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NUCLEAR PRODUCTION DEPARTMENT

August 20, 1982

U. S. Nuclear Regulatory Commission
Office of Nuclear Reactor Regulation
Washington, D. C. 20555

Attention: Mr. Harold R. Denton, Director

Dear Mr. Denton:

SUBJECT: Grand Gulf Nuclear Station
Units 1 and 2
Docket Nos. 50-416 and 50-417
License No. NPF-13
File: 0290/0272/0296/1090
Ref: AECM-81/140, AECM-82/299
GE Comments on GGNS Emergency Operating
Procedures
AECM-82/344

Please find attached the information requested by your Procedures and Test Review Branch (PTRB) on the incorporation of General Electric comments into the GGNS Emergency Operating Procedures (EOPs). This information provides a clearer understanding in the development of Revision 10 to the EOPs which was transmitted to the NRC by AECM-82/299 on June 28, 1982.

The changes made for Revision 10 incorporating the GE comments were based on Revision 1B of the BWROG Emergency Procedure Guidelines (EPGs) dated August 27, 1981. Item 1.C.1 of NUREG-0737 requires NSSS vendor review and for BWRs the use of the BWROG EPGs. As stated in the GGNS SER, the EPGs have been accepted for trial implementation at Grand Gulf. Revision 10 of the GGNS EOPs more closely follows the guidelines of the EPGs, therefore, any conflicts between the NRC accepted EOPs and the most recent EOP revision should not impact issuance of the full power operating license. However, MP&L will strive to resolve any NRC comments on the GGNS EOPs in a timely manner.

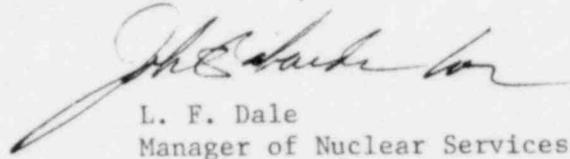
Attachment 1 is the GE preliminary comments which were informally provided to MP&L for incorporation into the GGNS EOPs during a meeting between GE and MP&L on November 3 and 4, 1981. The MP&L response on the incorporation of the GE comments into the EOPs are also provided following each comment. Attachment 2 is a copy of the GE letter which provides the formal review and approval on the satisfactory resolution of their comments. The GE review and approval was performed on Revision 0 of the GGNS EOPs. This revision was similar to the EOPs transmitted to the NRC on April 15, 1981 by AECM-81/140.

Boo!

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Please advise this office for any additional information that you may require.

Yours truly,



L. F. Dale
Manager of Nuclear Services

SAB/SHH/JDR:rg

Attachments

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MP&L RESPONSES TO
GE COMMENTS ON
THE GGNS EMERGENCY
PROCEDURES

Comments
Provided During
GE Site Visit
on 11/3/81 and 11/4/81

CATEGORIES OF COMMENTS

1. An opinion offered for information purposes only; the utility should consider taking action consistent with the reviewer's recommendation if such is not inconsistent with the general practices followed by the utility. Generally, these comments have little or no implication as to the procedure's technical compliance with the EPG's.
2. Comments which bear (directly or indirectly) on the procedure's technical compliance with the EPG's. (The comment may also identify an overly restrictive interpretation of the EPG's.) Failure to incorporate the reviewer's recommendations would not adversely affect safety of operations; however, action should be taken consistent with the recommendation.
3. Comments which identify incorrect implementation of the EPG's which results in wrong guidance being given to the operator. Failure to incorporate the comment/recommendation could adversely affect reactor safety and, in the opinion of the reviewer, may be grounds for withholding vendor approval of the associated procedure.

1. PAGE 1, Purpose Statement

CATEGORY I

"top" is misspelled in line 2.

RESPONSE

GE comment incorporated as recommended.

2. PAGE 1 - STEP 2.3 and 2.3.1

CATEGORY III

This step misinterpreted the EPG intent and should be changed. The simpler EPG statement "an isolation which requires or initiates reactor scram" should be used here. The Grand Gulf (GG) approach of mentioning only the group I isolation is much more restrictive than the EPG intention and is not reflective of the EPG symptomatic philosophy.

RESPONSE

GE comment incorporated as recommended.

3. PAGE 1, STEP 3.1 and SUBSTEPS 3.1.1, 3.1.2 and 3.1.3

CATEGORY II

These steps are more complicated and wordy than necessary. The approach used here should be deleted and the EPG approach (LC 2.1) used instead. The GG step essentially duplicates the entry conditions listed in section 2.0 above and confuses the issue.

Additionally, as written, these steps are incomplete. For example, 3.1.1.a. has words missing and does not have the operator check all the other things that occur or should occur when RPV water level is less than +10" (i.e. LL2 actions, LL1 actions, etc.). Similarly, 3.1.2 would need to include the other actions that occur on high drywell pressure, and 3.1.3 would need to include other actions that occur as a result of a group I isolation (i.e. Rx Scram).

RESPONSE

GE comment incorporated as recommended i.a.w. EPGs.

4. PAGE 1, Step 3.2

CATEGORY I

The assumption is made that ONEP 05-1-02-I-1 contains the EPG statement to "confirm or place the reactor mode switch in REFUEL".

RESPONSE

This comment was not incorporated, since the refuel mode bypasses some of the suppression pool makeup system auto dump interlocks and should not be specified in EP.

5. PAGE 2, CAUTION

CATEGORY I

The caution relating to +52" is unnecessary and should be deleted. It is also redundant to the direction given to the operator in Step 3.3. Furthermore, it is a general EPG intent not to use cautions in Level Control.

RESPONSE

GE comment incorporated as recommended.

6. PAGE 2, NOTE pertaining to minimum number of systems

CATEGORY I

This note is unnecessary and might be confusing under some circumstances. It might be interpreted as "operate only one system". This is not the EPG intention. This type of information might be conveyed through the stations training program. Further, as mentioned in #5 above, it is an EPG intention to not include this type of caution/note material in Level Control. The EPG approach would not use this note, and would add "one or more of" between "with and the" in step 3.3.

RESPONSE

GE comment incorporated as recommended.

7. PAGE 2, STEP 3.3.2

CATEGORY I

Additional information was given regarding the use of the CRD System on page 1 of the Cooldown Procedure (step 3.1.1.b). Since the general intention of both steps is the same, consistency should be maintained between the two steps.

RESPONSE

GE comment incorporated as recommended.

8. PAGE 2, STEP 3.3.1, 3.3.6 and 3.3.7

CATEGORY I

Since it is doubtful that the booster pump can be operated without the condensate pump running to supply NPSH, or that the feed pumps could be operated without condensate pumps, these steps could be combined into one item and named "condensate/feedwater", as did the EPG. As written, step 3.3.1 implies that a feed pump could be operated by itself down to 0 psig and step 3.3.6 implies that a booster pump could be operated by itself down to 0 psig; I am not sure that this is possible.

RESPONSE

GE comment incorporated as recommended.

9. PAGE 2, STEP 3.5

CATEGORY I

If the Low Low Set (LLS) feature is incorporated into the G.G. ADS System, this step could be rewritten as "If LLS does not function, manually open one SRV and reduce RPV pressure.....".

In any case (with or without LLS) the number 883 psig should be a more "readable" number such as 880 or 890 (or even 850 or 900). The intention is to give the operator a number that he can easily determine from a control panel indication, and 883 is not an easy number to read on a 0-1000 psig gage or recorder.

Finally, the phrase "(150 psig below the lowest SRV lift pressure.....)" does not need to be included here and should be removed. This information encumbers the step, detracts from the action part of the step, and would be more appropriate in the stations training program.

RESPONSE

GE comment incorporated by modifying step 3.5 and using 850 psig for reducing RPV pressure levels.

10. PAGE 3. Step 3.5.1

CATEGORY I

This step corresponds to EPG Caution 15. As discussed above, it is a general EPG intention to avoid the use of cautions in Level Control. With respect to this particular caution, it was not used in Level Control in the EPG because the operator would be through Level Control and into Cooldown very quickly. This caution is then addressed in Cooldown in the EPG.

However, if it is decided to retain this step in Level Control, the figure should be larger and more "readable". It would be much better to enlarge the figure and place it on the back of the preceding page (the back of page 2). Also the symbol " Δ " is not defined in this figure.

RESPONSE

GE comment was not incorporated. Step 3.5.1 will be kept since it provides useful information. Figure A also will be on the panel for operator aid.

11. PAGE 3, STEP 3.6

CATEGORY I

Why are the words "determined" and "maintained" underlined? Similar words in other steps are not underlined. Although a minor point, this is an inconsistency.

RESPONSE

GE comment incorporated as recommended.

12. PAGE 3, STEP 3.6

CATEGORY II

This step is out of place. The EPG would put this step before step 3.5. In other words, if RPV water level were below TAF or could not be determined, we should be going to Level Restoration rather than watching LLS.

RESPONSE

GE comment incorporated as recommended.

13. PAGE 3, STEPS 3.7

CATEGORY I

The EPG would begin this step with "When" instead of "If".

RESPONSE

GE comment incorporated as recommended.

14. PAGE 3, STEPS 3.7 and 3.8

CATEGORY II

The EPG would replace all these words with "When the RPV water level has stabilized, proceed to EP-2 (Cooldown)". The EPG would delete "at less than +10 inches" from 3.7 and step 3.8 in its entirety. The G.G. approach is more restrictive than the EPG intention because the EPG could define "stable" level as anywhere between TAF and +52".

RPV level does not specifically have to be greater than +10" to enter the station's general operating procedures. This is not the way the EPG word this step and is not consistent with EPG caution #1.

RESPONSE

GE comment incorporated as recommended.

15. PAGE 3, STEP 2.0

CATEGORY II

As described in comment #14 above, the words "at less than +10 inches" are not consistent with the EPG intentions. Also, the symbol " is used at other places in these procedures to denote water level.

RESPONSE

GE comment incorporated as recommended.

16. PAGE 1, CAUTION

CATEGORY III

This is an incomplete attempt to describe EPG Caution #11. It is unsatisfactory because the G.G. wording does not give the operator any direction. The present wording is more appropriate to the training program than to an emergency procedure. The caution should appear here, but the complete EPG Caution #11 wording should be used.

RESPONSE

GE comment incorporated as recommended i.a.w. EPG Caution #11.

17. PAGE 1, NOTE .ertaining to minimum number of systems

CATEGORY I

As described in comment #6 above this note is unnecessary. The EPG approach would be to delete the note and add "one or more of" between "use" and "the" in step 3.3.1.

RESPONSE

GE comment incorporated as recommended.

18. PAGE 1, STEP 3.1

CATEGORY II

The level band referenced here (between +52" and TAF) is inconsistent with the entry condition. This band is consistent with the EPG, but not with the way the G.G. procedures are presently written (refer also to comments 14 and 15 above).

RESPONSE

MP&L is in agreement with the GE comment and no revision to this step now is required.

19. PAGE 1, STEP 3.1.1.a.

CATEGORY I

When this list of systems was used earlier (Level Control Step 3.3) the feedwater system was listed as preferred. The EPG would not actually state this preference, but if a preference is stated it should be done consistently.

Additionally, comment #8 would apply here too.

RESPONSE

GE comment incorporated as recommended.

20. PAGE 1, STEP 3.1.1

CATEGORY III

Part of this step is missing. Steps 3.1.2 and 3.1.3 are missing and HPCS, LPCS, LPCI and the Condensate System should be added to this list.

RESPONSE

GE comment incorporated as recommended.

21. PAGE 2, Procedure Number

CATEGORY I

The "2" was left out of "05-S-01-EP-2".

RESPONSE

GE comment incorporated as recommended.

22. PAGE 2, STEP 3.1.4

CATEGORY I

This step corresponds to EPG Caution #8, but is more wordy than necessary. Consideration should be given to using the simplified wording of the EPG.

RESPONSE

GE comment was not incorporated. The existing wording is more appropriate for this step.

23. PAGE 2, STEP 3.2

CATEGORY I

Comment #9 is also applicable here.

RESPONSE

GE comment incorporated as recommended.

24. PAGE 2, STEP 3.3

CATEGORY I

The degrees symbol was left out of "100°F/hr".

RESPONSE

GE comment incorporated as recommended.

25. PAGE 2, CAUTION

CATEGORY I

This caution is EPG Caution #13. The "and" in line 2 of the caution should be "or", and the last two lines of the caution should be removed. As written, these two lines are telling the operator to maintain a 100.0°F/hr. cooldown rate; or, in other words, to use a 100°F/hr. cooldown rate when a less value might be more appropriate. This is not the EPG intention, nor is it what general station operating procedures would want the operator to do. The 100°F/hr. is an upper limit, not a fixed number to be maintained. These two lines also duplicate the guidance given in step 3.3, immediately preceding the caution.

RESPONSE

GE comment incorporated as recommended.

26. PAGE 2, STEP 3.3.1

CATEGORY I

The words "one or more or" should be used between "then" and "the". The words "depressurization and" should be used between "RPV" and "cooldown".

RESPONSE

GE comment incorporated as recommended.

27. PAGE 3, STEP 3.3.1.b

CATEGORY II

The steam line low pressure isolation set point of 50 psig should be used here instead of 0 psig. The 50 psig number was used in the similar step 3.3 of Level control.

RESPONSE

GE comment incorporated as recommended.

28. PAGE 3, CAUTIONS

CATEGORY I

Previously, the practice has been to list cautions before the step to which they apply. Although a minor point, these cautions have been listed after the steps to which they apply, and this is an inconsistency.

RESPONSE

GE comment incorporated as recommended.

29. PAGE 3, RCIC CAUTION

CATEGORY III

This is referring to EPG Caution #12 but is incorrect as written. The EPG intent is to warn the operator not to operate RCIC below 2000 RPM. However the G.G. caution is directing the operator to operate RCIC at 2000 RPM.

RESPONSE

GE comment incorporated as recommended.

30. PAGE 3, RCIC CAUTION

CATEGORY I

The words "to ensure sufficient oil pressure" do not belong in the caution.

RESPONSE

GE comment incorporated as recommended.

31. PAGE 3, STEP 3.3.1.b.(1)(a), (b), (c), and (d)

CATEGORY II

The process of determining if motor driven pumps can maintain RPV level is not mentioned in the EPG and would more appropriately belong in the station's training program. It is preferable to reduce RCIC flow (with the flow controller) to a minimum and then deduce the effectiveness of the motor driven pumps?

RESPONSE

GE comment on the motor driven pumps capability to maintain RPV level was not incorporated into EPs. The reduction of RCIC flow was incorporated.

32. PAGE 3, STEP 3.3.1(c)

CATEGORY II

If steam condensing is used, the caution that warns against the use of steam condensing unless S/P temperature can be maintained below (120°F) and more than one RHR loop is available must either be mentioned here or be clearly understood by the operator.

RESPONSE

This caution is not found in the EPGs (Rev. 1B) but is stated in the RHR procedure and therefore was not incorporated into the EPs.

33. PAGE 3, STEPS 3.3.1. d, e, f, and g

CATEGORY II

In these steps, the EPG would not include the pressure range for operation of these systems. If used however, it should be remembered that these systems could be used to assist the depressurization process

below 150#, 200#, 200#, or 350# respectively. This is talking about operating the system in its normal manner at rated conditions, and is merely referring to the system as a possible method of bleeding steam off of the RPV.

RESPONSE

GE comment incorporated as recommended.

34. PAGE 4, STEP 3.3.1.j

CATEGORY I

When referring to discharging coolant (by whatever means) a reference to sampling should be included. It is assumed that reference is included in the respective RWCU procedure (04-1-01-C33-1).

RESPONSE

GE comment incorporated as recommended.

35. PAGE 4, STEP 3.3.2

CATEGORY I

The words "one or more of" should be inserted between "Then" and "the".

RESPONSE

GE comment incorporated as recommended.

36. PAGE 4, STEP 3.3.2.a and RCIC CAUTION

VARIOUS

Comments #27 (II), 28 (I), 29 (III), and 30 (I) also are applicable here.

RESPONSE

GE comment incorporated as recommended.

37. PAGE 4, STEP 3.3.2.a.(1)

CATEGORY II

Comment #31 is also applicable here.

RESPONSE

See response to item 31.

38. PAGE 4, STEP 3.3.2.b

CATEGORY II

Comment #32 is also applicable here.

RESPONSE

See response to item 32.

39. PAGE 5, NOTE

CATEGORY I

This note is not necessary and should be covered in the station's training program.

RESPONSE

GE comment incorporated as recommended.

40. PAGE 5, STEP 3.3.2.d

CATEGORY I

The EPG intention is to use SRVs only if necessary to augment the pressure reduction. This subtle point is not reflected in this step.

RESPONSE

GE comment incorporated by providing a "Note" to step 3.3.2.d reflecting this.

41. PAGE 5, STEP 3.3.2.d

CATEGORY I

"Equalize" is misspelled in 3.3.2.d.(1). The phrase "to equalize suppression pool heating" could be emphasized in the training program and removed from this step, thus streamlining the procedure. As discussed in comment #10 above, this figure would be of more value if enlarged and placed on the back of the preceding page. The training program should clearly emphasize how to recognize the loss of Instrument Air in step 3.3.2.d.(2).

RESPONSE

GE comment was not incorporated. This adds to operator understanding. See also response to comment 10.

42. PAGE 5, STEP 3.3.2.e

CATEGORY I

It is assumed that the necessary reference to sampling is included in the referenced procedure (04-1-01-G33-1).

The words "at step later" were not included when this step was used earlier as step 3.3.1.j. This is an inconsistency.

RESPONSE

GE comment incorporated by providing "at step 5.1" to step 3.3.1.j.

43. PAGE 6, STEP 3.3.3

CATEGORY I

If specific setpoints must be given here for the shutdown cooling interlocks, the low level setpoint should be mentioned as well as the pressure setpoint. RPV level below LL3 will also prevent going into shutdown cooling.

RESPONSE

GE comment was not incorporated.

44. PAGE 6, STEP 3.3.4

CATEGORY III

"3.3.1.a or 3.3.1.b" should be replaced with "3.3". As written, this step tells the operator to continue to cooldown with only the Main Turbine Bypass Valves (step 3.3.1.a) or RCIC (step 3.3.1.b). All the systems listed in step 3.3 should be listed as options, not just the TBVs and RCIC.

RESPONSE

GE comment incorporated as recommended.

45. PAGE 6, STEP 3.3.5

CATEGORY II

This step is overly restrictive. It may be necessary to use alternate shutdown cooling (SDC) above 212°F, and this step implies that alternate SDC would only be used when below 212°F. EPG wording at this point would be preferable.

RESPONSE

GE comment was not incorporated. MP&L wording is preferable to EPG wording for GGNS.

46. PAGE 6, STEP 3.3.6

CATEGORY II

The EPG does not use the words "If the RPV cooldown is under control and the plant conditions is stable, Then", and they should be removed from this step.

RESPONSE

GE comment incorporated as recommended.

47. PAGE 1, NOTE

CATEGORY III

In general, this note is much more wordy than necessary and the use of EPG wording would clarify and simplify the situation considerably.

Specifically, the first sentence of this note is not consistent with the EPG intention (EPG Step CC-2), and is the main point of objection with this note.

While true, the second sentence could be relegated to the training program and removed from this note thus streamlining the procedure.

The fourth sentence is unnecessary. This is EPG Caution #1 and is applicable throughout the emergency procedures and does not need to be specifically mentioned here.

RESPONSE

GE comment was incorporated by modifying note, however, the second sentence was kept for operator aid. In addition, the entire format for this procedure was revised for clarity.

48. PAGE 1, ENTRY CONDITIONS

CATEGORY I

The degrees symbol is missing from 135°F, 95°F, and 90°F.

From a Human Factors Engineering (HFE) viewpoint, engineering units mentioned in procedures should be the same as those read on the panels. Can the Suppression Pool low level limit of 18' 5.5" be read on a panel?

RESPONSE

GE comment incorporated as modified by changing levels to feet in decimals. The 18' 5.5" level can be read on the panel.

49. PAGE 2, STEP 3.1

CATEGORY I

The EPG approach of saying "Monitor and control primary containment pressure with the following systems as, required" would be preferable here. The EPG approach was used in section 3.2 for drywell temperature, in section 3.3 for containment temperature; and should be used here also.

RESPONSE

GE comment incorporated by replacing section 3.1 wording with section 3.3 wording.

50. PAGE 2, STEP 3.1

CATEGORY III

At this point, the EPG would reference the use of the primary containment pressure control systems. This step was included in the EPG specifically at the request of MK III containment owner's representatives, however, G.G. does not include this step in their procedures.

RESPONSE

GE comment was not incorporated since the GGNS design uses strictly containment cooling and spray for containment pressure control.

51. PAGE 2, NOTE

CATEGORY III

This note references venting and indicates that "this paragraph" could "require venting". However, there is no step in "this paragraph" that directs the operator to vent either the D/W or containment. I believe that venting is not actually used in these procedures until the RPV Flooding procedure is entered.

RESPONSE

GE comment incorporated by moving note to section 3.4.

52. PAGE 2, STEP 3.1.1

CATEGORY I

This step is redundant to the direction provided in Level Control and could be deleted.

RESPONSE

GE comment incorporated by deleting this step.

53. PAGE 2, STEPS 3.1.2 and 3.1.3

CATEGORY II

Both of these steps are more appropriate to the section of containment control dealing with containment temperature rather than pressure. These steps deal with the operation of containment/drywell cooling systems and the EPG would delete them from this section and cover these actions in sections 3.5 and 3.2 respectively.

RESPONSE

GE comment incorporated by moving Steps 3.1.2 and 3.1.3 to steps 3.4.1 and 3.4.2.

54. PAGE 2, STEPS 3.1.2 and 3.1.3

CATEGORY III

These steps reference 212°F and use it as the determining factor for restoring/not restoring cooling systems. This is an incorrect interpretation of the EPG which use 212°F as the point above which (SBGT or drywell purge) systems should not be used to evacuate or vent the containment.

As discussed in comment #53 above, these steps dealing with containment cooling systems should be placed in other sections of containment control. Even though the note discussed in comment #51 above references venting, the systems to vent with were left out of this procedure.

RESPONSE

See response to comment 53 above.

55. PAGE 2, STEP 3.1.3.b

CATEGORY III

It is not clear from this text what P64-F238 is or what function it serves. The EPG does not initiate spray (either S/P or D/W) until some limit is reached, such as the S/P Spray Limit (SPSL), Pressure Suppression Limit (PSL), or Primary Containment Pressure Limit (PCPL). To initiate drywell spray, with the wetting of non waterproof electrical equipment, in this manner is not what the EPG intended.

RESPONSE

Drywell spray (from fire protection) as previously discussed by this step 3.1.4 has been deleted from this procedure as a means of drywell pressure control.

56. PAGE 2, STEP 3.1.4

CATEGORY II

The EPG would say "Before" rather than "If". The meaning is not the same.

RESPONSE

GE comment was considered further in response to comment 55 by deleting drywell spray.

57. PAGE 2, STEP 3.1.4

CATEGORY III

It is not known, at the time of this review, what the G.G. drywell design pressure is or how the 15 psig used in this step compares to the design pressure. It is assumed that this number (15 psig) corresponds to the EPG Pressure Suppression Limit (PSL). Prior to final GE approval of these procedures it must be determined that this number has been determined in accordance with the instructions contained in EPG Appendix B, Section 5.

RESPONSE

See response to comment 55.

58. PAGE 2, STEP 3.1.4

CATEGORY I

A note (explaining that Drywell Spray is accomplished by using Drywell Fire Protection) was used on page 5 where drywell spray was discussed, but was not used here.

RESPONSE

See response to comment 55.

59. PAGE 3, STEP 3.1.4c. and d

CATEGORY II

Clarify step 3.1.4.c. Does it mean that isolation signals are present that prevent the valve from being opened? This is what step 3.1.4.d implies.

RESPONSE

See response to comment 55.

60. PAGE 3, STEP 3.1.5

CATEGORY II

The EPG would say "Before" rather than "If". The meaning is not the same.

RESPONSE

This comment was responded to in the correction for comment 61.

61. PAGE 3, STEP 3.1.5

CATEGORY III

This comment is similar to #57 above. It is assumed here that the 7.5 psig used in this step corresponds to the EPG Suppression Pool Spray Limit (SPSL).

RESPONSE

Step 3.1.5 (now step 3.4.3) was revised to clarify action levels.

62. PAGE 3, STEP 3.1.5

CATEGORY I

The words "to reduce containment pressure below 7.5 psig" are not needed in this step and should be removed.

RESPONSE

See item 61.

63. PAGE 3, NOTE

CATEGORY I

This note would be more appropriately covered in the stations training program and could be deleted from this procedure.

RESPONSE

GE comment was not incorporated since this note provides important information.

64. PAGE 3, STEP 3.1.6

CATEGORY I

Step 3.1 says to control containment pressure less than 12 psig and this step says if containment pressure cannot be maintained below 15 psig, proceed to Rapid RPV Depressurization. What do you do between 12 and 15 psig? What direction is given to the operator if drywell pressure exceeds 15 psig? Should the 15 psig in this step have been 12 psig to be consistent with step 3.1?

RESPONSE

This step (now step 3.4.4) was modified to incorporate GE comment by adding both drywell and containment pressure action levels to this step.

65. PAGE 4, CAUTION and STEP 3.2.2

CATEGORY II

This caution paraphrases EPG Caution #6 and EPG wording should be retained. The material in the caution box (if retained in this procedure) contains several phrases which should be corrected:

1. "calibration range" should be "temperature in the table".
2. "inaccuracies are introduced into the indicated level" is obvious and should be covered in training rather than here.
3. "anywhere" should be between "be" and "below".
4. "with an indicated level reading on scale" should be "when the instrument reads below the indicated level in the table".
5. "if temperatures get too high" is totally redundant and unnecessary.

The use of the caution box and step 3.2.2 is redundant and more wordy than is necessary. Delete step 3.2.2, retain Table A, and reword the caution using EPG Caution #6 wording. To say essentially the same thing twice (in the caution box and again in step 3.2.2) is not a good idea.

If step 3.2.2 is retained, there are also phrases here that should be corrected:

1. "vertical" should be used between "leg" and "runs".
2. "increases to" should be "exceeds".
3. "indicated" should be used between "the" and "RPV".
4. "less than" should be used between "to" and "that".

Is it not by now obvious how much trouble is caused when EPG wording is indiscriminately changed?

Finally, "B21-UR-R623 A & B" should be "B21-LR-R623 A & B".

RESPONSE

GE comment was incorporated i.a.w. EPG Caution #6.

66. PAGE 4, STEP 3.2.2

CATEGORY III

More specific guidance should be given as to how to determine the temperature near the cold reference leg vertical run. For example, the instrument number of the TE (or of the appropriate recorder channel) nearest the vertical leg of a given level instrument could be listed in an additional column in Table A, just to the right of the respective level instrument.

RESPONSE

Table A of step 3.2.2 was modified to include the instrument number of the T.E. per GE comment.

67. PAGE 5, STEP 3.2.3

CATEGORY III

As discussed in comment #66 above, further direction should be given as to how to determine this temperature. Expanding Table A would solve this problem also.

RESPONSE

GE comment was incorporated by adding a new Figure B and correct the reference in step 3.2.3.

68. PAGE 5, FIGURE A

CATEGORY I

This figure should be enlarged and placed on the backside of the preceding page (4). Also, the X-axis and Y-axis should have more coordinates marked than just 2 per axis.

RESPONSE

GE comment was incorporated by adding a new Figure A, however, it was not placed on the backside of the sheet.

69. PAGE 5, NOTE

CATEGORY I

This note is unnecessary and is already adequately covered in training, and thus should be deleted from this procedure.

RESPONSE

GE comment was incorporated by deleting note.

70. PAGE 5, STEP 3.2.4 / 3.2.5

CATEGORY I

The EPG uses "Before" instead of "If". In this particular case, this is satisfactory, if the following assumption is true; that the 330°F used in 3.2.5 equates to the max ADS qualification or drywell design temperature, whichever is lower, as discussed in EPG step CC 2.2.2; and that the 310°F in 3.2.4 is given as a preliminary limit.

RESPONSE

The drywell spray (see item 55) capability using the fire protection system has been deleted from this procedure.

71. PAGE 5, STEP 3.2.4.c. and d.

CATEGORY II

Comment #59 above also applies here.

RESPONSE

See response to comment 55.

72. PAGE 6, STEP 3.3.1

CATEGORY I

"Attempt to" was not used in the EPG.

"within approximately two minutes" is probably not appropriate to a MK III plant.

"from the time it was opened" is completely unnecessary and should be removed.

RESPONSE

GE comment was incorporated except the "attempt to" phrase was felt to be appropriate. Step 3.3.1 was revised to step 3.1.1.

73. PAGE 6, NOTE and FIGURE

CATEGORY I

Why was this note used here and not used previously in Level Control and Cooldown where the Figure was used?

Figure "A" is referenced in the note, but the figure is label "B".

This figure is not applicable to the control of suppression pool temperature and need not be used here. If it is used however, it should appear on the backside of the preceding page, as mentioned before.

RESPONSE

GE comment was incorporated by deleting the "Note", changing figure number, and providing clearer figure.

74. PAGE 6, STEP 3.3.2

CATEGORY II

The EPG would say "operate available S/P cooling.....". The intention is to operate all available cooling, not merely one loop.

RESPONSE

GE comment incorporated as recommended.

75. PAGE 6, CAUTION

CATEGORY I

This is EPG Caution #14. The phrase "(RCIC low pressure isolation setpoint)" is unnecessary and should be removed from this caution.

RESPONSE

GE comment was not incorporated.

76. PAGE 7, STEP 3.3.4

CATEGORY II

Comment #31 is also applicable here.

RESPONSE

GE comment was incorporated per item 31.

77. PAGE 7, STEP 3.3.5

CATEGORY I

This is EPG Caution #18. It was used as a caution in Section 3.4, but is used as a step here. It is inappropriate when used as a step in controlling S/P water temperature.

The degrees symbol was omitted from 212°F.

RESPONSE

GE comment was incorporated by changing step 3.3.5 to a CAUTION.

78. PAGE 7, NOTE

CATEGORY II

This is EPG Caution #17. The words "to maintain RPV pressure within the heat capacity temperature limit as determined by Figure B" are bulky and should be removed from this note.

Figure "B" is referenced in the note, but the figure is labeled "C".

RESPONSE

GE comment was not incorporated for the "Note". A new figure B was added.

79. PAGE 7, STEP 3.3.6

CATEGORY III

The curve should run vertically from the point (135#, 185°F) not horizontally.

The figure is referenced to as "B" in the step, but labeled "C".

The basis for calculating this curve should be reviewed (i.e. EPG Appendix B, Section 5).

In the Cooldown procedure (step 3.3.3) 125 psig was used as the shutdown cooling interlock pressure, but here 135 psig is used.

RESPONSE

GE comment was incorporated by providing a new Figure B. The "Cooldown" procedure (EP-2) was corrected to 135 psig in step 3.3.3.

80. PAGE 8, STEP 3.3.7

CATEGORY II

The figure is labeled wrong.

RESPONSE

See response to comment 79.

81. PAGE 9, STEP 3.4

CATEGORY I

As in comment #49 above, it would be preferable to say "Monitor and control S/P level".

If the present format is retained, the other part of the specified band should also be included.

RESPONSE

GE comment was not incorporated, however, the format of this procedure was revised.

82. PAGE 9, STEP 3.4.1 and 3.4.1.a

CATEGORY III

The EPG intention was to augment normal S/P make up with SPMS, not to use SPMS as the normal make up supply.

The reference to SPMS as the normal make up supply in step 3.4.1 is inconsistent with the reference to SPMS as a backup system in substep a.

RESPONSE

GE comment was not incorporated.

83. PAGE 9, SGEPS 3.4.1.a and c.

CATEGORY I

It is assumed that the G.G. Tech Specs would not be so restrictive as to require a scram if level is out of spec. The substep "a" could be deleted, the reference to augmenting normal makeup with SPMS included in step 3.4.1, and the procedure would be simplified and streamlined.

As presently written, the reference to scrambling in substep c could be removed since it is covered in substep a. While the EPG do not specifically mention scrambling it is understood that this would not be inappropriate if we were on the wrong side of the HCLL, about to rapidly depressurize and a scram had not yet occurred.

RESPONSE

GE comment was incorporated by revising step 3.4.1.a to remove reactor scrambling.

84. PAGE 9, STEP 3.4.1.c

CATEGORY II

As described before, the graph should be placed on the back of the preceding page, and expanded to make it more readable.

The X-axis needs coordinates and the Y-axis should have more detailed coordinates.

Figure "C" is referenced in step 3.4.1.c, but the figure is actually labeled "D". Also the referenced HCTL Figure "B" is questionable as discussed in comment #79 above.

The HCTL curve must be placed on the same page to facilitate implementation of the HCLL curve.

RESPONSE

GE comment was incorporated by providing a revised Heat Capacity Level Limit Curve.

85. PAGE 9, HEAT CAPACITY LEVEL LIMIT

CATEGORY III

The calculations supporting the development of this curve should be reviewed to ensure that the intent of EPG Appendix B, Section 5 was followed.

RESPONSE

See response to item 84.

86. PAGE 10, STEP 3.4.2 and 3.4.3

CATEGORY III

Instead of saying "reaches", it would be better to say "increases to" or "decreases to" or "rises to" or "drops to", etc. to clearly indicate the case of level high and rising or the case of level low and dropping. As it is presently worded, this step would have the operator transfer suctions when S/P level reached 18'10" even in the case where level was above 18'10" and dropping. This is not the EPG intention.

RESPONSE

GE comment incorporated as recommended.

87. PAGE 10, STEP 3.4.3

CATEGORY I

It is assumed that the reference to sampling prior to discharging is covered in procedure # (04-1-01-P11-2).

RESPONSE

GE comment is correct and no revision is necessary.

88. PAGE 10, SUPPRESSION POOL LOAD LIMIT (SPLL)

CATEGORY III

Why was the SPLL not included in this procedure?

RESPONSE

GE comment was not incorporated, since the SPLL is not applicable for GGNS.

89. PAGE 10, STEP 3.4.4

CATEGORY I

Referencing the max. safe primary containment water level to 0 psig containment pressure will lead someone to ask what is the max safe level at pressures other than 0 psig?

RESPONSE

GE comment was not incorporated since the containment pressure is referenced only to 0 psig and does not use a graph.

90. PAGE 11, CAUTION, STEP 3.5.1, and TABLE

CATEGORY II/III

Comments #65 and #66 are also applicable here.

RESPONSE

GE comment was incorporated i.a.w. the response to comments 65 and 66.

91. PAGE 11, STEP 3.5.2

CATEGORY I

It should be understood in this step that all available cooling should be operated, that is start additional or backup systems or subsystems. As written, "maximize" could be interpreted to mean stay with the system that is on line and maximize it's cooling effectiveness, as opposed to starting additional equipment.

The words "when containment temperature exceeds (90°F)" should be added to this step.

RESPONSE

GE comment was not incorporated. Step 3.5.2 (revised to 3.3.2) is correct as stands.

92. PAGE 11, STEP 3.5.3

CATEGORY III

The EPG do not spray at this point. This concept is not contained in the EPG and there is no technical justification for this step to appear here.

RESPONSE

GE comment was not incorporated. The 185°F max. containment temp. is a hard limit as is 330°F is for the max. drywell temp. If the temperature is increasing above 185°F, the possibility of equipment damage from containment spray is a moot point. The EPG bases their justification from parametric studies for use of containment spray.

93. PAGE 1, STEP 3.1

CATEGORY II

"in at least two of the following" should be rewritten as "in two or more of the following". The present wording might imply to stop at two subsystems when in reality more than two might be required.

RESPONSE

GE comment incorporated as recommended.

94. PAGE 1, STEP 3.1

CATEGORY II

Comment #8 is also applicable here.

RESPONSE

GE comment incorporated as recommended.

95. PAGE 1, STEP 3.1

CATEGORY I

The pressure ranges of operation were not used here in the EPG. They do not mean as much here and don't help the operator as much as they did before in Level Control.

RESPONSE

GE comment incorporated as recommended.

96. PAGE 2, STEP 3.2

CATEGORY I

The previous comment about pressure range of operation is also applicable here.

It should be noted that all possible means should be used at this point. Would ECCS keep fill pumps be a possibility?

RESPONSE

GE comment incorporated as recommended.

97. PAGE 2, STEPS 3.3 and 3.4

CATEGORY III

These steps should be rewritten per revision 1B of the EPG.

RESPONSE

GE comment incorporated as recommended i.a.w. EPGs (Rev. 1B)

98. PAGE 2, STEP 3.5

CATEGORY I

It would be preferable to say "continue in this procedure at the step indicated in Table A" rather than "perform only the steps listed in Table A".

RESPONSE

GE comment incorporated as recommended.

99. PAGE 3, NOTE

CATEGORY II

This note is really unnecessary and can be adequately covered in training. The numbers are given in Table A and it is not necessary to explain where the numbers came from in this procedure.

If this note is retained, EPG wording should be used for the LPCS term.

RESPONSE

GE comment incorporated as recommended by keeping note and making it consistent with the EPG's.

100. PAGE 3, TABLE A

CATEGORY I

The vertical "pressure" axis should be labeled.

It would be preferable to say "decreasing" instead of "not increasing".

RESPONSE

GE comment was not incorporated.

101. PAGE 3, STEP 3.5.2

CATEGORY II

The words "determine the availability of RCIC and perform the following actions" are totally unnecessary and should be deleted.

The term "availability" is used in 3.5.2, but the non-EPG term "ready for operation" is used in substeps a, b, and c. In each case "available" should be used instead of "ready for operation".

The words "or is steady" are unnecessary and should be deleted.

RESPONSE

The first part of the GE comment on deleting "determine the availability..." was incorporated. The second part on deleting "availability", "ready for operation" and "or is steady" were retained, since they have specific meaning at GGNS.

102. PAGE 3, STEP 3.5.3

CATEGORY II

The words "Determine RPV pressure and perform the following actions" are unnecessary and should be deleted. RPV pressure has already been determined in step 3.5.1 above. It would be preferable to replace these words with something like "Low pressure, increasing level" to ensure that the operator goes from Table A to the correct step. This concern could be addressed by color coding each block of Table A and then printing each of the steps (i.e. 3.5.2, 3.5.3, 3.5.4 and 3.5.5 on that respective color of paper, or by placing a matching colored tab by each step to clearly indicate where the operator should go from Table A.

RESPONSE

The first part of the GE comment on deleting "determine RPV pressure..." was incorporated. The second part on color coding Table A was not incorporated.

103. PAGE 4, STEP 3.5.4

CATEGORY II

The intent of comment #102 is also applicable here, with respect to the words "with RPV water level not increasing perform the following actions".

Substeps b and c are reversed with respect to the EPG.

In substep b line 2 "with pumps running" should be reworded as "with at least one pump running", and in line 4 "injections" should be "injection".

RESPONSE

GE comment incorporated as recommended.

104. PAGE 4, STEPS 3.5.4.d.(1) and (2)

CATEGORY III

These steps should be rewritten per EPG revision 1B.

RESPONSE

GE comment incorporated i.a.w. EPGs.

105. PAGE 4, STEP 3.5.5

CATEGORY II

"Perform the following actions" is unnecessary, and, as described above, "Low pressure, level not increasing" or words to that effect could be substituted here.

In substeps b and c "after performing substep 3.5.5.a" is unnecessary and should be deleted.

RESPONSE

GE comment incorporated as recommended.

106. PAGE 4, STEP 3.5.5.d

CATEGORY III

This step is not per the EPC and should be deleted. This section is the "low pressure section" and going to steam cooling will do no good because the RPV is essentially depressurized (<50 psig).

RESPONSE

GE comment incorporated as recommended.

107. PAGE 1, GFNERAL

CATEGORY II

Other sites have found it convenient to implement this portion of the EPG in a slightly different manner. They have found it very convenient to include the first two major actions of this procedure (i.e. steps 3.2 and 3.4) in whatever procedure (Containment Control, Level Restoration, or RPV Flooding) at whatever point, the reference to Rapid RPV Depressurization (EP-5) is made. For example, these two actions would be included in Containment Control (EP-3) in step 3.3.7 and EP-5 would then be shortened to include the actions that occur only if less than 3 SRVs can be opened. This greatly reduces the amount of "page flipping" that the operator must do and obviously will enhance the performance of the EPs.

RESPONSE

GE comment incorporated as recommended.

108. PAGE 1, STEP 1.0

CATEGORY I

"to protect the containment" would also be appropriate to include the purpose statement.

RESPONSE

GE comment incorporated as recommended.

109. PAGE 1, STEP 2.0

CATEGORY II

Hopefully, all of these various entry conditions will not detract the operator from the action steps of this procedure. It is presumed that, when directed to EP-5, the operator will procede directly, immediately, to step 3.2 and open the valves and not waste time trying to decide if the appropriate entry condition has been satisfied. If a condition is reached that requires rapid depressurization, it must be done in an expeditious manner, and the operator should be aware of this (i.e. emphasize in training). This problem could be alleviated if the approach described in comment #107 above were followed.

RESPONSE

GE comment was not incorporated. The entry conditions should not delay the operator from proceeding to the procedural step 5, since he is knowledgeable of these conditions.

110. PAGE 1, STEP 2.1

CATEGORY I

As described in comment #88 above, the Suppression Pool Load Limit (SPLL) curve was apparently left out of EP-3. If the SPLL is applicable to G.G. and if these various entry conditions are retained in EP-5, then a reference to the SPLL and the appropriate EP-3 step should be added to the list of entry conditions here.

RESPONSE

GE comment was not incorporated as previously discussed in comment #88.

111. PAGE 2, STEP 3.1

CATEGORY II

Comment #31 above is also applicable here.

RESPONSE

GE comment was incorporated as per previous comment #31.

112. PAGE 2, STEP 3.3

CATEGORY I

This is EPG Caution #18. There is an inconsistency in that the format is different from previous uses of this caution.

RESPONSE

GE comment was incorporated by providing step 3.3 as a caution.

113. PAGE 3, STEP 3.5

CATEGORY III

This step's wording is awkward. EPG wording would be more appropriate.

The words "to the point that RPV water level is increasing" are not per the EPG and are incorrect.

RESPONSE

GE comment incorporated as recommended.

114. PAGE 3, STEP 3.5

CATEGORY I

The EPG statement "(use in order which will minimize radioactive release to the environment)" should either be used or clearly understood by the operator to be applicable at this point.

The reference to sampling is presumed to be contained in procedure (04-1-01-G33-1), as mentioned in comment #34 above.

The pressure ranges of operation are not really necessary here, as mentioned in comment #95 above.

RESPONSE

GE comment incorporated as recommended.

115. PAGE 3, STEP 3.5

CATEGORY II

Comments #27, 32, 33 are also applicable here.

RESPONSE

GE comment on the step was handled similarly to previous comments 27, 32 and 33.

116. PAGE 3, STEP 3.6

CATEGORY III

Step 3.10 dealing with SPMS should be used here instead of where it is presently located. SPMS should be used, if required, prior to leaving this procedure, which is what the present steps 3.6, 3.8, or 3.9 (all of which are prior to the present location of the SPMS reference) may require.

RESPONSE

GE comment was incorporated by moving step 3.10 to here and relabeling to step 3.4.

117. PAGE 3, NOTE and STEP 3.7

CATEGORY III

These are not per the EPG. While the note may be true, it's presence here is not necessary and the training program will probably be adequate coverage. Step 3.7 is not appropriate to this procedure. The use of containment spray is covered in EP-3 and need not be mentioned here. At this point the operator is faced with a more severe situation; assuming the use of containment spray as directed by EP-3 has not been effective, it is not advisable to try to spray again. Here the EPG would direct the operator to EP-9, as does step 3.8. Therefore step 3.7 should be deleted.

RESPONSE

GE comment on deleting note was not incorporated since containment spray may be required. Step 3.7 was deleted as recommended.

118. PAGE 3, STEP 3.8

CATEGORY I

As mentioned in comment #64, I am not sure whether 12 or 15 psig is meant to be used for the Pressure Suppression Limit (PSL).

RESPONSE

The 15 psig containment pressure is correct and no change is required.

119. PAGE 4, STEP 3.9

CATEGORY III

As discussed in comment #66, the method of determining or specifying D/W temperature element locations and their proximity to the reference legs should be used.

RESPONSE

GE comment incorporated as recommended.

120. PAGE 4, STEP 3.9 and FIGURE A

CATEGORY I

"Figure" should be capitalized in line 2 of step 3.9 and figure "A" should be specified.

This is the first time "SAFE" and "UNSAFE" have been used on a graph. Why aren't these terms used on other graphs in these procedures? Is this consistent?

As mentioned before, the figure should have more detailed axes, would be better located on the back of the preceding page, and should be larger (at least $\frac{1}{2}$ page size) to make it easier to implement.

RESPONSE

GE comment incorporated as recommended except for placing figure on back of page.

121. PAGE 4, STEP 3.10

CATEGORY II

EP-3 Step 3.4.1 states to restore pool level with SPMS if level is less than 18' 5.5". Here it states to initiate SPMS if level is less than 16' 1".

Why does substep 3.10.1 give detailed instructions for how to initiate SPMS but back in EP-3 step 3.4.1 we were merely given a reference to another procedure?

Were the words "3.10.1 P870 - Sections 4 and 10" meant to be used twice in this step?

RESPONSE

GE comment incorporated by deleting both steps 3.10.1 and placing appropriate information in the text of step 3.10.

122. PAGE 4, STEP 3.11

CATEGORY I

The three conditions (1), (2), and (3) are really redundant and could be deleted. Had any of these conditions existed, step 3.9, step 3.8, or step 3.6, respectively, would have directed the operator to leave EP-5 at that point and the operator would therefore never have made it to step 3.11. If more of these problem conditions exist, we will have already determined that they are not problems in the previous steps and there is no need to re-evaluate the status again in step 3.11. Removing these conditions would simplify this step considerably and would not detract in the slightest.

RESPONSE

GE comment incorporated as recommended.

123. PAGE 1, STEP 1.0

CATEGORY II

This purpose statement could be mis-interpreted to mean that the steam cooling process will be effective indefinitely. The fact that steam cooling will be effective in maintaining PCT below 2200°F for only about 20 minutes should not be overlooked. If not mentioned here, then the training program must clearly emphasize that steam cooling is only a last ditch, short term process.

RESPONSE

GE comment incorporated as recommended.

124. PAGE 1, STEP 2.0

CATEGORY III

These entry conditions are incorrect as described in comments #104 and 106 above. If entry conditions must be used correct them per comments #104, 106 and per EPG revision 1B.

RESPONSE

GE comment incorporated by modifying condition 2.

125. PAGE 1, GENERAL

CATEGORY II

In the EPG, contingencies (i.e. Level Restoration, Rapid RPV Depressurization, Steam Cooling, Spray Cooling, Alternate Shutdown Cooling, and RPV Flooding) were not considered as full fledged procedures - only as contingency actions to be performed when and as directed by the main procedures (i.e. Level Control, Cooldown, and Containment Control). For this reason the EPG contingencies, such as steam cooling, did not use purpose statements and entry conditions, only the necessary operator actions. Some contingencies, such as Level Restoration and RPV Flooding may be rather lengthy and involved and could require development as procedures, using purpose statements, entry conditions etc., if this is the stations method of procedure writing. In this particular case, since steam cooling is a relatively short process, and because it is only referred to at two places in Level Restoration (EP-4), consideration should be given to deleting EP-6 and including the action steps of EP-6 in EP-4 where ever required. This would not increase the length of EP-4 considerably, but would eliminate the need for a separate procedure (EP-6), would eliminate the need for the purpose statement and entry conditions of EP-6, and would reduce the amount of operator "page flipping" should this action ever be required. This would greatly enhance the implementation of this aspect of the EPG and has been the method used successfully by other sites in their EPG implementation.

RESPONSE

GE comment is valid, however, such additional major revisions of the EPs is not considered appropriate at this time, but will be further considered in future EP revisions.

126. PAGE 1, SECTION 3.0

CATEGORY III

This section should be rewritten per EPG Revision 1B. During this rewrite, step 3.3 should come first, as it does in the EPG.

RESPONSE

GE comment was incorporated i.a.w. EPGs.

127. PAGE 1, GENERAL

CATEGORY II

As described in comment #125 above this procedure could be deleted and the spray cooling actions included in Level Restoration (EP-4) as required. This approach is even more significant here because spray cooling is only referred to once in EP-4.

The entry condition in EP-7 is very awkward and bulky and the words "(RCIC low steam pressure isolation setpoint)" are not needed.

RESPONSE

See response to comment 125 for first part of GE comment. The second part was incorporated as recommended.

128. PAGE 1, STEP 3.3.

CATEGORY I

Rewrite i.a.w. EPG Caution #18.

RESPONSE

GE comment incorporated as recommended.

129. PAGE 1/2, STEP 3.5

CATEGORY I

Information contained in steps 3.5.1 and 3.5.2 is training program material and is probably not needed in the procedure.

RESPONSE

GE comment was not incorporated.

130. PAGE 2, STEP 3.6

CATEGORY I

I believe "terminate" was used instead of "secure" in both the EPG and in other portions of the G.G. procedures.

RESPONSE

GE comment incorporated as recommended.

131. PAGE 2, STEP 3.7

CATEGORY III

This step is not appropriate to spray cooling. The need for S/P cooling is adequately covered in Containment Control (EP-3). More importantly, this procedure is referenced in EP-3 at a point where injection systems (such as RHR) have been unable to maintain RPV level, and RPV level has approached TAF.

RESPONSE

GE comment incorporated as recommended.

132. PAGE 2. STEP 3.8

CATEGORY II

This step would probably be more appropriate in another section of these procedures, especially if comment #127 is incorporated.

Why is "Combustible Gas Control System" capitalized while "hydrogen igniter system" is not?

RESPONSE

GE comment was not incorporated, since this action is provided by specific commitment to the NRC.

133. PAGE 1, HEADING CATEGORY I

"EP-9" should be "EP-8"

RESPONSE

GE comment incorporated as recommended.

134. PAGE 1, GENERAL CATEGORY II

Previous comments about incorporating this type of contingency action into the referencing procedure (Cooldown in this case) are applicable here also. Alternate SDC is used at only one place in these procedures so is it really necessary to have a completely separate procedure for it?

RESPONSE

See response to comment 125.

135. PAGE 1, STEP 3.2 CATEGORY II

RCIC steam line isolation valves should also be shut.

RESPONSE

GE comment incorporated as recommended.

136. PAGE 1, STEP 3.3 CATEGORY I

EPG wording would be preferable here.

RESPONSE

GE comment was not incorporated however, the end of this step was modified to state "...one SRV is left open."

137. PAGE 1, STEP 3.4 CATEGORY II

If possible, RPV level should be raised in as controlled a manner as possible to minimize the chance of water hammer damage. Some other system, such as CRD, would be preferable to do this with. LPCI/LPCS can obviously be used if it is the only available pump, but the chances of steam line water hammer damage are increased, even if injection flow is throttled.

Substeps 3.4.1 and 3.4.2 should be reversed. LPCS should be used preferentially because it generally has a higher shut off head and LPCI has other uses, for example S/P cooling which is also required by this procedure.

RESPONSE

GE comment was incorporated by rewording step 3.4.

138. PAGE 2, HEADING

CATEGORY I

"EP-9" should be "EP-8".

RESPONSE

GE comment incorporated as recommended.

139. PAGE 2, STEP 3.5

CATEGORY II

As mentioned in #137 above, this step should appear before step 3.4.

RESPONSE

GE comment incorporated as recommended.

140. PAGE 2, STEPS 3.5.1 and 3.5.2

CATEGORY III

These should be deleted. Besides being questionable as a means of determining flow, this determination is made by the EPG later in this procedure (step 3.6.1 and 3.6.2). These steps tend to negate, or at the very least, confuse the goal of steps 3.6.1 and 3.6.2.

RESPONSE

GE comment incorporated as recommended.

141. PAGE 2, STEP 3.7

CATEGORY II

All words after "Slowly increase the running pump flow to the maximum" should probably be removed. Figures A and B should probably also go. This implies that flow should be limited to some value while the EPG says to increase flow to the maximum. If the concern is runout flow, can not runout flow be indicated by a marker on the pump's flow indicator? This would be easier to interpret and implement than these graphs.

RESPONSE

GE comment incorporated as recommended.

142. PAGE 2, STEP 3.7

CATEGORY II

This step should be deleted. Pool level is addressed in Containment Control.

RESPONSE

GE comment incorporated as recommended.

143. PAGE 2, NOTE

CATEGORY III

Is this note correct? Even with a broken tailpipe in the D/W, wouldn't water flow out the break down and back to the S/P - thus equalizing S/P level?

RESPONSE

GE comment incorporated by deleting note.

144. PAGE 2, STEP 3.7.1

CATEGORY II

This step is not needed and should not be used.

RESPONSE

GE comment incorporated as recommended.

145. PAGE 3, HEADING

CATEGORY I

"EP-9" should be "EP-8".

RESPONSE

GE comment incorporated as recommended.

146. PAGE 3, STEP 3.7.2

CATEGORY I/II/III

As mentioned in comment # 142 this step is not needed because S/P level is covered in Containment Control (II).

As mentioned in comment #140, steps 3.7.2.a and 3.7.2.a.(1) are not how the EPG determines whether or not to open additional SRVs. This is done in step 3.6.2. This method is not per the EPG and should not be used (III).

Step 3.7.2.b is so obvious it really doesn't need to be written down, but if used wouldn't it make more sense in step 3.6 (I)?

RESPONSE

GE comment incorporated as recommended by deleting all of step 3.7.

147. PAGE 3, STEP 3.8

CATEGORY I

One of the "LPCS's" should be "LPCI".

"LPCS and LPCI" should be "LPCS and/or LPCI".

"Decreases" is misspelled.

RESPONSE

GE comment incorporated as recommended.

148. PAGE 3, STEP 3.10

CATEGORY I

If this procedure is incorporated into Cooldown as recommended by comment #134, this step could be deleted.

RESPONSE

GE comment was not incorporated at this time.

149. PAGE 1, GENERAL

CATEGORY III

This procedure should be rewritten per EPG Revision 1B. During this rewrite additional attention should be given to the details of EPG philosophy and implementation.

RESPONSE

GE comment incorporated as recommended by rewriting the procedure i.a.w. EPGs.

GENERAL COMMENTS

150. These procedures are labeled Revision "0" but are all undated, with almost all of the "Prepared" and "Reviewed" signature blanks unsigned. The G.G. STO staff should ensure that the most current revision is the one referenced in their final review and that official review comments are appropriate to that revision.

RESPONSE

The final version of Revision 0 and all future revisions will be fully signed and approved prior to issuance.

151. The "If/Then" manner of presentation seems to have been very popular in the G.G. procedures. Although the EPG does not use that form, there is no reason why it should not be used. However, there are numerous inconsistencies in the manner in which this "If/Then" approach was used.

RESPONSE

The consistency of statements and format was improved during the revisions performed in resolution to GE comments.

152. EPG cautions are all listed together prior to Level Control. This is a very convenient feature, allowing a ready review of all cautions whenever desired, and providing a reference for cautions that may not appear within the EPGs (for example EPG Caution #1).

G.G. should consider doing this also because they do not use every caution that the EPG provided in exactly the same locations and/or manner as did the EPG. While caution implementation is, in general, left to the discretion of the utility, it must be understood by the operator that a caution may still apply even though it is not specifically addressed in the text of the procedures.

RESPONSE

This comment has and will be considered in the preparation of this and future revisions to the EPs.

153. In general, the figures are too small, hard to read, have inadequate markings on their axes and should be improved by following (but not limiting the improvement to only) specific comments as outlined in previous comments. Other sites have found it very convenient to make half or full page sized figures and include them in the procedures on the back of the page that precedes the page that contains the reference to the figure.

RESPONSE

The figures were improved and provided in Revision 10 to the EPs.

154. There are numerous "Laters" in the procedures that should obviously be filled in before official comments are generated and checked before official approval is given.

RESPONSE

The statements denoting "later" were provided with the appropriate data for EP Rev. 10.

155. All items covered in Appendix B - Section 5 calculational procedures should be reviewed to assure their compliance with the intent of Section 5 before final approval is given.

RESPONSE

GE comment was considered in the Section 5 calculational procedures.

GENERAL  ELECTRIC

NUCLEAR ENER
DIVISION

GENERAL ELECTRIC COMPANY..... GRAND GULF SITE, P.O. BOX 646
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April 22, 1982

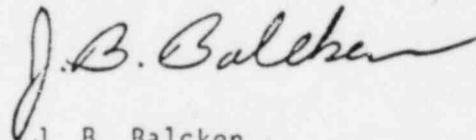
Mr. G. A. Johnson
Operations Superintendent
Grand Gulf Nuclear Station

Dear Gil:

As required by NUREG 0737, a formal review of the GGNS Emergency Procedures has been completed by G.E. The procedures were reviewed against the BWR owners group Emergency Procedure Guidelines, Rev. 1B. All comments were submitted and satisfactorily resolved.

It is our understanding that the GGNS Emergency Procedures will now be issued as Revision 10, incorporating all comments as discussed with you on 4/20/82. Please provide us with a copy of the Emergency Procedures after all the required approvals for our files.

Thank you for all your cooperation during the review.



J. B. Balcken
G.E. Startup - GGNS
Operations Superintendent

/dar

cc: J. E. Ellis - LaSalle Site
M. G. Farschon - GE/GGNS
C. R. Hutchinson - GGNS
E. F. Karner - M/C 884
J. C. Roberts - GGNS
W. A. Shanks - GE/GGNS
A. R. Smith - M/C 396
R. R. Zrubek - M/C 884