because cooling inventory must be preserved. (However, flow is a design related critical characteristic for DJP-3/4).

Seismic qualification is verified through critical characteristics such as material, and configuration. Seismic evaluation was handled by the Mechanical Engineering section. This information and a copy of the NCOR/Problem Report was provided to NRC during the inspection.

Extensive Source Inspection (40 hours plus) was performed on this procurement. However, the Source Inspector did not notice the change in motor frame size. This error was detected during the normal Receipt Inspection process, not at installation.

CONCLUSION

The Source Inspector did miss the motor frame size change. However, our Receipt Inspection process which is an inherent part of the acceptance process, did identify and report the problem. Engineering accepted the change after detailed analysis required by the Plant Equipment Equivalency Replacement Evaluation (PEERE) process. This self identified problem was summarized in the Procurement package (PQA 91-006 MEMO). No formal corrective action was initiated with Bechtel because their contract had recently expired.

Material was properly dedicated.

(12) PO F8?4659K

DESCRIPTION: Bussman Fuse Reducer

FPC PACKAGE: E-10

INTRODUCTION

This item was an inventory replenishment purchased from a distributor with specific instructions that it was to be supplied by the manufacturer, Bussman Division of Cooper Industries with specific reference to the approved Bussman facility locations.

NRC CONCERNS

The NRC noted the following concerns:

> FPC did not provide adequate traceability to the manufacturer.

FPC EVALUATION

This appears to be an issued of possible fraud, not a dedication issue. The certifications were from the OEM and contained the exact number of items supplied, and specified the FPC purchase order number. The OEM was a surveyed acceptable commercial grade supplier.

The NRC states in the Inspection Report that the critical characteristics were listed as part number and description only. The FA/CCR actually included dimensions with tolerances as well as part number and description. These were verified by PQA on receipt inspection.

CONCLUSION

Inspection and OEM certifications are adequate. The material was adequately dedicated.

(13) PO F8447190

DESCRIPTION: Relay, 120VAC 4 Pole, Allen Bradley

FPC PACKAGE: E-11

INTRODUCTION

These items were purchased as inventory replenishments from an authorized distributor with specific reference to the item manufacturer, Allen Bradley and the approved location. The relays are utilized in

safety-related 480 Volt Motor Control Centers to provide status indication of safety-related loads.

NRC CONCERNS

The NRC noted the following concerns:

Mechanical load factors were not considered as critical characteristics

Pick up & drop out voltages were not checked

Shorts and opens were not included as failure modes.

FA/CCR doesn't state whether relays must energize or de-energize to perform provide load status indication

FPC EVALUATION

Mechanical load factors are not needed since the relay contact configuration is confirmed and the relay is verified not to have design and material changes. With design changes controlled and coil resistance verified, there is no need to check pick-up and drop-out voltage since all variables have been verified.

The FA/CCR states that the relays are used for status indication only. Therefore, the only failure of concern is degradation of safety related control power. Therefore, only insulation failure leading to shorts are considered as failure modes. This was included as a critical characteristic.

CONCLUSION:

Material was properly dedicated.

(14) PO F740240K

DESCRIPTION: Joslyn-Clark Convertible Pole Relays

FPC Package: E-12

INTRODUCTION

These items are used in the safety-related equipment status indication panel and for ESF logic initiation.

NRC CONCERNS

The NRC noted the following concerns:

Safety Function of the relay did not state if relay must change state, and if so, whether it must energize or de-energize to perform its safety function.

The following were not listed as critical characteristics: seismic qualification, insulation resistance of coil and contacts, contact resistance and timing.

Source Inspection report did not provide load factors nor provide coil turns data as required.

FPC EVALUATION

The FA/CCR did not restrict the relays in question to an energize versus de-energize state to perform their safety function. There is nothing wrong with this as it is a more generic dedication application and has little if any impact on the critical characteristics chosen for reasonable assurance.

Timing is not an appropriate critical characteristic because these are not time delay relays and applications do not typically involve contact race.

Seismic qualification is not specified as a critical characteristic because we do not consider it as such. Seismic qualification is provided through equivalency to the original order equipment during the source inspection.

Insulation resistance of the coil and contacts and contact resistance were not included as critical characteristics because at the time, they were not considered as necessary to achieve reasonable assurance that the item received was that which was specified. These will be considered in our lessons-learned for future procurements.

Load factors and coil turns data was not required for relays 4U4-130 and 4U6-130 (PO Items 1 and 2). FPC supplied the coils for these relays from our safety related stock. The Purchase order deleted the need for load factors/coil turns information for these Source Inspection Reports.

CONCLUSION:

Material was properly dedicated.

(15) PO F844454K, Coils for Relays

DESCRIPTION: Coils for Joslyn Clark Relays

INTRODUCTION

These items are used in the safety-related ESF logic system. They were purchased for stock replenishment from a distributor with requirements to provide them from the identified approved Joslyn Clark location.

NRC CONCERNS

The NRC noted the following concerns:

FPC Engineering Letter No. 1187A incorrectly imposed inspection requirements for relays when the PO was for replacement coils.

The SIP did not document that any relevant records were reviewed other than the COC and the coil resistance and turns test report.

PQA's review of the SIR failed to note that the source inspector did not verify the vendor's COC basis.

FPC EVALUATION

The use of Doc. Ltr 1187A provides assurance that the parent component will function properly when the item is installed. By verifying the relay picks up at 80% or lower, the coil is actually being tested. The letter is for compete relays, but is more than adequate for coils.

This is another case of objective evidence relative to the determination of exactly how the Inspector came to the conclusion to accept the item. The Source Plan checklist indicated "satisfactory" by each requirement. Additionally, a written report provided additional information on the witness of testing (resistance, pick-up) and other activities.

CONCLUSION:

Item was dedicated properly.

(16) PO F844090V

DESCRIPTION: Vacuum Switches for Control Room Toxic Gas Monitors

FPC Package: E-32

INTRODUCTION

These items were inventory replenishments purchased directly from the original equipment manufacturer for use in the Control Room Toxic Gas Monitors.

NRC CONCERNS

The NRC noted the following concerns:

Not all of the Source Inspection Plan (SIP) verification requirements were adequately performed or documented (ie. the SIP required the parts to be installed and tested in a functional mock-up, the SIR did not indicate that it was performed).

Certain acceptance criteria identified in the SIP were not adequately addressed, performed and/or documented by the SIR.

An incorrect revision of the vendor drawing was used.

FPC EVALUATION

Objective evidence of the Inspector's activities are minimal. However, the Inspector witnessed a functional test to verify output contacts were set to 50" H_2O per Interscan's Test Procedure (copy on file at FPC) and did sign the Source Inspection Plan indicating completion of the steps. He also provided additional details in a written report and attested to full compliance with purchase order (Statement of Conformance). In addition, the switches were fit into a monitor during the inspection and verified to be the correct ones.

The issue of conflicting drawing revision levels was caused by misreading the vendors drawing during the inspection planning effort. The correct revision level is 6/28/88 as identified by the Inspection Report.

CONCLUSION

This again, is another case of the amount of objective evidence needed in a Source Inspection Report. As stated before, procedure changes in this area are being implemented to develop consistency in reports.

Item was properly dedicated.

SLIDES

PURPOSE OF MEETING

- FPC DOES NOT BELIEVE THE REPORT ACCURATELY REPRESENTS THE EFFECTIVENESS OF OUR PROCUREMENT PROGRAM. THEREFORE, FPC WANTED TO CLARIFY THE RECORD PRIOR TO THE REPORT BEING TRANSMITTED TO THE REGION FOR FURTHER DISPOSITION.

- FPC BELIEVES THE DISCUSSION OF PREVIOUS INSPECTION FINDINGS WAS INAPPROPRIATE AND WARRANTS SIGNIFICANT CLARIFICATION.

- COVER LETTER TO INSPECTION REPORT REQUESTED FPC TO:

  > "...MAKE AN ASSESSMENT OF THE SAFETY IMPLICATIONS THAT THESE DEFICIENCIES COULD HAVE AND TAKE APPROPRIATE CORRECTIVE ACTIONS BASED ON YOUR REVIEW OF THE INFORMATION CONTAINED IN THIS REPORT."

- FPC BELIEVES THAT CERTAIN ISSUES RAISED IN THIS REPORT REFLECT GENERIC ISSUES THAT REMAIN OPEN BECAUSE THE NRC'S EXPECTATIONS EXCEED THE COMPREHENSIVE PROCUREMENT INITIATIVE. THUS, THIS MEETING WILL BE A USEFUL PRECURSOR TO FUTURE NRC/INDUSTRY DIALOGUE ON THESE ISSUES.

BASIC CONCLUSIONS

- THE PACKAGES QUESTIONED BY THE TEAM IN THE SUBJECT REPORT DO NOT CONTAIN 'DEFICIENCIES' WITH SAFETY IMPLICATIONS.

- PARTS QUESTIONED ARE NOT OF 'INDETERMINATE QUALITY.' WE HAVE REASONABLE ASSURANCE THAT THE PARTS RECEIVED WERE THE PARTS SPECIFIED AND THAT THEY WILL FUNCTION APPROPRIATELY.

- ACTIONS IN RESPONSE TO THE PREVIOUS INSPECTION EXCEEDED THAT WHICH WAS REQUIRED. WE MET OUR GENERAL OBLIGATIONS UNDER APPENDIX B AND ALL OF OUR COMMITMENTS. INSTEAD OF FOCUSSING ON THOSE ACTIONS WE COMMITTED TO DO, THE TEAM REVIEWED THE REPLACEMENT STATUS OF THINGS WE HAD NOT COMMITTED TO REPLACE.

- FPC AGREES THAT THE LEVEL OF OBJECTIVE EVIDENCE AND PROCEDURAL GUIDANCE IN CERTAIN AREAS COULD BE IMPROVED AND WAS MOVING IN THAT DIRECTION PRIOR TO THE ANNOUNCEMENT OF THE INSPECTION.

- THE NRC AND THE INDUSTRY FUNDAMENTALLY DISAGREE ON WHAT IS MEANT BY AND REQUIRED TO ACHIEVE 'REASONABLE ASSURANCE.' WE UNDERSTAND THE NRC'S POSITION, BUT DO NOT AGREE WITH IT.

REPORT COMPLETENESS

- INTRODUCTION
- SELF ASSESSMENTS
  - CYGNA
  - INTERNAL FPC ASSESSMENT
  - NRC SELECTED PACKAGES
- SAMPLE SELECTION
- NUCLEAR PROCUREMENT AND STORAGE MANUAL REVISION

FPC/CR-3 LICENSING BASIS

- THE FPC QA PROGRAM, INCLUDING REQUIREMENTS APPLICABLE TO PROCUREMENT, IS CONTAINED IN CHAPTER 1.7 OF THE CR-3 FSAR. THE PROGRAM ADOPTS REGULATORY GUIDE 1.33 (REVISION 2, 1978) [WHICH IS THE NRC'S CONDITIONAL ENDORSEMENT OF ANSI N18.7/ANS 3.2 (1976)] WITH SOME CLARIFICATIONS.

- FPC EXPRESSLY COMMITTED TO UPGRADING OUR PROGRAM TO MEET THE EPRI CGI GUIDELINES. THE INDUSTRY COMMITTED, VIA NUMARC INITIATIVE, TO UPGRADE PROCUREMENT PRACTICES TO MEET THE INTENT OF THE EPRI GUIDELINES.

- FPC HAS NEVER COMMITTED TO MEET THE STAFF'S INTERPRETATIONS OF THESE GUIDELINES AS EXPRESSED IN GL 89-02 OR 91-05. IN FACT, AT EVERY REASONABLE OPPORTUNITY FPC HAS STATED OUR VIEW THAT THESE DOCUMENTS REPRESENT NEW STAFF POSITIONS.

- FPC BELIEVES THAT OUR CURRENT LICENSING BASIS REMAINS REASONABLE ASSURANCE THAT THE PART RECEIVED IS THE PART SPECIFIED.

- NEVERTHELESS, FPC DOES SPECIFY REPLACEMENT PARTS THAT ARE EXPECTED TO HAVE THE CAPABILITY TO FULFILL ALL THEIR SAFETY FUNCTIONS. THAT CAN RESULT FROM:

  - SELECTING LIKE-FOR-LIKE REPLACEMENT PARTS (NOT AS GL 91-05 WOULD DEFINE SUCH);

  - EQUIVALENT PARTS (FPC'S PEERE PROCESS); OR,

  - BY PERFORMING A DETAILED SAFETY ASSESSMENT AND VALIDATING SUFFICIENT CHARACTERISTICS TO GAIN REASONABLE ASSURANCE OF FUNCTIONAL CAPABILITY.

- REGARDLESS OF HOW THE PART IS SPECIFIED OR PROCURED, FPC MAY CHOOSE TO VALIDATE CHARACTERISTICS BEYOND THOSE NEEDED FOR ACCEPTANCE FOR A VARIETY OF REASONS.

COMPLIANCE WITH APPLICABLE REQUIREMENTS/INITIATIVES

- WITH MINOR EXCEPTIONS, THE PACKAGES REVIEWED IN 1989 AND 1992 WERE IN COMPLIANCE WITH OUR MANUAL AND PROCEDURES AT THE TIME THE PACKAGES WERE DEVELOPED.

- THE PACKAGES WERE IN COMPLIANCE WITH OUR LICENSING BASIS (10 CFR 50, APPENDIX B AS INTERPRETED BY OUR QA PLAN'S CONDITIONAL ENDORSEMENT OF RG 1.33).

- THE PACKAGES IDENTIFIED IN THE 1992 INSPECTION WERE IN COMPLIANCE WITH THE NUMARC INITIATIVE (THE INTENT OF THE EPRI CGI GUIDELINES).

- WE AGREE THAT SEVERAL OF THE PACKAGES WERE NOT IN C OMPLIANCE WITH EVOLVING STAFF GUIDANCE COMMUNICA TED TO THE INDUSTRY IN GL 91-05.

BACKFIT CONSIDERATIONS

- WE DO NOT PLAN ON CONDUCTING A THOROUGH BACKFIT APPEAL AT THIS TIME. HOWEVER, IT IS NECESSAPY TO COMMUNICATE SOME FUNDAMENTAL ISSUES.

- NON-COMPLIANCE WITH THE POSITIONS EXPRESSED IN GL 91-05, OR OTHER EVOLVING STAFF POSITIONS, DOES NOT NECESSARILY RESULT IN A PART OF INDETERMINATE QUALITY.

- GL 91-05, . NP 3OTH OF OUR INSPECTION REPORTS, CONTAI N SEVERAL POSITIONS THAT HAVE NEVER PROPERLY BEFN MA DE A PART OF OUR APPLICABLE LICENSING BASIS.

- FPC IS AWARE OF THE DIALOGUE WITH CRGR, NUMARC AND NUBARG ON THIS SUBJECT, BUT STRONGLY BELIEVES THAT THE ISSUE HAS NOT BEEN FULLY EXPLORED OR RESOLVED. WE C ONSIDER RESOLUTION OF THIS TO BE A NECESSARY PREDECE SSOR TO (OR COMPONENT OF) GENERIC DISCUSSIONS SCHEDULED TO OCCUR THIS FALL.

- THE BASIC ISSUE IS WHETHER CONFORMANCE WITH THE EXI STING CONSENSUS STANDARD (ANSI N18.7/ANS 3.2) AS CONDITIONALLY ENDORSED BY RG 1.33, REVISION 2 AND OUR QA PLAN IS SUFFICIENT TO MEET APPENDIX B. THE CONTINUED RELIANCE ON THE REG GUIDE, ITS STATED COMPLIANCE WITH APPENDIX B, THE APPROVAL OF OUR QA PROGRAM IN THE MID-1980'S, ALL LEAD US TO BELIEVE THAT THEY REMAIN OUR LICENSING BASIS.

- IF THE NRC WANTED US TO CHANGE OUR LICENSING BASIS, GL 91-05 SHOULD HAVE SUPPORTED THIS CHANGE IN POSITION WITH AN APPROPRIATE VALUE/IMPACT ASSESSMENT AND REQUIRED A RESPONSE WHICH WOULD HAVE INCLUDED A PROPOSED REVISION TO OUR (AND ALL LICENSEE'S) QA PLAN.

PLANT SPECIFIC TECHNICAL ISSUES

THE FOLLOWING PLANT-SPECIFIC TECHNICAL ISSUES APPEAR IN ONE OR MORE OF THE NOTED PACKAGES (SOME OF THESE MAY BE GENERIC BUT APPEAR IN A SUFFICIENTLY UNIQUE LIGHT TO WARRANT TREATMENT ON A PLANT-SPECIFIC BASIS):

CONSIDERATION OF EFFECTS OF POTENTIAL FAILURES ON NEARBY EQUIPMENT

COMMENTS WERE MADE THAT IMPLIED THAT THE NRC EXPECTED US TO CONSIDER THE EFFECT OF COMPONENT FAILURES ON NEARBY EQUIPMENT. THAT IS OUTSIDE OF THE LICENSING BASIS OF PLANTS OF OUR VINTAGE. WE ADDRESS LINE FAILURES AS REQUIRED BY OUR HELB PROGRAM. SYSTEMS LEVEL INTERACTIONS WERE ADDRESSED BY THE STAFF IN USI A-47 (GL 89-19). SPATIAL INTERACTIONS DURING SEISMIC EVENTS WILL BE ADDRESSED AS PART OF THE RESOLUTION OF A-46. THERE IS NO EXPLICIT REQUIREMENT FOR SUB-COMPONENT LEVEL INTERACTION ANALYSES.

DESCRIPTIONS, IDENTIFICATION OF SAFETY FUNCTION, & EQ ZONES

FPC'S ENTIRE DESIGN CONTROL/CONFIGURATION MANAGEMENT PROGRAM IS DRIVEN BY A DISCRETE TAG NUMBER SYSTEM. USERS OF OUR VARIOUS QA DOCUMENTS (PROCUREMENT AND OTHERWISE) HAVE ACCESS TO TENS OF THOUSANDS OF RECORDS VIA LARGE COMPUTER DATA BASES (PRINCIPALLY CMIS AND FIMIS FOR PROCUREMENT). WE DISCOURAGE REPLICATION OF THAT INFORMATION ON THE MANY DOZENS OF HARD COPY FORMS WE UTILIZE IN THIS AND OTHER QA ACTIVITIES SINCE EACH TRANSLATION TENDS TO DEPART FROM THE ACTUAL DESIGN BASIS. SEVERAL COMMENTS APPEARED, AT LEAST PARTIALLY, BASED ON THE TEAM'S MISUNDERSTANDING THIS INFORMATION MANAGEMENT NETWORK. FOR INSTANCE, CMIS ALSO SERVES AS OUR EQML AND AS SUCH ALL THE APPLICABLE ZONE INFORMATION, QUALIFICATION REFERENCES, ETC. ARE READILY AVAILABLE IN A SERIES OF TAG NUMBER RELATED COMPUTER SCREENS.

SEISMIC SIGNIFICANCE

MUCH OF THE TEAM'S CONCERNS ASSOCIATED WITH DESIGN AND MATERIAL CONTROL SEEMED TO FIND ITS SAFETY BASIS IN SEISMIC QUALIFICATION CONCERNS. NOW THAT THE NRC HAS ISSUED THE SSER ON SQUG AS ONE MEANS OF RESOLVING GSI A-46 IT WOULD APPEAR APPROPRIATE TO DE-EMPHASIZE THE LEVEL OF CONCERN IN THIS AREA. THE SSER EXPRESSLY STATES:

> "THESE CRITERIA AND PROCEDURES AS DESCRIBED ARE ACCEPTABLE FOR VERIFYING THE SEISMIC ADEQUACY OF COMMERCIAL-GRADE EQUIPMENT TO BE DEDICATED FOR SAFETY-RELATED PURPOSES."

PROGRAMMATIC ISSUES

THE FOLLOWING ISSUES GENERALLY REFLECT THE CONCERNS GROUPED IN THE SECOND DEFICIENCY IN THE REPORT. WHILE THESE ARE IN A PLANT-SPECIFIC CONTEXT, THEY ARE GENERIC ISSUES:

FEEDBACK/OVERVIEW BETWEEN PE, PQA AND INSPECTORS

FPC DOES NOT AGREE THAT ORGANIZATION IS INAPPROPRIATE, BUT AGREES THAT PROCESSES NEED TO BE STRENGTHENED SOMEWHAT. INTERIM ACTIONS (CHECKLIST FOR PQA REVIEW OF SOURCE INSPECTION REPORTS, PROCEDURAL CLARIFICATIONS, ETC) HAVE ALREADY BEEN TAKEN. FURTHER ENHANCEMENTS AND REFINEMENTS ARE LIKELY.

LEVEL OF DETAIL IN SOURCE INSPECTION REPORTS

FPC DOES NOT AGREE THAT THE LEVEL OF OBJECTIVE EVIDENCE IS 'INADEQUATE.' UNLIKE EQ 'VENDOR QUALIFICATION PACKAGES', IT WAS NOT OUR INTENT (AND WE DON'T BELIEVE WE ARE REQUIRED) TO BE ABLE TO INDEPENDENTLY VERIFY THE INSPECTORS BASIS OR RESULTS. HOWEVER, WE DO AGREE THAT THE DISCIPLINE IMPOSED BY IMPROVED DOCUMENTATION MIGHT IMPROVE INSPECTIONS AND FACILITATE REVIEW AND AUDIT ACTIVITIES.

PROCEDURAL GUIDANCE

BASED ON OUR EXPERIENCE IN THIS AND MANY RELATED ACTIVITIES, WE DO NOT AGREE THAT PROCEDURAL DETAIL IS THE BEST WAY TO ACHIEVE IMPROVED PERFORMANCE OR CONSISTENCY. ACCOUNTABILITY IS OFTEN REDUCED WHEN PROCEDURES BECOME TOO 'COOKBOOK' AND COMPLIANCE BECOMES MORE IMPORTANT THAN PERFORMANCE.

GENERIC ISSUES

SUITABILITY OF APPLICATION/CRITICAL CHARACTERISTICS

THIS IS THE MOST IMPORTANT AND FUNDAMENTAL ISSUE FACING FPC AND THE INDUSTRY IN GENERAL. IT CAN BE SUMMARIZED AS SHOWN ON THE ATTACHED FIGURE AND ASSOCIATED NOTES. ALTERNATIVELY, THE QUESTION CAN BE STATED AS:

> IS IT NECESSARY TO IDENTIFY AND VALIDATE ALL CRITICAL CHARACTERISTICS RELATED TO A COMPONENTS SAFETY FUNCTION; OR, IS THERE A SUBSET OF CHARACTERISTICS NECESSARY AND SUFFICIENT FOR ACCEPTANCE?

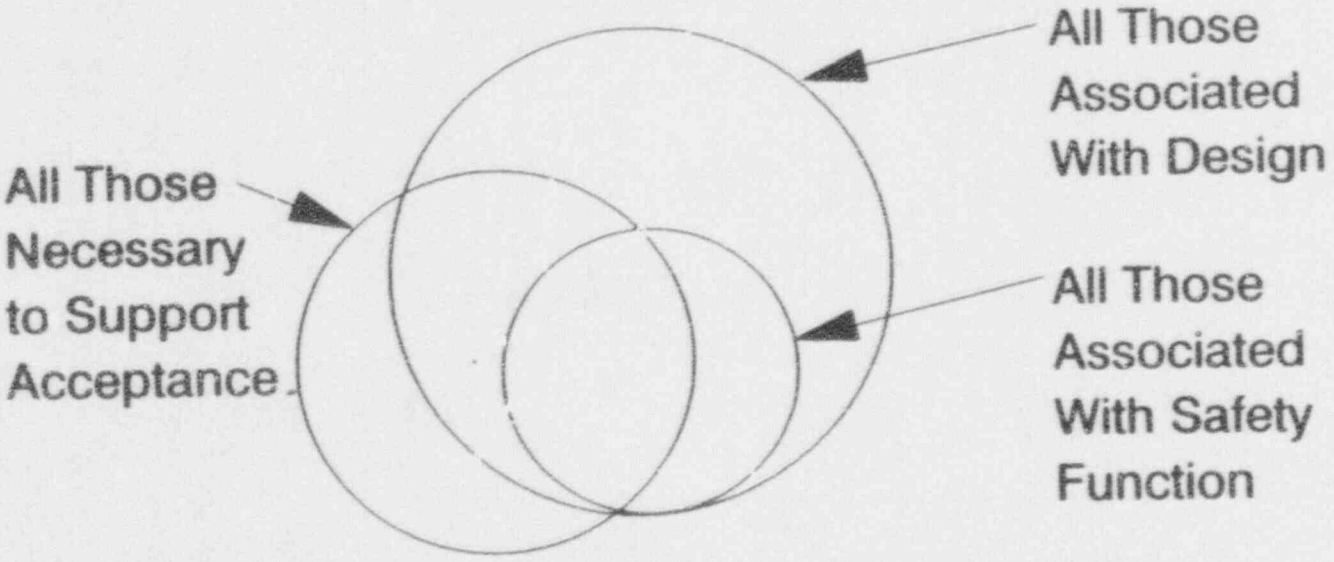
FPC AND THE INDUSTRY BELIEVES ONE CAN IDENTIFY A SET OF CHARACTERISTICS TO ACHIEVE DEMONSTRATION OF SUITABILITY FOR APPLICATION WITHOUT VALIDATING ALL THOSE ASSOCIATED WITH SAFETY FUNCTION. BOTH THE NRC AND THE INDUSTRY AGREE THAT NOT ALL THOSE ASSOCIATED WITH A COMPONENTS DESIGN MUST BE VALIDATED.

SOURCE INSPECTION RESULTS

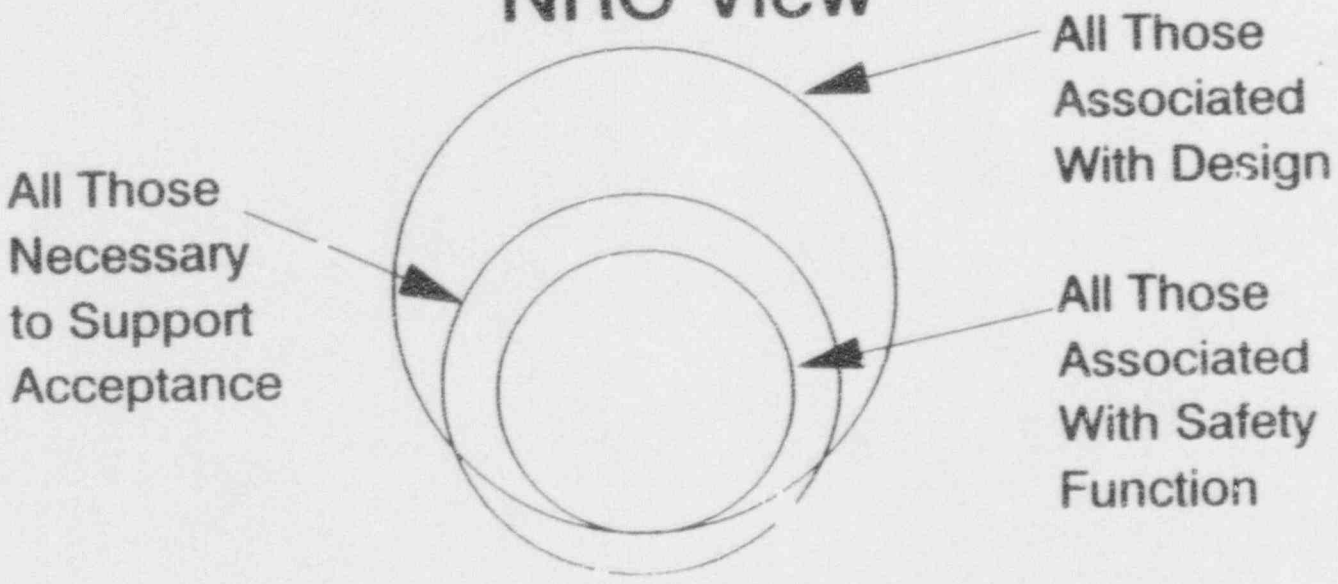
A SIGNIFICANT ISSUE AT FPC, WHICH AFFECTS THE INDUSTRY TO THE EXTENT THAT SOURCE INSPECTIONS ARE RELIED UPON, IS WHETHER QUALIFIED INSPECTORS CAN BE RELIED UPON TO ACCOMPLISH THOSE REVIEWS ESSENTIAL TO VALIDATE A CHARACTERISTIC OR IS IT NECESSARY FOR OTHERS (THE LICENSEE, NRC OR OTHERS) TO BE ABLE TO INDEPENDENTLY VALIDATE THAT THE ACTIONS TAKEN ARE NECESSARY AND SUFFICIENT.

Critical Characteristics

Industry View



NRC View



CRITICAL CHARACTERISTICS

THE COMPREHENSIVE PROCUREMENT INITIATIVE INCLUDED REFERENCES TO TWO KEY INDUSTRY DOCUMENTS RELAVENT TO UNDERSTANDING CRITICAL CHARACTERISTICS FROM AN INDUSTRY PERSPECTIVE:

> THE INDUSTRY COMMITED TO DEVELOP PROGRAMS TO MEET THE INTENT OF EPRI NP-5652, "GUIDELINE FOR THE UTILIZATION OF COMMERCIAL GRADE ITEMS IN NUCLEAR SAFETY RELATED APPLICATIONS"
>
> WHILE LESS EXPLICITLY ENDORCED IT ALSO NOTED THAT EPRI NP-6406, "GUIDELINE FOR THE TECHNICAL EVALUATION OF REPLACEMENT ITEMS IN NUCLEAR POWER PLANTS" PROVIDES A SOUND PROCESS FOR A TECHNICAL EVALUATION AND PROVIDES USEFUL INFORMATION.

EPRI NP-5652

SECTION 1.2 INCLUDES THE FOLLOWING:

> "THE TECHNICAL EVALUATION PROCESS PROVIDES A MEANS TO SPECIFY THE CORRECT REQUIREMENTS FOR AN ITEM IN A PROCUREMENT DOCUMENT...THE ACCEPTANCE METHODS FOR COMMERCIAL GRADE ITEMS PROVIDE REASONABLE ASSURANCE THAT THE ITEM RECEIVED IS THE ITEM WHICH WAS SPECIFIED."

SECTION 2.3 STATES:

> "BASED ON THE PERFORMANCE AND DESIGN BASIS FOR AN ITEM, A VARIETY OF CHARACTERISTICS CAN BE IDENTIFIED THAT ARE CRITICAL FOR SATISFACTORY PERFORMANCE. HOWEVER FOR PURPOSES OF ESTABLISHING CRITICAL CHARACTERISTICS FOR ACCEPTANCE, ONLY CERTAIN OF THESE MUST BE VERIFIED TO PROVIDE REASONABLE ASSURANCE THAT THE ITEM SPECIFIED IS THE ITEM RECEIVED.

EPRI NP-6406

TION 3.4 STATES:

"CRITICAL CHARACTERISTICS FOR DESIGN ARE PROPERTIES OR ATTRIBUTES WHICH ARE ESSENTIAL FOR THE ITEM'S FORM, FIT AND FUNCTIONAL PERFORMANCE...THE CRITICAL CHARACTERISTICS FOR DESIGN ARE DETERMINED BASED UPON THE ITEM'S FUNCTION, ITS FMEA (IF PERFORMED) AND DESIGN DOCUMENTATION."

SECTION 3.6.5 STATES:

"CRITICAL CHARACTERISTICS FOR ACCEPTANCE ARE BASED ON AN ITEM'S CRITICAL CHARACTERISTICS FOR DESIGN. CRITICAL CHARACTERISTICS FOR ACCEPTANCE ARE ATTRIBUTES OF AN ITEM WHICH, ONCE SELECTED FOR VERIFICATION, PROVIDE REASONABLE ASSURANCE THAT THE ITEM RECEIVED IS THE ITEM SPECIFIED. A CRITICAL CHARACTERISTIC FOR DESIGN MAY TAKE A DIFFERENT FORM THAN A CRITICAL CHARACTERISTIC FOR ACCEPTANCE. FOR EXAMPLE, THE CRITICAL CHARACTERISTICS FOR DESIGN OF AN ITEM MAY BE ITS SHEAR AND TENSILE STRENGTHS AND DUCTILITY. THE CRITICAL CHARACTERISTICS FOR ACCEPTANCE COULD BE MARKINGS AND MATERIAL HARDNESS, WHICH CAN PROVIDE REASONABLE ASSURANCE THAT THE MATERIAL SPECIFIED IS THE MATERIAL RECEIVED."

THE NRC, ON THE OTHER HAND, HAS TAKEN THE FOLLOWING POSITION(S) IN GENERIC LETTER 91-05:

> "THE NRC HAS NOT TAKEN THE POSITION THAT ALL DESIGN REQUIREMENTS MUST BE CONSIDERED TO BE CRITICAL CHARACTERISTICS AS DEFINED AND USED IN EPRI NP 5652. RATHER, AS STATED IN APPENDIX B, CRITERION III, LICENSEES MUST ASSURE THE SUITABILITY OF PARTS, MATERIALS, AND SERVICES FOR THEIR INTENDED SAFETY-RELATED APPLICATIONS...THE LICENSEE IS RESPONSIBLE FOR...PROVIDING REASONABLE ASSURANCE OF THE CONFORMANCE OF THE ITEM TO THE CRITERIA."

THERE ARE AT LEAST TWO FUNDAMENTAL DIFFERENCES IN THESE DOCUMENTS:

> THE INDUSTRY DOCUMENTS CLEARLY OUTLINE THE DIFFERENCES BETWEEN CRITICAL CHARACTERISTICS FOR ACCEPTANCE AND THOSE ASSOCIATED WITH SAFETY FUNCTION. THE NRC DOCUMENT EQUATES THE TWO.
>
> THE INDUSTRY DOCUMENTS ARE INTENDED TO PROVIDE "REASONABLE ASSURANCE" THE ITEM RECEIVED IS THE ITEM SPECIFIED. THE NRC DOCUMENT IS INTENDED TO PROVIDE "REASONABLE ASSURANCE" THAT THE PART CONFORMS TO THE CRITERIA ESTABLISHED AS PART OF THE SAFETY FUNCTION REVIEWED.

PREVIOUS INSPECTION ISSUES

- FPC NEVER AGREED THAT THESE WERE NON-COMPLIANCES. THERE WAS NOTHING WARRANTING CORRECTION AND WE NEVER COMMITTED TO THE NRC TO CHANGE OUT ANY OF THE AFFECTED COMPONENTS. THUS, CORRECTIVE ACTION TIMELINESS IS MOOT.

- IF THE NRC WISHES TO CONSIDER THEM ON THEIR MERITS, IT WILL BE NECESSARY TO IDENTIFY THE REQUIREMENTS APPLICABLE TO CR-3 AT THE TIME OF THE DEDICATION ACTIVITIES AND EVALUATE OUR COMPLIANCE WITH THEM.

- FPC DOCKETED A THOROUGH RESPONSE IN JANUARY, 1990. THE NRC HAS NEVER REVIEWED THE MERITS OF THAT RESPONSE. WE REMAIN WILLING TO DO SO, BUT THE STAFF HAS NOTIFIED THE COMMISSION THAT SUCH WAS NOT YOUR INTENT. SECY 90-261 INDICATED THAT (WITH REGARD TO THE CR-3 NOV):

  > "...THE STAFF HAS NOT EXPENDED THE RESOURCES TO DETERMINE WHETHER THESE CASE-SPECIFIC ARGUMENTS HAVE ADEQUATE MERIT TO WITHDRAW THE PENALTY."

- FPC ACTUALLY PERFORMED A "REDEDICATION" OF SEVERAL DOZEN PACKAGES AND COMPLETED A THOROUGH ASSESSMENT (TERMED OUR LOOK-BACK PROGRAM) OF PAST PROCUREMENT PACKAGES BASED ON A SAMPLE SIZE AND SCOPE AGREED TO BY THE NRC. WE OFFERED TO DISCUSS THE REPORT AND THE ACTIONS TAKEN IN RESPONSE TO THESE REVIEWS, BUT THE TEAM INSTEAD CHOSE TO FOCUS ON THOSE IDENTIFIED IN THE WITHDRAWN NOV.

- FPC WAS SURPRISED THAT THE STAFF WANTED TO FOCUS ON THESE ISSUES AND CLEARLY INFORMED THE TEAM THAT WE DID NOT CONSIDER THEM TO BE NON-CONFORMANCES. WE WERE DISAPPOINTED THAT OUR POSITION WAS NOT MENTIONED.

IT SHOULD BE NOTED THAT MUF'S ARE NOT PROCUREMENTS AT ALL. THIS PROCESS IS USED TO JUSTIFY THE VERY LIMITED USE OF NON-SAFETY MATERIAL OR COMPONENTS THAT WE ALREADY POSSESS. AS SUCH, SOURCE INSPECTIONS, OEM TRACEABILITY AND OTHER BASIC CONCEPTS MAY NOT APPLY OR BE ACHIEVABLE.

MUF 0007-90 THERMOMETER

ISSUES:

RIP ADEQUACY AND IMPLEMENTATION

POSITION:

THE ALL-WELDED CONSTRUCTION IS VIEWED AS A DESCRIPTION RATHER THAN A CHARACTERISTIC. THE LOW PRESSURE APPLICATION WOULD NOT MAKE SUCH A REQUIREMENT. FURTHER, THE CONFIGURATION CHECK WAS LIKELY TO HAVE ADDRESSED THIS DESCRIPTION SUFFICIENTLY. USE OF MAGNET FOR SUCH PURPOSES IS NO LONGER PRACTICED ALTHOUGH IT IS A REASONABLE TECHNIQUE IN CERTAIN APPLICATIONS.

MUF 0013-90 TERMINAL BLOCK MOUNTING PLATE

ISSUES:

REPLACEMENT MAY BE INADEQUATE TO CORRECT PROBLEM (EXCESSIVE CORROSION)

POSITION:

NOT A PROCUREMENT ISSUE. THIS WAS THE PART QUALIFIED FOR THE ENVIRONMENT.

MUF 0014-90 AMPHENOL CONNECTORS

ISSUES:

VERIFICATION OF SPECIFIED CHARACTERISTICS
APPROPRIATENESS OF SPECIFIED CHARACTERISTIC (RESISTANCE VALUE)

POSITION:

THE ASSOCIATED PARENT COMPONENTS ARE NOT SAFETY RELATED BUT ARE EQ. EQ REPORT IS BASED ON MIL. SPEC NUMBER WHICH WAS VERIFIED. THE RESISTANCE VALUE WAS IN ERROR.

'MS 1 AND 2

P(F670264K COLTEC SUB-COMPONENTS

ISS.JES:

CLARITY AND ADEQUACY OF CHARACTERISTIC VERIFICATION

POSITION:

SUFFICIENT CHARACTERISTICS WERE VERIFIED TO ESTABLISH REASONABLE ASSURANCE THAT PART WAS THE ONE SELECTED. IF INSPECTION PERSONNEL ARE UNABLE TO IDENTIFY APPROPRIATE DIMENSIONS THEY SEEK ADDITIONAL GUIDANCE FROM PROCUREMENT ENGINEERING.

THESE WERE COMMERCIAL GRADE ITEMS ACQUIRED BY THE SUPPLIER OF THE EDG. THE COLTEC COMMERCIAL GRADE DEDICATION PROGRAM WAS NOT AVAILABLE AT THIS TIME. THE PARTS WERE IDENTIFIED, SELECTED AND USED BY COLTEC SUPPLIED CRAFT PERFORMING THE EDG UPGRADE AT THE SITE. THE UPGRADED DIESELS WERE SUBJECTED TO VERY EXTENSIVE TESTING AND RELATED PERFORMANCE HAS IMPROV'D. THE SELECTION OF CRITICAL CHARACTERISTICS WAS OVERLY EXTENSIVE TO MEET REASONABLE ASSURANCE STANDARD.

ITEM 3

PO F670378V BEARINGS

ISSUES:

ADEQUACY OF CRITICAL CHARACTERISTICS AND VERIFICATION (INCL SAMPLE SIZE)

POSITION:

SUFFICIENT CRITICAL CHARACTERISTICS WERE IDENTIFIED AND VERIFIED TO PROVIDE REASONABLE ASSURANCE OF BEARING CAPABILITY. COMMERCIAL BEARING MANUFACTURERS HAVE EXTENSIVE PROGRAMS TO ASSURE PROPER MARKINGS AND SUCH MARKINGS ARE READILY RELATED TO KEY CHARACTERISTICS. NEVERTHELESS, WE HAVE MODIFIED FACCR TO INCLUDE MATERIAL AND HAVE VERIFIED ALL SPECIFIED CHARACTERISTICS. SAMPLE SIZE WAS ACCEPTABLE BUT INAPPROPRIATE BASED ON LOT SIZE (WITH JUST FOUR, DOING THEM ALL SIMPLY MAKES SENSE).

ITEM 4

PO F842352K PUMP IMPELLER

ISSUES:

CLARITY AND VERIFICATION OF IDENTIFIED CHARACTERISTICS
MATERIAL SUBSTITUTION

POSITION:

GENERALLY AGREE SINCE THESE CONCERNS WERE LICENSEE IDENTIFIED. HOWEVER, SUFFICIENT CRITICAL CHARACTERISTICS WERE ORIGINALLY VERIFIED TO PROVIDE REASONABLE ASSURANCE. THE MATERIAL SUBSTITUTION WAS TECHNICALLY APPROPRIATE, BUT SHOULD HAVE BEEN APPROVED BY FPC.

ITEM 5

PO F842722K SHAFT KEY

ISSUES:

ADEQUACY OF CRITICAL CHARACTERISTICS
CLARITY OF SOURCE INSPECTION DOCUMENTATION

POSITION:

SHAFT KEYS ARE NOT COMPLEX ITEMS. THE SOURCE INSPECTOR CERTIFIED THAT HE HAD CHECKED THE ITEMS REQUIRED. DOCUMENTATION MAY MAKE FUTURE REVIEW DIFFICULT, BUT SHOULD NOT CAUSE SUITABILITY TO BE QUESTIONED.

ITEM 6

PO F844359C STEEL PLATE

ISSUES:

LACK OF CMTR AND ADEQUACY OF HARDNESS TESTING

POSITION:

CoC, MATERIAL AND HARDNESS TEST IS SUFFICIENT TO PROVIDE REASONABLE ASSURANCE FOR NON-PRESSURE RETAINING APPLICATIONS OF PLATE STEEL. FPC TYPICALLY DID UTILIZE CMTR'S FROM NON-SURVEYED COMMERCIAL GRADE SUPPLIERS UNTIL THE 1989 INSPECTION CRITICIZED US FOR DOING SO. WE GENERALLY AGREE THIS WOULD BE AN ENHANCEMENT. THE QCI UTILIZED THE HEAT NUMBER TO ENHANCE TRACEABILITY FROM WAREHOUSE TO FIELD.

ITEM 7

PO F670407K CHECK VALVE DISC SEAT

ISSUES:

ADEQUACY OF SOURCE INSPECTION (ACCEPTANCE OF CoC)

POSITION:

WHILE FPC AGREES THAT RELIANCE ON A CoC ALONE AS A RECEIPT INSPECTION METHOD IS INADEQUATE, WE DO BELIEVE THAT A QUALIFIED SOURCE INSPECTOR MAY FIND THIS THE SIMPLEST MEANS TO DOCUMENT THE MATERIAL ADEQUACY. WHILE IT DOES SUPPLY REASONABLE ASSURANCE THAT THE PART IS THE ONE SPECIFIED, WE DO NOT ENCOURAGE RELIANCE ON CoC AS A GENERAL PRACTICE.

ITEM 8

PO F845035D 3-WAY BALL VALVE

ISSUES:

ADEQUACY OF SIP GUIDANCE

POSITION:

THE INSPECTOR ESSENTIALLY PERFORMED A LIMITED SURVEY OF THE MANUFACTURERS MATERIAL CONTROL PROGRAM IN LIEU OF ABSOLUTE MATERIAL TRACEABILITY WITH FPC'S PRIOR CONCURRENCE. WHILE THIS IS AN UNUSUAL APPLICATION, AND THE DOCUMENTATION IS LIMITED, IT IS NOT FUNDAMENTALLY FLAWED. THUS, REASONABLE ASSURANCE THAT THE PART WAS THE ONE INTENDED WAS OBTAINED.

ITEM 9

PO F344157V TOXIC GAS SENSORS

ISSUES:

FAILED TO IDENTIFY APPROPRIATE CRITICAL CHARACTERISTICS

POSITION:

FPC AGREES THAT THE SAFETY FUNCTION WAS MISSTATED. HOWEVER, SUFFICIENT CHARACTERISTICS WERE IDENTIFIED. AS NOTED IN REPORT, FUNCTIONAL PERFORMANCE WAS ASSURED BY REQUIRED WITNESSING OF FUNCTIONAL TESTING AT THE OEM'S FACILITY AND BY POST-INSTALLATION TESTING.

ITEM 10

PO F842336V TERMINAL BLOCKS

ISSUES:

UNCLEAR

POSITION:

THIS DEDICATION PACKAGE APPEARED TO BE CONSISTENT WITH EPRI/TWG PACKAGES. THE NRC TEAM MAY HAVE NOT UNDERSTOOD THE SEMANTICS USED IN THE PACKAGE.

ITEM 11

PO F842798V DIESEL SUPPORT SYSTEM PUMP MOTOR

ISSUES:

INAPPROPRIATE PART FUNCTIONAL DESCRIPTION AND ERRORS DURING SOURCE INSPECTION.

POSITION:

THE RELATIONSHIP BETWEEN THE SUB-SYSTEM THIS MOTOR IS PART OF AND THE DIESEL IS DIFFICULT TO CORRECTLY ARTICULATE. A MOTOR'S FUNCTION IS ACTIVE BUT THE ASSOCIATED PUMP IS NOT ESSENTIAL TO ASSURE DIESEL OPERABILITY. THE SUB-SYSTEM'S PRESSURE BOUNDARY FUNCTION DOES EFFECT EDG OPERABILITY. HOWEVER, FPC RECEIPT INSPECTION ACTIVITIES DID IDENTIFY THE NOTED DISCREPANCIES. WE ARE UNSURE WHY THE TEAM THOUGHT THEY WERE IDENTIFIED DURING INSTALLATION.

ITEM 12

PO F844659K FUSE REDUCERS

ISSUES:

TRACEABILITY OF PARTS TO OEM.

POSITION:

FPC CONSIDERS THE LEVEL OF TRACEABILITY TO BE COMPLETELY ADEQUATE. A PACKAGE OF 20 SIMPLE PARTS WERE PACKAGED FOR FPC BY THE OEM WITH A CoC FROM THE OEM TO FPC INCLUDED IN THE PACKAGE. THE TRANSACTION/SHIPMENT WENT THROUGH A LOCAL DISTRIBUTOR.

ITEM 13

PO F844719D A-B RELAYS

ISSUES:

INCOMPLETE CRITICAL CHARACTERISTIC IDENTIFICATION

POSITION:

FPC HAS REVIEWED THE PACKAGE WITH THE NRC COMMENTS IN MIND AND IS SATISFIED WITH THE PACKAGE'S ADEQUACY. THE LIMITED APPLICATION (INDICATION ONLY) WAS NOTED AND RELIED UPON IN SELECTING CRITICAL CHARACTERISTICS.

ITEM 14

PO F740240K JOSLYN-CLARK RELAYS

ISSUES:

ADEQUACY OF INSPECTION PLAN

POSITION:

THE COIL CHARACTERISTICS WERE NOT SPECIFIED OR VERIFIED BECAUSE, AS NOTED ON THE PO, THESE WERE SUPPLIED BY FPC FROM OUR SAFETY RELATED STOCK.

ITEM 15

PO F844454K J-C RELAY COILS

ISSUES:

ADEQUACY OF SOURCE INSPECTION GUIDANCE AND DOCUMENTATION

POSITION:

ALTHOUGH ATTACHMENT WAS FOR WHOLE RELAYS, IT WAS ADEQUATE FOR INCLUDED SUB-COMPONENTS (RELAYS).

ITEM 16

PO 844090V SWITCHES

ISSUES:

ADEQUACY OF SOURCE INSPECTION DOCUMENTATION
CONFLICTING DRAWING DATES

POSITION:

THE DRAWING RELIED UPON WAS THE CORRECT (ONLY) REVISION. THE INSPECTOR SHOULD HAVE NOTED THE TRANSCRIPTION/LEGIBILITY ERROR.