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New York Power Authority

Michael J. Colomb
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July 24, 2000
JAFP-00-0165

United States Nuclear Regulatory Commission
Attn: Document Control Desk
Mail Station P1-137
Washington, D.C. 20555

Subject: Question Regarding Methodologies Used For Calculations Which Form The
              Basis For Proposed Changes To Plant Technical Specifications

References: See last page

Dear Sir;

Reference 1, proposed changes to the James A. FitzPatrick (JAF) Technical Specifications.
This proposed change is currently under review by your technical staff. During the course
of this review, your technical reviewer asked a specific question regarding the
methodology used to perform calculations, which form the basis for the proposed
amendment. The technical reviewer's question and the Authority's answer are presented
below:

Question:

*"The licensee stated that their TS changes are based on plant specific calculations.
Please request the licensee to confirm which of the calculations are based on the
NRC approved calculation methodologies giving reference to the NRC documents
approving the calculation methodologies. Where the calculation methodologies have
not been approved by the NRC, the licensee should provide justifications for the
methodologies used giving reference to the NRC codes and guides, industry
standards, and topical reports to which the calculations conform in sufficient details
to enable the NRC to evaluate the adequacy of the calculation methodologies used."*

Answer:

References 2 & 3 are the plant specific uncertainty calculations, which form the
basis for this proposed amendment to the plant Technical Specifications. These
calculations were performed in accordance with JAF's instrument loop accuracy
and setpoint calculation methodology (Reference 4). This methodology is based on
industry standard ISA-S67.04 (Reference 6). Section C of Reg. Guide 1.105
(Reference 8) provides exceptions and clarifications to ISA-S67.04 1994 acceptable
to the NRC staff. Attachment 1 is a comparison of JAF's instrument loop accuracy
and setpoint calculation methodology (Reference 4) against Section C of Reg. Guide
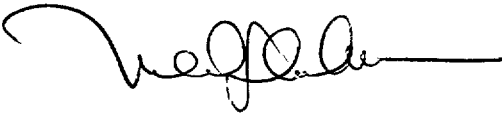1.105.

A-001

References 2 & 3 are based on an analysis of plant specific historical instrument drift data (Reference 5). This analysis was conducted in accordance with industry standard EPRI TR-103335 (Reference 7). Our staff is not aware that the NRC has explicitly approved EPRI TR-103335.

Please note that the Authority has submitted and received approval of proposed amendments to the JAF Technical Specifications based on other analyses performed in accordance with ISA-S67.04. Technical Specification Amendment 233 (Reference 9) is an example of one of these amendments.

JAF's current proposal to adopt the Improved Technical Specifications (ITS) is also based, to a great degree, on analyses performed in accordance with these methodologies. Please note that References 2 & 3 were performed explicitly to support the proposed ITS amendment. Reference 1 proposes that the proposed ITS values be incorporated into JAF's current Technical Specifications.

If you have any questions, please feel free to contact Mr. George Tasick at (315) 349-6572.

Very truly yours,

Michael J. Colomb
Site Executive Officer

MJC:MA:las

Cc: next page
Attachment as stated

References:
1. JPN-00-010, April 27, 2000, Proposed Change to Trip Level Settings and Surveillance Test Intervals for Residual Heat Removal and Core Spray Pump Start Interlock Timers and Automatic Depressurization System Auto-Blowdown Timers (JPTS-99-010)

2. JAF-CALC-ELEC-01460 - Setpoint Calculation for the CS and RHR Pump Interlock Timer Relays

3. JAF-CALC-NBS-02899 - 02E-K5A, B ADS Interlock Timer Relays Uncertainty and Setpoint Calculation

References: (cont'd.)

4. NYPA IES-3A, "Instrument Loop Accuracy and Setpoint Calculation Methodology," Rev. 2, September 1998

5. JAF-RPT-MULTI-02903, Surveillance Extension Report(s) for Logic System Functional Testing (LSFT), Rev 0

6. ISA-S67.04, Part I, Methodologies for the Determination of Setpoints for Nuclear Safety-Related Instrumentation, 9/94

7. EPRI TR-103335, Guidelines for Instrument Calibration Extension/Reduction Programs, 3/94

8. Regulatory Guide 1.105, Setpoints For Safety-Related Instrumentation

9. JPN-96-003, Proposed Changes to the Technical Specifications Regarding Extension of Instrumentation and Miscellaneous Surveillance Test Intervals to Accommodate 24-Month Operating Cycles (JPTS-95-001G). (JAF Technical Specification Amendment 233)

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COMPARISON OF IES-3A R/3 WITH RG 1.105 R/3

JAFNPP has not committed to being in compliance with RG 1.105; we evaluate our setpoints for safety-related instrumentation in accordance with IES-3A. Both IES-3A and RG 1.105 endorse ISA-S67.04-1994 Part I but RG 1.105 provides four exceptions and clarifications in Section C, Regulatory Position. IES-3A can be compared with RG 1.105 by evaluating the four exceptions and clarifications.

1. Section 4 of ISA-S67.04-1994 specifies the methods, but not the criterion, for combining uncertainties in determining a trip setpoint and its allowable values. The 95/95 tolerance limit is an acceptable criterion for uncertainties.

IES-3A addresses this issue in section 6.9.2, Instrument Module Uncertainties. Each module's uncertainty data should be two sigma probability for nuclear safety related application and statements as to the reasons for not using at least two sigma data should be provided in the calculation.

2. Sections 7 and 8 of Part I of ISA-S67.04-1994 reference several industry codes and standards. If a referenced standard has been incorporated separately into the NRC's regulations, licensees and applicants must comply with that standard as set forth in the regulation. If the referenced standard has been endorsed in a regulatory guide, the standard constitutes a method acceptable to the NRC staff of meeting a regulatory requirement as described in the regulatory guide. If a referenced standard has been neither incorporated into the NRC's regulations nor endorsed in a regulatory guide, licensees and applicants may consider and use the information in the referenced standard if appropriately justified, consistent with current regulatory practice.

IES-3A does not consider or use the information in any other standards except Part II of ISA-67.04 which we consider an extension of Part I.

3. Section 4.3 of ISA-S67.04-1994 states that the limiting safety system setting (LSSS) may be maintained in technical specifications or appropriate plant procedures. However, 10CFR50.36 states that the technical specifications will include items in the categories of safety limits, limiting safety system settings, and limiting control settings. Thus, the LSSS may not be maintained in plant procedures. Rather, the LSSS must be specified as a technical-specification-defined limit in order to satisfy the requirements of 10CFR50.36. The LSSS should be developed in accordance with the setpoint methodology set forth in the standard, with the LSSS listed in the technical specifications.

IES-3A defines LSSS as the computed Allowable Value for the complete loop. It further states that the LSSS are established per 10CFR50.36. The IES-3A calculated Allowable Values will be used as the LSSS in Technical Specifications.

4. ISA-S67.04-1994 provides a discussion on the purpose and application of an allowable value. The allowable value is the limiting value that the trip setpoint can have when tested periodically, beyond which the instrument channel is considered inoperable and corrective action must be taken in accordance with the technical specifications. The allowable value relationship to the setpoint methodology and testing requirements in the technical specifications must be documented.

COMPARISON OF IES-3A R/3 WITH RG 1.105 R/3

JAFNPP current practice is to document technical specification allowable values in accordance with IES-3A. The IES-3A calculations will define the allowable value(s) and how they relate to the field trip setting and the surveillance tolerances at the technical specification required surveillance frequency.

CONCLUSION:

IES-3A does not fully comply with RG 1.105 because it provides flexibility in dealing with non-two sigma data and because the NRC has not endorsed the recommended practices ISA-RP67.04-1994 Part II.