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U. S. Nuclear Regulatory Commission  
Mail Station P1-137  
Washington, D. C. 20555

Attention: Document Control Desk

Gentlemen:

SUBJECT: Grand Gulf Nuclear Station  
Unit 1  
Docket No. 50-416  
License No. NPF-29  
GGNS Emergency Procedure Improvement  
Program; Deviations to the  
Procedures Generation Package  
AECM-88/0167

- References:
- 1) SERI Letter (AECM-86/0208) to NRC dated July 15, 1986
  - 2) SERI Letter (AECM-87/0032) to NRC dated March 3, 1987
  - 3) SERI Letter (AECM-87/0164) to NRC dated September 4, 1987
  - 4) SERI Letter (AECM-88/0135) to NRC dated July 8, 1988

In response to NRC Inspection Report 88-06, SERI submitted in Reference 4 the Emergency Procedure Improvement Program EPIP documenting the short term and long term program for improving the GGNS Emergency Procedures (EPs). As indicated in the EPIP, SERI committed to document any deviations taken to the Procedures Generation Package (PGP) per References 1 and 2. These deviations are described in the Attachment to this letter.

As part of the long term GGNS EPIP program, SERI intends to make human factors and EP writers guide improvements upon upgrading to Revision 4 of the BWR Owners Group Emergency Procedure Guidelines. Changes to the PGP provided in Reference 3 will be reviewed for incorporation into the EP development process at that time.

Yours truly,

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ODK:jjb  
Attachment

cc: (See Next Page)

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DEVIATIONS BETWEEN GGNS PGP (AECM-86/0208) AND EP IMPLEMENTING PROCEDURE  
01-S-06-37, REVISION 3, "REVISION AND CONTROL OF EMERGENCY PROCEDURES"

1. PGP Section: 3.4.6

Retainment Steps (Figure 3-7 Sample Retainment Step)

Deviation:

01-S-06-37, Revision 3 example provides for a horizontal line below the "IF" statement only when there is a bulleted list of multiple conditions. The IF statement in the PGP example should be a single statement without the horizontal line.

Justification:

The horizontal line should be used to set off multiple conditions or actions, as shown in Figure 3-13. Where only one condition or action exists, the statement is clearer without the horizontal line. Therefore, this change modifies the example and provides for improved clarity of the steps.

2. PGP Section: 3.4.13

Placekeeping Aid

A "└─┘" is placed next to each step as a placekeeping aid to the operator.

Deviation:

01-S-06-37, Revision 3 does not address the placekeeping aid stipulated in the PGP.

Justification:

The operators utilize dry board markers to maintain their place on the flow charts. This method is considered to be more efficient for flowchart placekeeping and is preferred by operators using the flowcharts.

During the inspection, the NRC noted that operators were not using these placekeeping aids stipulated in the PGP and recommended they be removed. This change resolves the NRC Inspection Team comment.

3. PGP Section: 3.4.14.g

Two sets of flowcharted EPs will be maintained in the control room. Both sets will be 26" x 21" laminated on backing to be used by the Shift Supervisor who is in charge of the plant at all times per GGNS-1 Procedure 01-S-06-2, "Conduct of Operations."

Deviation:

01-S-06-37, Revision 3 provides for laminated flowcharts that are 22" X 34" and does not require a backing material be used.

Justification:

Further review of flowcharts used in the control room has shown that a larger size is needed for better readability. Therefore, 22" X 34" size is now specified. This is presently considered to be an optimum size considering readability and space considerations. No backing material is used to allow for better use of the space available. Use of backing on the EPs would result in more cumbersome procedures.

4. PGP Section: 3.5.3.d

Do not use imprecise adverbs (for example, frequently or slowly).

Deviation:

01-S-06-37, Revision 3 requires that these adverbs be avoided "when possible".

Justification:

The term "slowly" is used in GGNS EPs when increasing reactor water level from the top of active fuel to normal level following an ATWS and SLC injection. This step requires that water injection be slowly commenced and increased to restore level. This is necessary to allow monitoring of reactivity while adding non-borated water. Operators are trained on this step to ensure the level increase is slow and controlled. However, use of these adverbs will be avoided when possible.

5. PGP Section: 3.5.7.6.4

"Include references to GGNS-1 Emergency Plan Procedures (EPPs) as appropriate on the flowchart."

Deviation:

01-S-06-37, Revision 3 does not address referencing Emergency Plan Procedures (EPPs) on flow charts.

Justification:

The referencing of the EPPs was of limited value in the EP flow charts. The EPP references cluttered the flow charts. During the NRC inspection, the NRC inspection team agreed that the EPP references could be deleted.

The EPPs are plant procedures that are entered and followed separately from the EP's in the control room.

6. PGP Section: 3.6.2.a

Abbreviations and Acronyms

The use of abbreviations and acronyms depends heavily on user familiarity; that is, their meaning must be unquestionably clear to an expected procedure user. On the other hand, they are needed to save space in the flowchart format, and it is virtually impossible to spell them out at their first mention, which is normally done in single- or double-column format procedures. Therefore, the following guidelines apply:

Spell out all words in procedure titles.

Deviation:

01-S-06-37, Revision 3 does not address spelling out words in procedure titles.

Justification:

Operators use and recognize procedure numbers rather than procedure titles. This method of referencing procedure titles was established in order to make it easier for the operators to understand and locate procedures. This is considered to be an improvement to the EP's.

7. PGP Section: 3.6.6.d

Numerical Values

Ensure that the number of significant digits is equal to the number of significant digits available from the display (and required by the necessary reading precision of the operator).

Deviation:

01-S-06-37, Revision 3 provides for an exception to this, allowing use of specific Technical Specification values which may or may not have more significant digits than that available from the display.

Justification:

Many Technical Specification values are required to be committed to memory by the operator. In these cases, use of these same values in the EPs prevents operator confusion and decreases the chance of error. For example, the operators memorize the value for the reactor low level scram of +11.4". If the EP entry condition was set at +12", two different numbers would be required to be memorized by the operator. Also, many annunciators in the control room are printed with Technical Specification values (11.4", -150.3", etc). For consistency, the same values will be used in the EPs.

8. PGP Section: 3.10.2

"If any equipment is operated beyond its design specification, the following should be noted in the control room log:

- o Component affected
- o Parameter exceeded or value operated at
- o Length of time operated above design limits"

Deviation:

01-S-06-37, Revision 3 does not address guidelines on equipment use during emergencies.

Justification:

Instead of the control room log being used to record abnormal equipment use, the same information will be recorded on the incident report form. This will allow a better means of identifying and tracking of the equipment.

9. PGP Section: Appendix 3C.1-Sample Format

The flowcharts will have at least a 1" margin on all four sides. The title block in the lower right corner will be at least 1" from the right and bottom edges of the chart.

Deviation:

01-S-06-37, Revision 3 specifies in Attachment VII that flow charts will have a  $\frac{1}{2}$  inch margin on all four sides instead of a 1 inch margin per Appendix 3C.

Justification:

No significant differences in readability were noted with the margin change to  $\frac{1}{2}$  inch. No information is contained in the margin area. Useability of the flow charts is unaffected by using  $\frac{1}{2}$  inch margins instead of 1" margins.