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ACCESSION NBR: 8503270251 DOC. DATE: 85/03/21 NOTARIZED: NO DOCKET #  
 FACIL: 50-315 Donald C. Cook Nuclear Power Plant, Unit 1, Indiana & 05000315  
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 RECIP. NAME: DENTON, H. RECIPIENT AFFILIATION: Office of Nuclear Reactor Regulation, Director

SUBJECT: Discusses 850315 telcon re incorrect expression for multiplier on heat transfer coefficient used in TOODEE2, which affected LOCA-ECCS analyses for several PWRs. Analyses redone.

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Add: D. Moran.

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1. The first part of the document discusses the importance of maintaining accurate records of all transactions. It emphasizes that this is crucial for ensuring the integrity of the financial system and for providing a clear audit trail.

2. The second part of the document outlines the specific procedures for recording transactions. It details the steps involved in entering data into the system, from initial data collection to final verification and reporting.

3. The third part of the document addresses the challenges associated with data recording and provides strategies to overcome them. It highlights the need for consistent data entry and the importance of regular audits to identify and correct any discrepancies.

4. The fourth part of the document discusses the role of technology in improving the recording process. It explores various software solutions and hardware devices that can streamline data entry and reduce the risk of human error.

5. The fifth part of the document provides a summary of the key points discussed and offers recommendations for implementing the proposed procedures. It stresses the importance of training staff and ensuring that all personnel are familiar with the new system.

6. The sixth part of the document includes a list of references and sources used in the research. It provides a comprehensive overview of the literature on data recording and financial management.

7. The seventh part of the document contains a list of appendices, which include detailed examples of data entry forms and sample reports.

8. The eighth part of the document provides a list of abbreviations and acronyms used throughout the document. This is intended to help readers understand the terminology used in the text.

9. The ninth part of the document includes a list of figures and tables, which provide visual representations of the data discussed in the text.

10. The tenth part of the document is a list of footnotes, which provide additional information and references for the reader.

**EXXON NUCLEAR COMPANY, INC.**

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March 21, 1985  
GFO:85:008

*50-315*

Mr. Harold Denton, Director  
Nuclear Reactor Regulation  
U.S. Nuclear Regulatory Commission  
Washington, D.C. 20555

SUBJECT: Error in the 48,000 MWD/MTU LOCA-ECCS Analysis for D.C. Cook Unit 1

Ref.: XN-NF-83-61, "D.C. Cook Unit 1 LOCA-ECCS Analysis for Extended Exposure," August 1983

Dear Mr. Denton:

As discussed in a telephone conversation on March 15, 1985 with Mr. David Moran, Mr. Norm Lauben and Mr. Robert Jones of your staff, an error was discovered which affected the LOCA-ECCS analyses for several PWRs. The error was in an expression for a multiplier on the heat transfer coefficient used in TOODEE2, which was incorrectly programmed into the code.

TOODEE2 calculates the thermal response (heatup) of the hot fuel rod following the end of the blowdown transient until the core temperature transient is terminated. The incorrect coding caused the heat transfer coefficient multiplier in TOODEE2 to be 1.045, when it was intended to be 1.0 based on input to the code.

One such analysis affected by this error was the analysis to support increased burnup from 42.2 MWD/kg to 48.0 MWD/kg in D.C. Cook Unit 1. The analyses to support burnup points up to 42.2 MWD/kg were previously reported in XN-NF-81-07 and were done with a version of TOODEE2 which did not contain the error. ENC has redone the analyses reported in XN-NF-83-61 to support the increased burnup to 48.0 MWD/kg.

The peak clad temperature is calculated with the corrected version of TOODEE2 at 48 MWD/kg to be 1785°F versus the previous value of 1736°F. The reanalysis verifies that the plant satisfies the 2200°F limit of 10 CFR 50.46.

If there are questions, or if I can be of further help, please contact me.

Sincerely,

*G. F. Owsley*  
G. F. Owsley, Manager  
Reload Licensing Liaison

gf

CC: Mr. J. G. Feinstein (AEP)  
Mr. D. L. Wigginton (USNRC)

*Acc 1/0*

*Add: Dave Moran*

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AN AFFILIATE OF EXXON CORPORATION

