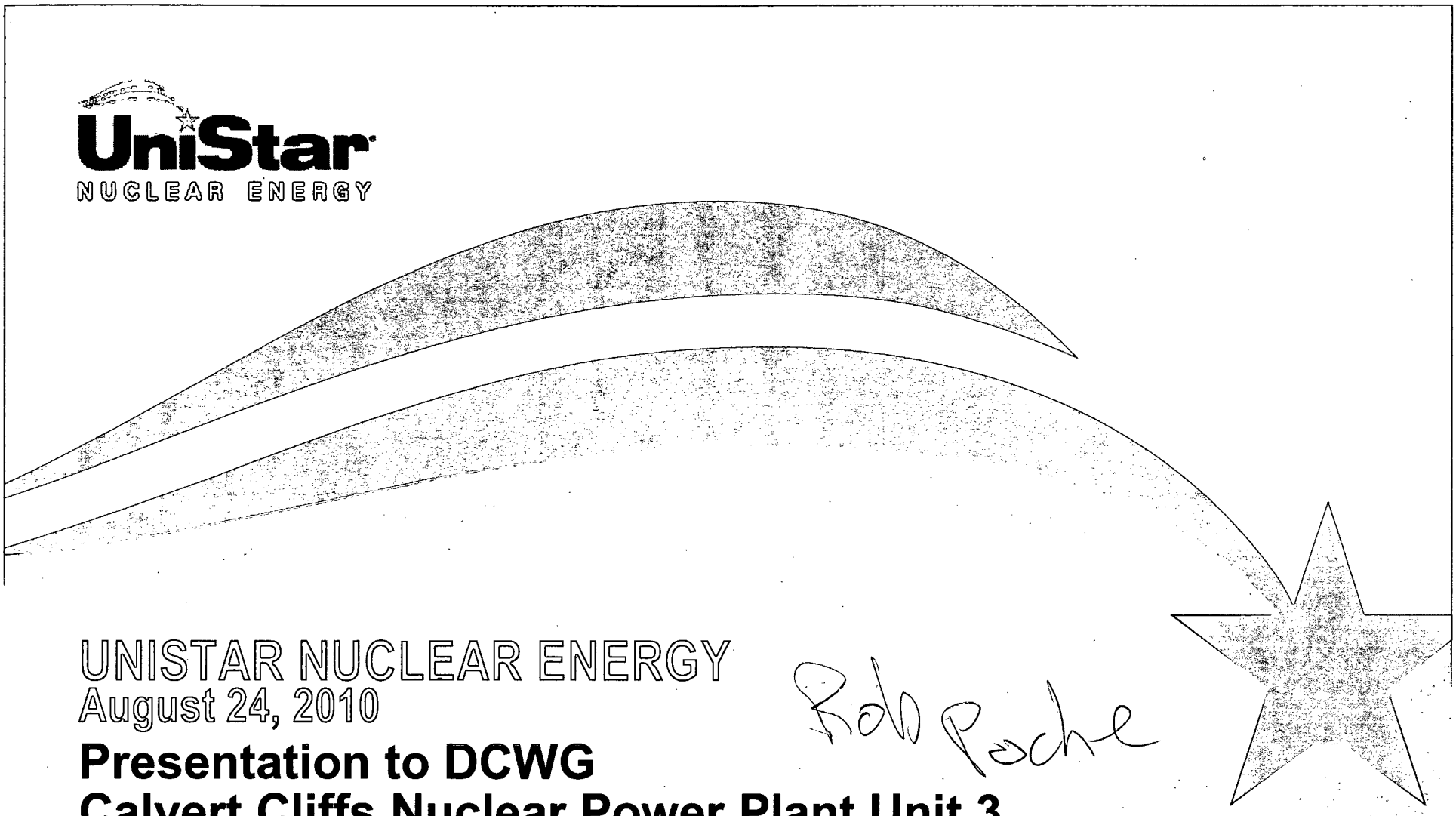

UNISTAR NUCLEAR ENERGY
August 24, 2010

Rob Poche

Presentation to DCWG
Calvert Cliffs Nuclear Power Plant Unit 3
FSAR Chapter 16
Technical Specification Setpoint Control Program

Technical Specification Setpoint Control Program
Purpose of the NRC Presentation

- The purpose is to request clarification of the information requested in Draft RAI 260
  - Topic 1: Wording of the Setpoint Control Program (SCP)
  - Topic 2: Inclusion of safety analysis modeling in the SCP

- Clarification of the Draft RAI will allow UniStar to be more responsive and allow outstanding issues to be efficiently resolved

Technical Specification Setpoint Control Program
Background

- The overall setpoint issue has evolved both for the U.S. EPR and the industry, but there have been precedents established
  - Calvert Cliffs Unit 3 RAI 95
    - NRC provided a model specification to satisfy 10 CFR 50.36(c)(1)(ii)(A)
    - The model specification specifically references the two AREVA Topical Reports associated with the calculation of channel uncertainties (ANPs 10275P-A and 10287P)
  - TSTF-493 Revision 4, Clarify Application of Setpoint Methodology for LSSS Functions
    - Includes Option B which provides for the use of a SCP
    - Requires applicant to "Insert reference to NRC safety evaluation that approved the setpoint methodology."
  - ESBWR and AP1000 Chapter 16 FSERs, which include approval of their SCPs
    - Only references the Topical Reports that address calculation of channel uncertainties

Technical Specification Setpoint Control Program

Requested Clarification of Draft RAI 260

- Topic 1: Wording of the SCP

  "Applicable steps of the SCP TS need to be revised to accurately reflect the surveillance testing strategy proposed for the digital U.S. EPR Protection System, the basis of which is the performance of calibrations limited solely to those analog components subject to drift. This surveillance testing strategy was described by AREVA during public meetings conducted on April 27, 2010 and April 28, 2010." (Emphasis added)

Technical Specification Setpoint Control Program
Requested Clarification of Draft RAI 260

- Topic 1: Wording of the SCP
  - Applicable steps of the SCP TS need to be revised to accurately reflect the surveillance testing strategy
    - AREVA did not change its testing strategy during the April 2010 meetings. It only provided additional details
    - UniStar considers the previous SCP wording from the NRC's model specification applicable for the Protection System surveillance testing strategy
    - Similar wording for the SCP has been approved generically for operating plants with digital components (TSTF-493), the ESBWR, and AP1000
    - Retention of the generic wording would reduce future compliance issues
  - What specific wording in the currently proposed SCP is considered inaccurate and what are the specific concerns

Technical Specification Setpoint Control Program
Requested Clarification of Draft RAI 260

- Topic 2: Inclusion of safety analysis modeling in the SCP

"The SCP TS requires that there be an NRC approved instrumentation setpoint methodology for all automatic protection instrumentation setpoints related to variables having significant safety functions. This includes setpoints related to variables having significant safety functions on which a Safety Limit (SL) has been placed, and setpoints related to variables having significant safety functions but which do not protect Safety Limits in the EPR TS. ... NRC approved setpoint methodologies to be referenced in the SCP TS for automatic protection instrumentation setpoints not directly related to the protection of a Safety Limit, could be addressed by (1) revising ANP-10275P-A, "U.S. EPR Instrument Setpoint Methodology Topical Report," to include the methodologies, or (2) developing a dedicated report that would detail the methodologies. Development of a dedicated setpoint methodology report would be the responsibility of either AREVA or UniStar." (Emphasis added)

Technical Specification Setpoint Control Program

Requested Clarification of Draft RAI 260

- Topic 2: Inclusion of safety analysis modeling in the SCP (Cont.)
  - NRC has verbally indicated that approved methodologies, including modeling considerations, must be referenced from the SCP
  - Safety analysis modeling assumptions, consistent with NRC approved Topical Reports, are described in FSAR Chapter 15
  - The past precedent, as shown in the RAI 95 model specification and the programs approved for operating plants, the ESBWR and the AP1000, is that only the methodology associated with the calculation of Channel Uncertainties is included in the Setpoint Control Program
  - UniStar believes the interpretation provided by past precedent satisfies the regulatory requirements for a SCP

Technical Specification Setpoint Control Program

Requested Clarification of Draft RAI 260

- Topic 2: Inclusion of safety analysis modeling in the SCP (Cont.)
  - Clarification is requested on what additional information is required for reactor trip and ESF functions and what is retained in the FSAR or provided / referenced from the Setpoint Control Program

Technical Specification Setpoint Control Program

Conclusions

- In order to efficiently develop a revised Setpoint Control Program and be responsive to Staff concerns, UniStar requests the Staff clarify Draft RAI 260 to include the following:
  - Details regarding each item that is considered technically inaccurate or unacceptable in the proposed Setpoint Control Program description (Topic 1)
  - Clarification regarding what constitutes the required NRC approved instrumentation setpoint methodology (Topic 2)

Request for Additional Information No. 260 (eRAI 5000)
DRAFT
8/18/2010

Calvert Cliffs Unit 3
UniStar
Docket No. 52-016
SRP Section: 16 - Technical Specifications
Application Section: SRP 16

QUESTIONS for Technical Specification Branch (CTSB)

16-22

This RAI is in response to the applicant's response to follow-up RAI 190, Question 16-20 (RAI 190, Question 16-20 was a follow-up to RAI 95, Questions 16-1 and 16-2).

Part B

Section 1.8.2, DEPARTURES

1. The Setpoint Control Program (SCP) Administrative Technical Specification (TS) reference that was deleted under the list of departures table included in Section 1.8.2, "Departures," should be retained. The SCP is a Departure from the EPR GTS that will require staff approval via an exemption from the future Design Certification Rule (DCR). Note that although the SCP is a Departure, Tier 2 Departure Evaluation criteria do not apply.

Section 1.2, EXEMPTION REQUESTS (1.2.8, Generic Technical Specifications and Bases - Setpoint Control Program)

1. References to "Limiting Trip Setpoints and Design Limits" in the first, second, and final paragraphs of Section 1.2.8, "Generic Technical Specifications and Bases - Setpoint Control Program," may need to be revised to accurately reflect information in DCD Table 3.3.1-2 (Protection System LCO 3.3.1) which has not yet been finalized.

Part C

Section 14, TS 5.5.18, SETPOINT CONTROL PROGRAM (Plant Specific Technical Specifications)

1. Applicable steps of the SCP TS need to be revised to accurately reflect the surveillance testing strategy proposed for the digital U.S. EPR Protection System, the basis of which is the performance of calibrations limited solely to those analog components subject to drift. This surveillance testing strategy was described by AREVA during public meetings conducted on April 27, 2010 and April 28, 2010.

2. The SCP TS requires that there be an NRC approved instrumentation setpoint methodology for all automatic protection instrumentation setpoints related to

variables having significant safety functions. This includes setpoints related to variables having significant safety functions on which a Safety Limit (SL) has been placed, and setpoints related to variables having significant safety functions but which do not protect Safety Limits in the EPR TS. This is necessary in order to ensure that the automatic protection instrumentation setpoints for all significant safety functions (SL and non-SL variables) specified in the Plant Specific Technical Specifications (PTS) will be subject to the requirements of the proposed SCP. NRC approved setpoint methodologies to be referenced in the SCP TS for automatic protection instrumentation setpoints not directly related to the protection of a Safety Limit, could be addressed by (1) revising ANP-10275P-A, "U.S. EPR Instrument Setpoint Methodology Topical Report," to include the methodologies, or (2) developing a dedicated report that would detail the methodologies. Development of a dedicated setpoint methodology report would be the responsibility of either AREVA or UniStar.

3. Specific references to the Core Operating Limits Report (COLR) and the Pressure and Temperature Limits Report (PTLR) Specifications in step 5.5.18.b of the SCP TS, do not adequately address the requirement to specify the NRC approved setpoint methodology used to determine the setpoint values for the automatic protection instrumentation functions in Table 3.3.1-2 of the U.S. EPR GTS delineated by footnotes stating (1) "As specified in the COLR," and (2) As specified in the Pressure-Temperature Limits Report." The COLR and PTLR setpoint methodologies associated with the setpoint values for these functions must be approved by the NRC and need to be identified and specified explicitly, not only in step 5.5.18.b of the SCP TS, but also, as applicable, in Core Operating Limits Report Section 5.6.3.b, and Reactor Coolant System Pressure and Temperature Limits Report Section 5.6.4.b, of Administrative TS Reporting Requirements Section 5.6.

4. The following statement added at the end of SCP TS step 5.5.18.b is confusing and the reason for its incorporation not understood: "The LTSP, NTSP, AV, PTAC, and ALT for other Technical Specification required automatic protection instrumentation functions shall be calculated in conformance with the instrumentation setpoint methodology documented and justified in the Setpoint Control Program."

5. Relocation of the term "required" in steps 5.5.18.c, 5.5.18.d, and 5.5.18.e of the SCP TS, to reflect the scope of functions that require trending and evaluation, and the scope of the setpoints specified in the document to be established by the SCP, is confusing on the basis that (1) inconsistencies exist between the referenced steps and step 5.5.18.b of the SCP TS which reads: "The Limiting Trip Setpoint (LTSP), Nominal Trip Setpoint (NTSP), Allowable Value (AV), Performance Testing Acceptance Criteria (PTAC), and As-Left Tolerance (ALT) for each applicable Technical Specification required automatic protection instrumentation function ...," and (2) the automatic protection instrumentation setpoints for all significant safety functions (SL and non-SL variables) specified in the PTS are subject to the requirements of the proposed SCP (i.e., NRC approved setpoint methodology, trending and evaluation).

6. Guidance associated with permissive settings needs to be incorporated into steps 5.5.18.b and 5.5.18.e of the SCP TS to reflect the fact that permissives are stated values.

7. The wording for Surveillance Requirement (SR) 3.3.1.9 in the Surveillance Requirements Section of LCO 3.3.1, Protection System, needs to be revised to include a reference to the SCP. The associated Bases discussion for SR 3.3.1.9 needs to be revised accordingly and the Bases reference to LTSP should be replaced by NTSP.

Section 17, BASES, PROTECTION SYSTEM (PS) (Plant Specific Technical Specifications)

1. Item g; the Bases discussion associated with SR 3.3.1.4 needs to be revised to include a reference to the permissive values.

2. Item h; the Bases discussion associated with SR 3.3.1.6 needs to be revised to include a reference to the permissive values.