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U. S. Nuclear Regulatory Commission
Ms. Mary T. Adams
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Office of Nuclear Material Safety and Safeguards
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Your ref: LTR-RAC-05-80
Our ref:

October 13, 2005

SUBJECT: AFFIDAVIT TO WITHHOLD INFORMATION FROM PUBLIC KNOWLEDGE

I, Mark W. Fecteau, do hereby state,

1. I am the Columbia Fuel Fabrication Facility (CFFF) Plant Manager, Westinghouse Electric Company, LLC, (WEC), and authorized to make and execute this affidavit.
2. On October 13, 2005, WEC provided copies of a nuclear criticality safety procedure and a portion of the nuclear criticality safety manual regarding generation of Calc Notes per WEC letter number LTR-RAC-05-79. It is Westinghouse's position that a) portions of the procedure, b) the entire manual portion supplied, and c) the information contained in Appendix A of LTR-RAC-05-79 should be withheld from public disclosure as confidential commercial information under 2.390(a)(4). Enclosed with this affidavit are redacted versions of the documents provided which may be made publicly available.
3. The information provided is routinely withheld from public disclosure.
4. Disclosure of the subject information would harm the competitive position of Westinghouse since this report contains substantial sensitive information related to the company's nuclear criticality safety program.

For all the foregoing reasons, Westinghouse requests that the subject information be withheld from public disclosure by virtue of 10 CFR 2.390(a)(4).

Mark Fecteau, CFFF Plant Manager
October 13, 2005

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11545 Rockville Pike
Mail Stop 8F42
Rockville, MD 20852-2738

Your ref:
Our ref: LTR-RAC-05-79

Subject: Partial Response to Request for Information

Date: October 13, 2005

Dear Dr. Tripp

Please find enclosed copies of the revised nuclear criticality safety calculation procedure (RA-312, Revision 1) and Section 5 from the Westinghouse Nuclear Criticality Safety Manual (NCS-005). These items together provide the response to Item 3 contained in the *Summary of September 6-8, 2005, Site Visit Re: Margin of Subcriticality* document (TAC L31869).

Appendix A contains the information requested regarding the reactivity worth of absorbers in final fuel assemblies in response to Item 2, Second Bullet in TAC L31869.

This information is being submitted to provide additional justification and confidence in the continued use of a 0.02 Minimum Margin of Subcriticality (MoS), as committed to in Special Nuclear Material license SNM-1107. If there are any questions please contact me at (803) 647 – 3173.

Sincerely,

Ralph Winiarski
Nuclear Criticality Safety Engineering Manager

U.S. Nuclear Regulatory Commission
Mrs. Melanie A. Galloway, Chief
Technical Support Group
Division of Fuel Cycle Safety and Safeguards, NMSS
11545 Rockville Pike
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Rockville, MD 20852-2738

APPENDIX A

WESTINGHOUSE RESPONSE TO REQUEST FOR INFORMATION

The following information is provided in response to Item 2, Second Bullet in TAC L31869. This bullet requested the reactivity worth of absorbers in final fuel assemblies.

NCS Manual
NCS-005: Use of in NCS Calculations

Revision 0
Date: 10/6/05

1.0 PURPOSE

This section of the NCS Manual provides expanded guidelines for performing and documenting calculations used in support of Criticality Safety Evaluation (CSEs). These guidelines are to be used in support with the requirements of Reference 5.1.1.

2.0 INTRODUCTION

The Columbia Fuel Fabrication Facility (CFFF) compliance with the operating license (SNM-1107) requires the use of a minimum Margin of Subcriticality (MoS) of 0.02 in the Nuclear Criticality Safety (NCS) evaluations. The use of this MoS value is justified through CFFF adherence to the following:

5.0 REFERENCES

5.1 Controlled Procedures

5.1.1 RA-312, NCS Calc Note Generation, Format, and Content Requirements

6.0 ATTACHMENTS

None

Title: NCS Calc Note Generation, Format, and Content Requirements

Description of Changes:

1. Expansion of Step 6.2.B.7 to define requirements for computer code calculation

Reason for Change:

1. Nuclear Criticality Safety Improvement Project

Department Acknowledgements

1. EHS NCS

Title: NCS Calc Note Generation, Format, and Content Requirements

1.0 PURPOSE

1.1 To provide format and content requirements for Nuclear Criticality Safety (NCS) calc notes.

1.2 To define appropriate initiation, authoring, review, approval, and publication requirements for NCS calc notes.

2.0 POLICY and SCOPE

2.1 The official NCS basis for a facility, process, or piece of equipment must be documented in a Criticality Safety Evaluation (CSE) (see Reference 7.1.2). NCS limits & controls, as well as conclusions regarding double contingency and margin of safety, may only be defined in a CSE. Calculations and analyses supporting the NCS basis may be documented in Calc Notes, however, as long as the final results or conclusions are referenced in the appropriate CSE.

2.2 This procedure defines the required format and content for Calc Notes containing NCS information, as well as the responsibilities and process used for the initiation, generation, review, approval and publication of Calc Notes containing NCS information.

2.3 This procedure does not apply to Calc Notes which are 1) generated by non-NCS Function organizations, and 2) do not contain NCS information.

3.0 TERMS/DEFINITIONS

3.1 Criticality Safety Evaluation (CSE) - The primary documentation of the NCS technical basis for a given process segment. NCS limits and controls are derived and defined in CSEs.

3.2 Calculation Note (or Calc Note) (CN) - Documentation of analyses performed in support of the CFFF safety basis.

3.3 NCS Calculation Note (or NCS Calc Note) (NCS CN) - A Calc Note which contains NCS information. NCS CNs may contain analyses referenced in one or more CSEs, but cannot define NCS limits or controls (unless those limits or controls are further summarized in a CSE).

3.4 NCS Engineer - A person who has met the qualifications specified by the NCS program (contained in Reference 7.1.3), who is knowledgeable of specific facility operations, processes and equipment, and who is assigned by management to provide nuclear criticality safety calculations, analyses, evaluations, reviews, and audits of designs and operations.

3.5 Senior NCS Engineer - A person who has met the qualifications specified by the NCS program (contained in Reference 7.1.3), who is

knowledgeable of specific facility operations, processes and equipment, and who is assigned by management to provide technical reviews of nuclear criticality safety calculations, analyses, and evaluations in addition to the normal duties of a Nuclear Criticality Safety Engineer.

3.6 Technical Reviewer - Senior NCS Engineer who performs technical review of draft NCS calc notes per Reference 7.1.4.

4.0 RESPONSIBILITIES

4.1 NCS Engineering Manager

A. Ensure any NCS calc note is both required and appropriate

B. Assign qualified personnel as originators and technical reviewers for NCS calc notes

C. Arbitrate disagreements between originators and technical reviewers

D. Approve NCS calc notes

4.2 NCS Engineer

A. Author NCS calc notes, following the content and formatting requirements given herein

B. Approve NCS calc notes

C. Issue approved NCS calc notes

4.3 Senior NCS Engineer

A. All requirements for NCS Engineers

B. Perform technical reviews of NCS calc notes

C. Approve NCS calc notes

5.0 REGULATORY REQUIREMENTS

5.1 This entire procedure is of Criticality Safety Significance.

5.2 This entire procedure is designed to provide guidance for the production of NCS calc notes that satisfy the requirements of license SNM-1107.

6.0 PROCEDURE

NOTE:

Revisions to NCS Calc Notes are processed in the same manner as original versions, using the steps included herein.

6.1 Initiate NCS Calc Note – NCS Engineering Manager

A. Once the need for a specific NCS calc note is identified (internally or externally), perform the following steps:

1. Ensure that an NCS calc note is the appropriate documentation for the analysis (e.g., if the analysis will define NCS limits or controls, the analysis must be documented or summarized in a CSE).
2. Assign a qualified NCS Engineer as originator of the NCS calc note.
3. Assign a qualified Senior NCS Engineer as technical reviewer of the NCS calc note.

6.2 Author NCS Calc Note – Originator

A. Perform all required analyses, and author the NCS calc note.

B. Each NCS calc note shall include the following sections. Note that the analyses documented in NCS calc notes shall be sufficiently detailed as to purpose, method, assumptions, input, references, and units, such that a person technically qualified in the subject can review and understand the analyses, and verify the adequacy of the results, without recourse to the originator.

1. Cover Sheet: Each NCS calc note shall include a cover sheet that includes the following:
   - Document number and revision number
   - Document title
   - Originator name, signature, and approval date
   - Technical reviewer name, signature, and approval date
   - NCS Engineering manager name, signature, and approval date
   - Total number of pages (including attachments)
   - Brief summary of objectives and results
2. Revision Log: A listing of all revisions of the NCS calc note, including the reason for the revisions, and a summary of significant changes for each revision. If the changes are very significant, the revision log may indicate that a complete revision was performed.
3. Introduction (Section 1.0)
   - Background/Purpose (Section 1.1): A brief statement of the objective of the analyses documented in the calc note, a brief description of the process being modeled, and a brief discussion of the background of the analyses/process, as applicable.

-

4. Conclusions (Section 2.0): Any conclusions drawn from the results, with appropriate justification.
5. Assumptions and Open Items (Section 3.0)
   - Assumptions (Section 3.1): A listing of all assumptions applicable to the documented analyses. For each assumption, justification shall be provided to demonstrate that the assumption is reasonable and bounding.
   -

6. Acceptance Criteria (Section 4.0): A description of the acceptance criteria used in the analyses, including the effects of any applied code biases.
7. Computer Codes Used in Calculation (Section 5.0): A description of any computer codes employed in the analyses. For each code used, this section shall list the following: code, code version, cross-sections, validation reference, area of applicability, bias, and any additional margins employed (e.g., area of applicability margin).

8. References (Section 6.0): A listing of all references employed in the NCS calc note, with sufficient detail to allow the references to be retrieved at a later date. If a reference is not retrievable, it shall be included in whole as an attachment.
9. Calculations (Section 7.0)
   - Method Discussion (Section 7.1): A description of the calculational methodology employed. If codes are employed, this section shall also include a detailed description of the models used. When material compositions are employed, this section shall list the compositions used, the methodology used to generate them, and any appropriate justification
   - Input (Section 7.2): A listing of all technical input used in the analyses documented in the calc note, including NCS-

significant tolerances and uncertainties, and appropriate references.

- Evaluations, Analysis and Detailed Calculations (Section 7.3): The results of the analyses. If codes are employed, each individual case shall be listed, with the associated results and a detailed description of the configuration modeled.

10. Appendices: As applicable, any supplementary data necessary to review or understand the analyses documented in the calc note, which are not included in the main body of the calc note, shall be included as attachments (e.g., technical verification checklists, raw data, emails, etc.). In addition, if codes are employed, a representative set of input files shall be included as an attachment.

C. Satisfy the following formatting requirements for each NCS calc note:

- Page numbers on every page
- Document number and revision number on each page
- No handwritten corrections
- Sufficient legibility such that the calc note may be read at a later date, even after being photocopied

D. After completing the draft NCS calc note, submit it to the identified technical reviewer.

6.3 Technically Review NCS Calc Note – Technical Reviewer

A. Perform a technical review of the draft NCS calc note, per Reference 7.1.4.

B. Review the draft NCS calc note, per the format and content requirements given herein.

C. Resolve comments with originator. In the case of a disagreement between the originator and technical reviewer, the NCS Manager shall arbitrate.

6.4 Approve NCS Calc Note - All

A. Once the originator and technical reviewer have resolved all comments, they shall both approve the calc note by signing the cover sheet.

B. The NCS Engineering manager shall review and approve the NCS calc note, by signing the cover sheet.

6.5 Issue the NCS Calc Note – Originator

A. Once the calc note has been approved by the originator, technical reviewer, and NCS Engineering manager, the originator submits the calc note to document control per Reference 7.1.5.

B. The originator shall retain paper and electronic copies of the approved calc note. If codes are used, the originator shall also retain electronic copies of all input and output files.

7.0 REFERENCES

7.1 Controlled Procedures

7.1.1' This procedure replaces RA-312, rev. 0.

7.1.2 RA-313, Criticality Safety Evaluations (CSEs)

7.1.3 RA-125, Indoctrination, Training, and Qualification of EH&S Personnel

7.1.4 RA-310, Nuclear Criticality Safety Independent Technical Reviews

7.1.5 RA-101, Environment, Health and Safety Record Generation, Retention and Control

7.1.6

8.0 ATTACHMENTS

8.1 None