

SUPPLEMENTAL SAFETY EVALUATION REPORT
PROCEDURES GENERATION PACKAGE
HOPE CREEK GENERATING STATION

13.5.2 OPERATING AND MAINTENANCE PROCEDURES

1.0 INTRODUCTION

In the Hope Creek Safety Evaluation Report (SER) dated October 1984, the staff reviewed Public Service Electric & Gas Company's (PSE&G) plan for developing and implementing operating and maintenance procedures for the Hope Creek Generating Station. From that review it was determined that PSE&G must submit a PGP for Hope Creek to be in compliance with Supplement 1 to NUREG-0737. Results of the staff review of the Hope Creek PGP were documented in a Request for Additional Information (RAI) dated May 14, 1985. Review of PSE&G's response to this RAI was described in a Supplemental Safety Evaluation Report (SSER) dated November 13, 1985. The current SSER is based on the staff's review of the applicant's response to questions raised in the November 13, 1985 SSER.

2.0 PLANT SPECIFIC TECHNICAL GUIDELINES (P-STGs)

2.1 Evaluation of Primary Containment Pressure Limit

In an SSER from W. Butler (NRC) to R. L. Mittl (PSE&G) dated November 19, 1985, the staff indicated its intent to review the proposed emergency venting criterion, and identified specific areas to be addressed in its review. The applicant's response to these items was provided in a letter from C. A. McNeill, Jr., to E. Adensam, dated January 28, 1986.

The primary containment pressure is to be used in the Emergency Operating Procedures to indicate the need for emergency containment venting. The BWR Owners Group Emergency Procedure Guidelines (EPGs) call for containment venting as the last step in a sequence of procedural steps involving operator actions designed to reduce containment pressure. The staff SER on the BWR EPGs established an interim limit of twice the design pressure for venting with the understanding that plant-specific analyses may be used to establish a venting pressure limit. These analyses, in general, could consider containment integrity structural tests, purge valve operability, and system requirements for safety relief valve (SRV) actuation. These, and other considerations, were provided in the applicant's response. The emergency venting procedure proposed by the applicant is that the containment vent path would involve sequenced flow paths through exhaust vents associated with the Hope Creek Containment Atmosphere Control System. These paths minimize the offsite dose consequences by utilizing the scrubbing capabilities of the suppression pool and filtering through the Filtration, Recirculation, and Venting System (FRVS).

The ultimate structural capability was determined by the applicant to be about 190 psig. This value was approved by the staff in SER Supplement No. 1 for the Hope Creek Generating Station. Since the Hope Creek containment is planned to be vented at a much lower pressure, the proposed venting criterion of 65 psig is acceptable for structural considerations.

The applicant has also considered essential system operability in the selection of the venting pressure; specifically, the required pressure relief to maintain the reactor in a depressurized condition at the proposed venting pressure. The applicant has stated that the air supply pressure requirements for operation of the required number of SRVs, can be provided by a redundant compressor capability of 105 psig, which is available in the present Hope Creek design. The staff concludes that the SRVs will be operable if called upon, at the proposed venting pressure of 65 psig.

With regard to the potential for suppression pool flashing due to venting, the staff agrees with the applicant's conclusion that the flow rate through the proposed 2 inch bypass line at pressures up to 65 psig would be sufficiently small that flashing and induced structural loads are not a concern for the Hope Creek Generating Station.

In response to a staff question regarding the potential effect of containment venting on ductwork failure in the vent path, the applicant has stated that the primary paths for venting have ductwork in the torus area. All emergency equipment in this area has been environmentally qualified for a harsh environment.

Based on the information furnished in the January 28, 1986 submittal, we find that the applicant has acceptably addressed the concerns identified in the November 19, 1985 SSER; the approach taken by the applicant satisfies the generic requirement (for BWR EPGs) for more precise criteria for defining venting pressure and there is an adequate basis for the selection of the 65 psig venting criterion.

2.2 Function and Task Analysis

Supplement 1 to NUREG-0737 specifically calls for the identification of operator "information and control requirements" as a part of the reanalysis of transients and accidents. To satisfy this requirement, Hope Creek has elected to reference the "system function and task analysis" as described in their DCRDR Summary Report and Supplementary Report. The task analysis, as described in these reports, has been reviewed and approved by the staff in an SER from G. C. Lainas to E. Adenauer, dated January 24, 1986. This item is therefore closed out for the RCP.

With resolution of the above items, the applicant's P-STGs meet the objectives of NUREG-0899 and should provide adequate guidance for translating the EPGs into EOPs.

3.0 PLANT-SPECIFIC WRITER'S GUIDE (P-SWG)

The writer's guide was reviewed to determine if it provided acceptable methods for meeting the objectives of NUREG-0899. Results of the staff review identified a number of items needing clarification or expansion. These items were documented in a May 14, 1985 RAI. The applicant responded to these items in their July 29, 1985 submittal which included a revised PGP. Staff review of this submittal indicated that substantial improvements were made to the applicant's PGP, although several concerns remained or were newly identified. These concerns, addressed in the November 19, 1985 SSER, and their resolution are as follows:

- 3.1 In response to our concern that the applicable administrative procedure appeared to be included as a part of the PGP, the applicant indicated that this was not, in fact, the case.
- 3.2 With regard to indicating that the procedures be located so that they do not obstruct controls or displays during storage or use, that they are easily accessible and are convenient to use (e.g., not difficult to handle), the applicant revised the PGP accordingly.
- 3.3 Indication of how the flow charts will be implemented in the control room, was addressed in a new section of the PGP.
- 3.4 The PGP was revised to indicate how access to the needed flowchart(s) will be facilitated through placement, layout, format, etc.

With resolution of the above items, the applicant's writer's guide meets the objectives of NUREG-0899 and should provide adequate guidance for translating the P-STG into EOPs that will be useable, accurate, complete, readable, convenient to use and acceptable to control room operators.

4.0 EOP VERIFICATION/VALIDATION (V&V)

The verification and validation programs were reviewed to determine if adequate methods were described for meeting the objectives of NUREG-0899. The applicant's program for verification and validation, as provided in the January 28, 1985 PGP submittal, was found unacceptable. Specific comments were provided in the May 14, 1985 RAI. Although review of the applicant's July 29, 1985 response to the RAI indicated that an acceptable program had been developed, the staff was concerned that the EOPs would not be adequately challenged during the V&V program. In response to this concern, the applicant, with the assistance of a contractor, developed a work plan for V&V that would ensure that the EOPs would be adequately challenged. The staff finds this work plan to be acceptable.

With resolution of the above item, the applicant's verification and validation program provides acceptable methods for meeting the objectives of NUREG-0899 and should provide assurance that the EOPs adequately incorporate the guidance of the writer's guide and the technical guidelines and will guide the operator in mitigating emergency conditions.

5.0 EOP TRAINING PROGRAM

The applicant's description of the operator's training plan for EOPs was reviewed to determine if adequate methods are employed to meet the objectives of NUREG-0899. Review of the original January 28, 1985 submittal identified several deficiencies with the training program. These deficiencies were detailed in the May 14, 1985 RAI. The applicant's response to these deficiencies was found acceptable with one minor exception which was documented in the November 19, 1985 SSER; it was not clear that all licensed operators would have the opportunity to work with the full complement of EOPs during training. The applicant has revised their training program to ensure that all licensed operators are trained on the full complement of EOPs.

With resolution of the above item, the applicant's operator training program provides an acceptable method for meeting the objectives of NUREG-0899.

6.0 CONCLUSION

Based on our review we conclude that the PSE&G PGP for Hope Creek meets the requirements of Supplement 1 to NUREG-0737 and provides acceptable methods for accomplishing the objectives of NUREG-0899.