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ILLINOIS POWER COMPANY



CLINTON POWER STATION, P.O. BOX 678, CLINTON, ILLINOIS 61727

October 24, 1984

Docket No. 50-461

Director of Nuclear Reactor Regulation
Attention: Mr. A. Schwencer, Chief
Licensing Branch No. 2
Division of Licensing
U. S. Nuclear Regulatory Commission
Washington, D.C. 20555

Subject: Clinton Power Station (CPS) Unit 1
Responses to NRC Questions Regarding
Emergency Operating Procedures Generation Package
(Generic Letter 82-33 and CPS-SER Confirmatory Issue #41)

Dear Mr. Schwencer:

In letter U-0708, dated May 1, 1984, Illinois Power (IP) provided the NRC Staff with the CPS Emergency Operating Procedures Generation Package (CPS-PGP) as required by Generic Letter 82-33 (NUREG-0737, Supplement #1). The NRC Staff reviewer of this material, Mr. Bill Kennedy, contacted IP on September 7, 1984, to provide us with the Staff's comments. IP has fully evaluated each of these comments and has prepared responses to each item identified by the reviewer (see Attachment to this letter). IP understands, from discussions with Mr. Kennedy, that the NRC staff has no major concerns with the adequacy of the CPS Emergency Procedures Guidelines to provide a well organized operator response during postulated emergency conditions.

Safety Evaluation Report (SER: NUREG-0853) Confirmatory Issue #41 is associated with development of Emergency Operating Procedures that comply with TMI Action Plan (NUREG-0737) Requirements I.C.1, I.C.7, and I.C.8. General Electric (NSSS Vendor) is currently reviewing the upgraded CPS Emergency Operating Procedures per the requirements of TMI Action Plan Item I.C.7. Comments will be evaluated and factored into revised procedures, as appropriate, following completion of this review. Per Item I.C.8, the CPS Emergency Operating Procedures are available for NRC I&E review. As indicated in our letter U-0708, it is anticipated that the BWR Owner's Group (BWROG) for TMI activities will submit Revision 4 of the generic EPGs to the NRC Staff in late 1984. Revisions to the CPS-EPGs which are committed to in the attached responses will be made in conjunction with revisions made to implement Revision 4 of the generic EPGs.

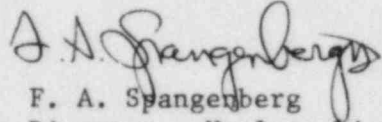
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Please contact us if you have any questions on the information provided in this submittal.

Sincerely yours,



F. A. Spangenberg
Director - Nuclear Licensing
and Configuration
Nuclear Station Engineering

TLR/lm

Attachment

cc: B. L. Siegel, NRC Clinton Licensing Project Manager
NRC Resident Office
Regional Administrator, Region III USNRC
Illinois Department of Nuclear Safety

Illinois Power Response to NRC Comments
Concerning the Clinton Power Station
Emergency Operating Procedures Generation Package

Comments on CPS Emergency Procedure Guidelines (Draft CPS
No. 1450.00, Rev. 0)

Comment #1

The wording of Caution #14 of the CPS-EPGs has a procedural "logic" problem.

Response #1

This caution will be reworded as follows in the next revision of the CPS-EPGs:

IF Motor driven pumps, sufficient to maintain RPV water level, are not running and available for injection, and RCIC is available for injection.

THEN Do not depressurize the RPV below 50 psig.

Comment #2

Caution #15 should provide a recommended SRV operating sequence if possible. This can be accomplished by adding some clarifying words, or perhaps a diagram, to provide guidance to the operator on the preferred SRV operating sequence.

Response #2

The actual SRV operating sequence chosen by the operator is, to a large degree, event specific. However, as explained on page 81 of Appendix B (CPS EPG Technical Basis), the Emergency "Off-normal" Procedures (EOPs) generated from the CPS-EPGs reference the operating procedure for SRV operation, CPS No. 3101.01, MAIN STEAM (MS, IS, ADS). This plant operating procedure provides general guidance on SRV operation and includes a figure indicating SRV discharge device locations in the Suppression Pool.

Comment #3

RPV Control Guideline, page 12 of 126, purpose (d) should read "<200°F.

Response #3

The correct reading should be "<200°F" as noted. This will be corrected during the next revision of the CPS-EPGs.

Comment #4

NUREG-0899, Sections 5.7.9 and 5.7.10, state that CAUTION statements and NOTES should contain information used to prevent actions by control room operators (WARNINGS) and should provide operators with supplemental

information concerning specific steps or sequences of steps (NOTES). In general, however, as noted in NUREG-0899, these statements should not contain operator actions. Places within the CPS-EPGs where such statements direct the operator to take specific actions include, but are not limited to:

- * "Caution" before step RC/P-4;
- * "Caution" before step RC/CD-1;
- * "Note" before Step SP/HL-3;
- * "Note" before Step CN/T-2;
- * "Note" before Step PC/P-3; and
- * "Note" before Step C7-2.

In general, the NRC Staff's position is that such statements should not direct the plant operator to take specific actions. Illinois Power should review the CPS-EPGs and provide proposed changes to resolve this concern as appropriate.

Response #4

The CPS-EPGs were written based on the BWR Owner's Group Generic EPGs. These generic EPGs, which have been reviewed and approved by the NRC Staff for implementation (reference NRC SER, dated November 23, 1983, regarding Revision 3 of the Generic EPGs), utilize CAUTION and NOTE statements in a manner identical to that utilized by Illinois Power in the CPS-EPGs. However, this NRC concern has been brought to the attention of the BWR Owner's Group Emergency Procedures Committee. Illinois Power is a participant in this Committee's activities and will monitor the resolution of this concern closely. If, as a result of this generic evaluation, the generic EPG format for the use of such CAUTION and NOTE statements is changed, then Illinois Power will reevaluate the need to change the CPS-EPGs for consistency purposes. Illinois Power's position is that the current use of such statements is consistent with the current generic EPGs and does not present a plant safety concern.

Comment #5

Page RC-7 of the generic EPGs (Revision 3G) was missing from the NRC copy submitted. This page addresses generic EPG Step RC/P-3 regarding RPV cooldown @ 100°F/hr. This step, or one appropriate to CPS, does not appear in this area of the guideline. Where in the CPS-EPGs is this action step addressed?

Response #5

The particular operator action step referenced (see generic EPG missing page provided here as Enclosure #1) is addressed in the CPS-EPGs in Section 3.4, Step RC/CD-2.1, of the Cooldown (RC/CD) guideline. As explained in the CPS EPG Technical Basis, Appendix B, on page 94, this guideline was created to be used by the operators as a common exit point from the CPS-EPGs.

Comment #6

Reactivity Control Guideline, page 17 of 126, purpose (b)(a) entry condition should read "Reactor Power \geq 3% (APRM downscale trip)".

Response #6

The correct reading should be Reactor Power $\geq 3\%$ (APRM downscale trip)" as noted. This will be corrected during the next revision of the CPS-EPGs.

Comment #7

Step RC/Q-4.5, page 18 of 126: It is unlikely that "boron concentration in the RPV sufficient for cold shutdown (660ppm)" could be determined by the plant operators prior to one of the other conditions being met. For example, it is likely that SLC Tank Level will reach "0 gallons" before RPV boron concentration can be determined through a reactor coolant sample. Based on this, reference to boron concentration could be deleted from this step.

Response #7

Illinois Power agrees that the other indicators referenced will "likely" occur before a reactor sample can be taken and fully analyzed. However, it is desired that reference to RPV boron concentration be retained in this step. This will provide greater operator flexibility in the remote event that SLC Tank Level indication is lost, or there is some evidence of boron loss or incomplete mixing. Such "contingencies" are consistent with the generic EPGs since the operator should base actions upon any available plant instrumentation and address the possibility of a loss of such instrumentation.

Comment #8

Throughout the CPS-EPGs, several "laters" are identified; e.g. the Combustible Gas Control Guideline has not yet been prepared. Illinois Power should identify when such information will be available for NRC Staff review.

Response #8

Illinois Power is a member of the BWR Owner's Group (BWROG) EPG Committee, as noted in the response to an earlier Staff comment. The items currently identified in the CPS-EPGs as "later" are under evaluation and preparation in close coordination with the BWROG Committee's work. This "later" information includes plant-specific calculations, operator action steps, and the corresponding plant-specific technical bases, in various sections of the guidelines. These items are identified as "later" due to currently ongoing work by this BWROG Committee. Illinois Power will complete this work, as the generic guidance becomes available from the BWROG. The final CPS -EPGs will be completed to support the CPS Operator Training Program prior to fuel load. It is Illinois Power Company's understanding that, with respect to Combustible Gas Control, Revision 4 of the generic EPGs is planned for submittal to the NRC by the end of 1984. Remaining revisions to the CPS-EPGs will, therefore, be in accordance with the BWROG generic guidance, as appropriate. A schedule for providing the staff with this information will be provided when Rev. 4 of the generic EPGs becomes available.

Comment #9

Step RC/Q-4.6, Page 18 of 126: "Continue at step RC/Q-4.1" should read "Return to step RC/Q-4.1". Illinois Power should review the CPS EPGs for other such steps where similar wording changes would be appropriate.

Response #9

The proposed wording change is appropriate and will be made, along with similar changes to other steps throughout the CPS-EPGs, as appropriate, during the next revision of the CPS-EPGs.

Comment #10

Step SP/T-4, page 25 of 126, uses "AND" in a non-logical manner. Illinois Power should consider using a more appropriate wording to avoid operator confusion.

Response #10

Illinois Power has reviewed this step in the CPS-EPGs and will implement the "AND" portion as a separate step as follows:

IF Suppression Pool level is below 19ft. 5in.,
 (maximum Suppression Pool water level LCO)

THEN Initiate SPMS.

The following additional steps will be changed as noted below:

* "Note" before Step C6-1, page 49 of 126 -

Delete "AND" and make this step read "THEN Enter Contingency #8, Alternate RPV Flooding, and do not enter this contingency until directed to do so by Contingency #8."

* Step C6-10, page 51 of 126 -

Delete "AND" and make this step read "THEN Enter RC/L, LEVEL CONTROL, and enter RC/CD, COOLDOWN."

* Step C7-4, page 55 of 126 -

Delete "AND" and make this step read "THEN Enter Contingency #2, EMERGENCY RPV DEPRESSURIZATION, and continue on with this guideline."

Comment #11

Step CN/T-2, page 30 of 126: The use of the "but only if" phrase may be confusing to the operator. A similar concern is noted with respect to Step PC/P-3 on page 31 of 126. Illinois Power should consider using a more appropriate wording to avoid operator confusion.

Response #11

Illinois Power has reviewed the concerns identified for the referenced CPS-EPG steps and will change the wording of the "BEFORE" phrase such that "but only if" will be deleted and replaced with "and if".

Comment #12

Step SC-4, page 35 of 126: The use of "AND" as a "logical and" is not considered appropriate in the context presented in this step. Illinois Power should review the wording employed and rephrase this step, as appropriate.

Response #12

The following word changes will be made to this CPS-EPG step to delete use of the "AND":

- THEN Perform the following:
1. Isolate all systems discharging into the area except:
 - a.
 - b. ...[wording as before]...
 - c.
 2. Establish or verify Secondary Containment integrity.

Comment #13

Step SC-5, page 35 of 126: The use of the "IF-THEN-Before" wording logic is potentially confusing to the operator. Illinois Power should reevaluate the wording employed and rephrase this step, as appropriate.

Response #13

The following word changes will be made to this CPS-EPG step to delete use of the "IF-THEN-Before" logic:

IF A primary system is discharging into an area, before any area temperature, any area radiation level, or any area water level reaches its Maximum Safe Operating Level

- THEN Perform the following:
- a.
 - b. ...[wording as before]...
 - c.

Comment #14

Step SC-6, page 36 of 126: The word "either", following the word "AND" should be capitalized for special emphasis to the operator.

Response #14

The suggested emphasis of the word "either" will be made during the next revision of the CPS-EPGs.

Comment #15

Step C1-3, page 40 of 126: "Table 1" should be labeled with RPV Pressure" along the top and "RPV Water Level" along the left-hand side for operator information purposes.

Response #15

The suggested labeling of "Table 1" will be implemented during the next revision of the CPS-EPGs.

Comment #16

Step C2-1, page 43 of 126: The use of "AND" is done in a non-logical manner. Illinois Power should review this step to determine if a more appropriate wording, with less potential for operator confusion, can be implemented. Also, this step appears to be the only place in the CPS-EPGs where the operator is directed to the Reactor Scram Procedure. Justify the appropriateness of this step or explain why such a step should not be inserted in other portions of the guideline.

Response #16

Illinois Power has reviewed the use of the "AND" as described above. The following wording changes will be made (Delete the use of "AND" in the "THEN" phrase):

- THEN Perform the following actions:
1. Place the mode switch in shutdown.
 2. Perform Reactor Scram off normal procedure concurrently with the remainder of this procedure.

Illinois Power will leave the reference to the Reactor Scram Procedure in this step since it is a good "transition" procedure for entering the normal shutdown procedures. The use of this procedure is also implied in Step RC/CD-2.5 on page 23 of 126.

Comment #17

Step C2-2, page 43 of 126: This step contains two "IF-THEN" logic statements which may present confusion to the operator. Illinois Power should consider alternative wording for this step that will eliminate any potential for operator confusion.

Response #17

The referenced CPS-EPG step will be divided into two separate steps each with one "IF-THEN" statement for simplicity.

Comment #18

Step C2-3, page 43 of 126: This CPS-EPG step contains another "AND" that is used in a non-logical manner. Illinois Power should consider rewording this step to eliminate any potential for operator confusion.

Response #18

Wording changes similar to those described in Response #16 above will be implemented for this step to remove any potential for operator confusion.

Comment #19

Step C6-3, page 50 of 126: The word "until" should read "UNTIL" for operator emphasis purposes. The same comment applies to step C7-1 on page 53 of 126, for use of the word "until" in the "THEN" portion of the step.

Response #19

The suggested emphasis ("UNTIL") is considered appropriate and will be implemented during the next revision to the CPS-EPGs for each step identified in Comment #19.

Comment #20

Step C7-4.1, page 55 of 126: What actions will be taken by the plant operators if less than two SRVs cannot be opened? The same question applies to CPS-EPGs step C8-3 on page 58 of 126. Illinois Power should evaluate the consistency of this wording with the generic EPGs.

Response #20

The step before Step C7-4.1 directs the operator to enter Contingency #2, EMERGENCY RPV DEPRESSURIZATION, and perform Step C7-4.1. Contingency #2 directs the operator to open seven SRVs, while Step C7-4.1 states that if less than two SRVs can be opened, then continue in this procedure. It follows that if two or more SRVs can be opened, do not continue on in this procedure. The CPS-EPGs are worded exactly the same as the generic EPGs in this case.

Comment #21

Step C8-4, page 58 of 126: The wording of this step is unclear and confusing. Again, the use of "AND" is done in a non-logical manner. The same comment applies to Step C8-5 on page 59 of 126. Illinois Power should review the wording of this step and determine more appropriate wording that will aid in the clarity of the information presented.

Response #21

Illinois Power has reviewed this CPS-EPG Step and will implement the following wording changes:

Commence and slowly increase injection into the RPV with the following systems:

- a.
- b. ...[wording as before].....
- c.

UNTIL both of the following conditions occur:

1. At least 2 (minimum number of SRVs for which the minimum RPV Flooding Pressure is below the lowest SRV lifting pressure) SRVs are open
2. RPV Pressure is above the Minimum Alternate RPV Flooding Pressure.

Similar changes will be made to Step C8-5 on page 59 of 126.

Comment #22

In the Reactivity Control Guideline, RC/Q, the CPS-EPGs direct the operators to try "individual rod scram" prior to "manual rod insertion". The ordering of these actions, as such, appear to be the reverse of that proposed in the generic EPGs. Justify the proposed deviation from the generic guideline.

Response #22

The CPS-EPGs were written this way because it was believed that at this point in the guideline event conditions may preclude containment entry required for "manual rod insertion". However, Illinois Power has reconsidered this position and will change the CPS-EPGs to be consistent with the ordering suggested by the generic EPGs.

Comment #23

The CPS-EPGs provide direction to the plant operators to vent the Primary Containment when containment pressure exceeds the "Primary Containment Pressure Limit" (reference step PC/P-7, page 32 of 126) as defined by the curve presented on page 69 of 126 (Appendix A). The NRC Staff's Safety Evaluation Report on Revision 2 of the generic EPGs (issued February 1983) has approved the use of twice design pressure as an interim limit provided containment integrity can be demonstrated. The CPS limit proposed is 63 psig which is in excess of the design pressure by a factor of about 4X. Justification must be provided regarding the basis for this pressure. In addition, the NRC Staff has identified a number of concerns to the BWR Owner's Group related to such post-accident venting, during an April 10, 1984 meeting, as follows:

1. Lack of a complete technical description of the containment venting system;
2. Depressurization rate of the containment to limit pool flashing;
3. The significance of dynamic loads resulting from Safety Relief Valve actuation at high containment pressures and temperatures should be evaluated. Further, information on the frequency and magnitude of the dynamic loads should be provided to the Staff;
4. Information on the environmental qualification data base that is being used to assure containment vent valve operability should be provided;
5. The methods which are used to determine the pressure at which the containment is vented from the standpoint of decay heat removal, rather from the standpoint of preventing containment gross failure, should be provided to the Staff and in the plant-specific EPGs; and
6. The criteria used for the preparation of the EPGs and for the operator guidance should also be provided to the Staff for review.

Response #23

With respect to the CPS Primary Containment Pressure Limit curve, this calculation was performed using the generic guidance contained within BWR Owner's Group generic EPG Calculational Procedure C14.0 in Appendix C of the generic EPGs. This generic calculational procedure entitled "Primary Containment Pressure Limit", was modified for the CPS-specific maximum floodable level of the Containment. A containment ultimate strength limit of 63 psig has been determined based upon the structural analysis performed by Illinois Power on the CPS Containment as provided to the NRC in IP Letter U-0309, dated October 16, 1981. This analysis conservatively estimated the CPS Containment Ultimate strength to be 76 psig based on the stress capacity of the spherical equipment hatch. Several additional submittals were made by Illinois Power to respond to questions regarding this analysis from the Staff. As a result of these transmittals and further discussions with the NRC, as noted in Section 3.8.1 of the CPS-SSER #1 (NUREG-0853), Illinois Power agreed to apply a safety factor of 1.2 to the analysis thereby reducing the calculated ultimate pressure retaining capability from 76 psig to 63 psig. Thus, the use of the 63 psig limit as referenced in the calculation. The actual calculation and the assumptions used are provided in Enclosure #2 herein. Therefore, based on the original guidance from the BWR Owner's Group, the basis for the CPS Primary Containment Pressure Limit curve is provided.

With respect to the additional Staff concerns identified to the BWROG on the general subject of post-accident containment venting, Illinois Power is continuing to participate with the other BWR owners to evaluate and

resolve these concerns on a generic basis as much as is feasible. The CPS-EPGs will ultimately reflect the results of this generic work once such evaluations are completed. Such considerations as containment venting for combustible gas control, for example, will be part of this review and evaluation.

It is anticipated that the results of the BWROG efforts on this issue will be provided to the NRC Staff for review by May 1985.

Comments on CPS EPG/EOP Writer's Guide

Comment #1

The CPS EPG/EOP Writer's Guide does not address the format to be used in preparing the CPS-specific EOPs from the EPGs. Specifically, such items as pagination, columns, spacing, margins, emphasis techniques, etc., need to be addressed in the Writer's Guide. Illinois Power should reference NUREG-0899 for specific guidance in this area.

Response #1

The EOPs are symptom-based emergency procedures as described in Step 8.1.2.1.2 of CPS Procedure No. 1005.01. This step states that symptom-based emergency procedures shall use the format described in Appendix C of that procedure. This appendix provides examples of such format techniques and states that the EPGs should be referenced when writing the EOPs. The EPGs themselves then provide the basis for such formatting. The EOP/EPG format used is considered consistent with the guidance of NUREG-0899, Section 5.5 and INPO guideline 82-017, "Emergency Operating Procedures Writing Guideline", dated July 1982.

Comment #2

The Writer's Guide should address the use and presentation of the various setpoints, numbers and parameter curves throughout the CPS EOPs/EPGs. Specifically, the number of significant digits to be used and the units referenced should be identified in the Writer's Guide and compared to the actual instrumentation capabilities as available and labelled in the Main Control Room. Illinois Power should reference NUREG-0899 for specific guidance in this area.

Response #2

Appendix C of the CPS Writer's Guide, Section 3.0 f) 2) states that values should be in the same units as those that appear on plant instrumentation. Additional detail will be added to this section regarding the use of significant digits. The presentation, location, and relevancy of the information provided by the various graphs, tables, and numeric values is considered consistent with the guidance contained within NUREG-0899, Sections 5.5.8, 5.6.6, 5.6.7, and 5.6.8.

Comment #3

The Writer's Guide should address the format(s) for the logic statements used throughout the CPS EOPs/EPGs. Illinois Power should reference NUREG-0899 for specific guidance in this area.

Response #3

Section 3.0 of Appendix C (pages 42 and 43) of the CPS Writer's Guide addresses and clearly defines the "IF-THEN" format as being used for decision steps. Conditional statements such as "WHEN-THEN" and "BEFORE-

THEN" will be added and criteria for their usage will be described in this section of the CPS Writer's Guide. The general guidance of NUREG-0899, Section 5.6.10 and Appendix B will be used in developing these additions to the Writer's Guide.

Comment #4

Criteria for providing references to and locations of equipment/instruments used within the EPGs/EOPs should be addressed in the CPS Writer's Guide. This is of specific concern for "emergency" equipment/instruments since they may be infrequently used by the control room operators.

Response #4

The CPS-EOPs will be reviewed and where emergency instrumentation which is not normally used by the control room operator is called for, the location will be given. This is consistent with Section 3.0 f) 3) of the CPS Writer's Guide which states that the level of detail for operator instructions should be consistent with operator knowledge and skill. Instrumentation normally used by the operator and also applicable to post-accident uses, is considered adequately covered by the operator training program due to the fact that routine usage is applicable. This is consistent with NUREG-0899, Section 5.7.11.

Comment #5

The Writer's Guide should address how the EOPs will be used with respect to Main Control staffing requirements. Specifically, the Writer's Guide should explain the relationship between the EOP "user" and the EOP action step "doer".

Response #5

CPS Main Control Room manning and staffing requirements are currently described in CPS Procedure No. 1401.01, OPERATIONS DEPARTMENT ORGANIZATION, RESPONSIBILITIES, AND MINIMUM QUALIFICATIONS. CPS has already committed to having an SRO and RO in the Control Room with another RO assigned to the Control Room. In addition, the location of the Shift Supervisors' office is such that he could very quickly be in the Control Room. This procedure's description of the position's responsibilities indicates which person will be "at the controls", which person will be assisting the operator, and which person will be supervising and/or directing operations. Illinois Power considers this procedure adequate to address the NRC concern identified above, and no changes to the Writer's Guide are necessary in this area. This procedure meets the guidance of NUREG-0899, Section 5.8.3.

Comment #6

The Writer's Guide should address the means by which future revisions of the CPS EOPs/EPGs will be controlled.

Response #6

CPS Procedure No. 1005.04, DISTRIBUTION AND CONTROL OF STATION PROCEDURES AND REVISIONS, defines the requirements for documentation control and replacement of CPS EOPs and EPGs. Illinois Power considers this procedure adequate to address the NRC concern identified above, and no changes to the Writer's Guide are necessary in this area. This procedure meets the guidance of NUREC-0899, Section 6.2.

Comments on the CPS EPG/EOP Verification &
Validation (V&V) Program

Comment #1

Illinois Power should commit to performing the EPG/EOP V&V program on "all" EOPs on the plant simulator. If the simulator design is such that not all the EOPs can undergo such V&V review, then the V&V Program should identify alternative means of V&V review (e.g. Control Room operator walkthroughs). Illinois Power should provide a list of plant-specific scenarios that will be run on the CPS simulator and how each scenario will exercise the use of each corresponding EOP.

Response #1

Reference: Detailed Control Room Design Review (DCRDR) Program Plan (Section 3.7) See IP letter U-0741, dated September 28, 1984.

The EOP V&V and DCRDR will be an integrated effort. The validation portion of the EOPs will use both walk/talk-through (on mosaic mock-up) and simulator methods.

Walk/Talk-Through Method

A procedure will be developed based on the photo-mosaic mockup of the control room.

The procedure will consist of the following principal elements:

- ° Use of three observers with the lead observer directing all activity using the appropriate System Function and Task Analysis (SFTA) data sheets and diagrams from the Verification Phase.
- ° Two operators will execute tasks as directed by the lead observer.
- ° Execution of the checklists and guides for compliance.
- ° Video/audio recording of all activity.

The execution of the walk/talk-through procedure will inherently include the execution of the checklists and guides. Operator activity will be initiated by the lead observer giving plant symptoms or task descriptions from the SFTA data sheets. The operator response will be the execution of a task sequence and/or steps to accomplish the task(s), which will then be evaluated by the observers for DCRDR and EOP guideline compliance. The evaluation process will include frequent discussions with the operators and references to the Control Room Inventory data base or EOPs as necessary.

For the documentation and resolution of EOP discrepancies, the provisions in the EOP V&V Program will be used.

Any EOP discrepancies of a time-dependent nature found during this phase will be noted for further evaluation on the simulator.

Simulator Method

A procedure for validation on the control room simulator will be developed and will consist of essentially the same elements as the walk/talk-through procedure.

Operator activity will be initiated with the simulator at plant conditions closest to the plant symptoms or task as possible. Operator response(s) to the simulator will be evaluated by the observers for DCRDR and EOP guideline compliance and will include frequent discussions with the operators and reference to the Control Room Inventory and EOPs as necessary.

EOP discrepancies will be documented and resolved per the EOP V&V program.

The DCRDR Program Plan, Sections 3.5-3.7 describes the methodology to be used for the EOP and DCRDR Integrated System Function and Task Analysis (SFTA), Verification & Validation phases of the review.

Although plant specific scenarios that will be run on the CPS Simulator have not yet been identified, Section 3.5.2.3 of the DCRDR delineates the criteria which will be used to select events for SFTA.

The following criteria will be used in the selection of events:

- Utilize a broad range of control room functions.
- Require time-dependent action by the operator.
- Require multi-system operations and interaction by the operator.
- Represent potentially high-stress situations for the operator.
- Addresses all nonidentical EOP operator tasks.
- Addresses all identical EOP operator tasks at least once.

These events will then be analyzed through a number of checklists, diagrams, and guidelines to avoid duplicated task and actions and group together similar actions.

The verification phase will group tasks and activities to identify a small number of selected operating events which will incorporate all EOPs.

These general EOP V&V methods meet the standards of industry practice found in INPO guidelines INPO 83-004, "Emergency Operating Procedures Verification Guideline", dated March 1983, and INPO 83-006, "Emergency Operating Procedures Validation Guideline", dated July 1983.

Comment #2

The CPS EPG/EOP V&V Program should provide an Illinois Power commitment to evaluate each EOP using the minimum required operator shift compliment (i.e. minimum shift manning in the Control Room).

Response #2

Minimum shift compliment, per Tech Spec 6.2.2 (Table 6.2.2-1) for conditions 1, 2 and 3 is as follows:

Shift Supervisor	1
SRO	2
RO	2
AO	2
STA	1

CPS Procedure No. 1401.02, Shift Complement, Step 6.1.2 says at least one licensed operator and one licensed senior operator, functioning as the supervisor in the control room, shall be present in the control room during operation in Power Operation, Startup, or Hot Shutdown conditions.

Our Detailed Control Room Design Review (DCRDR) Program Plan states we will use a lead observer giving plant information and two operators performing the tasks.

This commitment is considered adequate to address the NRC concern identified above.

Comments on the CPS EPG/EOP Operator Training Program

General Response to NRC Comments on Training Program

The EOPs fall in the category of procedures requiring regular review by 10CFR55, Appendix A. This requirement will be satisfied by an on-going EOP Training Program utilizing classroom instruction and the CPS Simulator. This program will continue to improve as modifications bring the Plant, EOPs, and Simulator into alignment.

Comment #1

The CPS Training Program should more specifically address how the operators will be trained on the use of "symptom-oriented" procedures. Specifically, discussion should be provided on how/why such procedures are really better than "event-oriented" procedures.

Response #1

The CPS EOP Training Program, as currently developed, addresses the difference in philosophy between event-oriented and symptom-oriented procedures. The operators are given a brief history of the EPG development, including the functional requirements, the various organizations involved in that development, and how plant-specific EPGs are written from generic EPGs. Particular emphasis is given to the "battleship in the desert" orientation of the EOPs; i.e. no matter what combination of unlikely events placed the plant in a configuration, the EOPs provide the correct steps for restoring/maintaining plant safety functions. From this standpoint, the CPS operators will be thoroughly trained on the benefits of "symptom-oriented" EOPs.

Comment #2

The CPS Training Program does not specifically address the use of the plant-specific simulator as a means of operator training on the CPS EPGs/EOPs. Illinois Power should identify which, if any, EOPs that the operators will not be trained/evaluated on using this simulator and what alternative training will be employed.

Response #2

The EOP Training Program will be expanded to utilize the CPS Simulator for the required license training in 1985. All EOPs that are developed will be exercised by the license candidates to the extent that the associated parameters can be modelled. Supplemental training will be conducted on a case-by-case basis for those EOPs for which the Simulator does not respond well. This training will involve an operator procedure walkthrough on the simulator or in the Main Control Room.

- RWCU (recirculation mode) if no boron has been injected into the RPV.
- Main steam line drains
- RWCU (blowdown mode) if no boron has been injected into the RPV. Refer to [sampling procedures] prior to initiating blowdown.

If while executing the following steps the reactor is not shutdown, return to [Step RC/P-2].

RC/P-3 When either:

- All control rods are inserted beyond position [06 (maximum subcritical banked withdrawal position)], or
- [280 pounds (Cold Shutdown Boron Weight)] of boron have been injected into the RPV, or
- The reactor is shutdown and no boron has been injected into the RPV,

depressurize the RPV and maintain cooldown rate below [100^oF/hr (RPV cooldown rate LCO)].

#14, #17

If one or more SRVs are being used to depressurize the RPV and the continuous SRV pneumatic supply is or becomes unavailable, depressurize with sustained SRV opening.

RC/P-4 When the RHR shutdown cooling interlocks clear, initiate the shutdown cooling mode of RHR.

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