

In the Matter of :
Public Service Electric :
and Gas Company :
(Hope Creek Generating :
Station) :
Docket No. 50-354 O.L.

Contention 1 - Pipe Breaks

- 8404230064 840416
PDR ADOCK 05000354
G PDR

- Danko and Stahlkopf, 23 Nuclear Safety 653
- Nucleonic Week, October 13, 1983
- Status Report on observation of pipe cracking
at BWR's (SECY-83-267) July 1, 1983
- SECY-83-267 A, July 11, 1983
- SECY-83-350, August 19, 1983
- Regulatory Guide 8.8, Revision 3, 1978
- Reg. Guide 8.8-2 and -3
- NUREG -0313,-0785, -0803 and NEDO -24342 (April, 1981)
(GE evaluation in response to NRC request
regarding BWR SCRAM System Pipe Breaks
- Regulatory Guide 8.8 (Revision 3, June, 1978)
- Generic letter 81-34 (August 31, 1981 --
"Safety concerns associated with pipe breaks in
the BWR SCRAM System)
- NUREG 0785 Safety concerns associated with
pipe breaks in the BWR SCRAM System (draft
report) "

Contention 2 - Management Competence to
Safely Operate Hope Creek

The Order Modifying License Effective Immediately,
May 6, 1983 by the Director, Nuclear Reactor Regulation
Docket Numbers 50-272, 50-311

- Order imposing civil monetary penalties
(September 29, 1983)
- NRC staff request for information related to the
Hope Creek FSAR (e.g. numbers 630.1 and 630.2,
260.1)
- Darrell G. Eisenhut, letter of June 23, 1983 to
R. L. Mittel
- A. Schwencer, letter of August 4, 1983 to R. L.
Mittel
- HCGS FSAR, table 13.1-1 (resumes of nuclear
department management and technical services and
support personnel (pages 1-44)
- Volume 17 FSAR, Chapter 15 - "Accident Analysis"
(especially Chapter 15.8 - "Anticipated Transients
Without SCRAM")
- HCGS FSAR Chapter 17 "Quality Assurance"
(especially Chapter 17.2.8 (Identification and
Control of Materials, Parts and Components)

- NUREG - 1000, "Generic implications of ATWS event at the Salem Nuclear Power Plant," April, 1983 (see, e.g., section 2.3.5, "Quality Assurance," -- "The implementation of quality assurance at Salem suffered from failings to achieve two very closely related principles -- that quality is everyone's job and that the functions of quality assurance and quality control are to assure, in accordance with an effective QA program, that job importance to safety are done well.")
- NUREG - 0977, "NRC Fact-Finding Task Force report on the ATWS event at Salem Nuclear Generating Station, Unit 1 on February 25, 1983 (see, e.g., section 2.3.4: "some operators lacked understanding of certain aspects of control room indications. They did not appear to understand whether specific... signals resulted from a trip demand or if the annunciators were confirmatory indicators.... It should be noted that on February 25, 1983, operators took between 30 and 60 minutes to recognize a failure of the automatic trip system after the ATWS had occurred.")

Contention 3 - Environmental Qualification

- Memorandum from R. Feit, Research Applications Branch, NRC, 2 L.S. Tong, Assistant Director for Water Reactor Safety Research, NRC dated August 5, 1977
- I&E Bulletin Numbers 77-05 (November 8, 1977) and 77-05A (November 14, 1977) see also the Commission's 1978 Order, reported at 7 NRC 400 (1978)
- SECY 82-51, "Staff requirements - SECY 81-803B- Proposed Rulemaking, environmental qualification of electrical equipment for nuclear power plants," February 4, 1982
- I&E Bulletin Number 79-01 (February 8, 1979 and 79-01B (January 14, 1980)
- Letter of August 10, 1983, from A. Schwencer to R. L. Mittel containing additional information request regarding environmental qualification
- Board Notification (BN) 83-1 to 8, August 31, 1983, summarizing the staff investigation into the tests conducted by the Franklin Research Center on solenoid valves.

- BN 83-128A, October 6, 1983 (Update of BN 83-128)
- Equipment Environmental Qualification Notice (EEQN) 83-72, Number 21 (October 28, 1983 regarding Barksdale pressure switches
- EEQN 83-72, N.L. 22 (October 28, 1983), regarding static-o-ring switches
- EEQN 83-72, N.L. 20, regarding ITT - Barton transmitters
- EEQN N.L. 24, 83-72 (October 28, 1983), regarding Limitorque valve operators
- EEQN N.L. 13, 83-72 (April 18, 1983) regarding Anaconda flexible conduit
- EEQN N.L. 14, IN 83-72 (October 28, 1983), regarding Rockwell International Post-LOCA hydrogen recombiner
- Bonzon, et. al., "An Overview of Equipment Survivability Studies at Sandia National Laboratories" presented at Proceedings of the International Meeting on Light Water Reactor Severe Accident Evaluation, August 28 - September 1, 1983 (Cambridge Massachusetts)

- Regulatory Guide 1.89 (Draft only, 1982) and Revision one to Reg Guide 1.89 (November, 1983)
- Memorandum from Darrell G. Eisenhut regarding "additional information on environmental qualification" (BN 84-032), February 13, 1984
- IE Information Notice Number 84-20 (March 21, 1984)
- IE Bulletin Number 84-02: Failures of General Electric Type HFA Relays in use in Class 1 E safety systems (March 12, 1984)

2. (A) "For each contention, list the names of the person or persons you will rely upon to substantiate in whole or in part each of the Public Advocate contentions"

Answer: Contention 1: The Public Advocate anticipates relying upon Dale G. Bridenbaugh of MHB Associates, San Jose, California. A copy of his qualifications and complete address is attached.

For Contention 2 the Public Advocate anticipates relying upon Doctor Steven H. Hanouer. A copy of

full address and qualifications appears as attachment two.

For Contention 3, the Public Advocate anticipates relying upon Robert D. Pollard, of the Union of Concerned Scientists, Washington, D.C.

The Public Advocate does not yet know which of the above persons or any other persons the Public Advocate will call as witnesses in regard to the above contentions. The Public Advocate, however, anticipates that any direct testimony if submitted by the Advocate will be submitted in whole or part by the above named persons.

3. "Describe all preventive measures that the applicant should take with respect to IGSCC for recirculation piping which is not presently being taken or will not be taken after start up of the Hope Creek facility."

Answer: The Public Advocate believes that this interrogatory has been answered substantially by The Public Advocate's First Responses to the Applicant's First Set of Interrogatories, Numbers 9 and 11 (pp 6-7) see also Number 14 (pp 8-9)

4. "List all inspection techniques that the Public Advocate asserts should be used to identify IGSCC in recirculation piping after start up."

Answer: Please see the Public Advocate's response to the applicant's interrogatory 13, supra., at p 8-9. ("The intervenor believes that the General Electric "SRI" method is a helpful and reasonably dependable method for targeting, piping and welds where such cracking is most likely to occur...")

5. "As part of contention one, the Public Advocate asserts that manual ultrasonic testing is not an acceptable method of testing for IGSCC. Describe the Public Advocate's basis for this assertion, listing any scientific studies or other data relied upon."

Answer: Please see Public Advocate Exhibit 1, transcript of special prehearing conference (November 22, 1983 at Tr. 60 See also SECY 83-350 (August 19, 1983), which notes that "the leak - before - break concept cannot be the sole basis for continued safe operation.... Plant specific considerations can provide valuable insights into the likelihood of extensive cracking... These considerations include...

compensatory measures such as increased assurance of leak detection, increased availability of ECCS, increased operator training and awareness, and visual inspections...")

6. "Based upon the Salem event of February 23 and 24, 1983 specify every way in which the Public Advocate asserts that Hope Creek's management will be deficient with respect to the safe operation of the Hope Creek facility."

Answer: The Public advocate cannot, at this point "specify every way in which...Hope Creek's management will be deficient with respect to the safe operation of the Hope Creek facility." The Public Advocate, however, can assert certain areas of deficiency that have been identified to date. For example, please see Table 13.1-1 of the HCGS FSAR (pages 1-44) which set forth the qualifications of the nuclear department management that has responsibility for the safe operation of Hope Creek. None of the management team has experience in the operation of large LWR-DWR facilities. Almost all are former operators, technicians, and managers for the Salem project which is a large LWR-PWR. The lack of direct experience in

the operation of a boiling water reactor is a significant concern. Merely transferring members of the Salem "team" -- the site of the February 1982 incident -- is a poor substitute for recruiting trained and experienced BWR operators. Moreover, as the NRS found in its reviews of the Salem ATWS incident, PSE&G management was marked by a lack of curiosity and initiative, showing an unwillingness to creatively review potential problems and to err on the side of safety wherever there is a tradeoff with cost (e.g. Public Service attempted to "repair" the defective circuit breakers rather than replace them with new circuit breakers).

7. "List all safety-related electrical and mechanical equipment which the Public Advocate asserts will not be environmentally qualified prior to the operation of the Hope Creek facility."

Answer: These include solenoid valves, barksdale pressure switches, static-o-ring pressure switches, ITT-Barton transmitters, limitork valve operators, Anaconda flexible conduits, Rockwell International post-LOCA, hydrogen recombiners, electrical penetration assembly, Model K connectors, and terminal blocks.

This list should not be considered exhaustive at this point.

8. - 14. (Since each of these deals with contention 4, impacts of the salt deposition from the cooling tower, which has been dismissed with the concurrence of the Public Advocate, no responses to these questions are needed.)

I hereby certify that the Public Advocate's responses to the NRC staff's first set of interrogatories to the Public Advocate are true and accurate to the best of my knowledge, information, and belief.

Respectfully submitted,

Joseph H. Rodriguez
Public Advocate

By: _____
R. William Potter
Assistant Commissioner

March 16, 1984