



UNITED STATES
ATOMIC ENERGY COMMISSION

WASHINGTON, D.C. 20545

JUL 21 1970

Files (Docket No. 50-219) *R. J. Schemel*
THRU: R. J. Schemel, *Chief*, ORB-1, DRL

SUMMARY OF MEETING HELD IN BETHESDA, MAY 14, 1970, WITH JERSEY CENTRAL POWER AND LIGHT COMPANY AND GENERAL ELECTRIC COMPANY CONCERNING CONTROL ROD DRIVES AND REACTOR VESSEL SAFE ENDS

A list of attendees follows:

Atomic Energy Commission

M. M. Mann, DR
F. Schroeder, DRL
D. Skovholt, DRL
R. H. Engelken, CO
R. H. Vollmer, DRL
J. P. O'Reilly, CO
Arne B. Holt, DRS
H. R. Denton, CO
S. D. MacKay, DRL
F. Clemenson, DRL
W. Minners, DRL
S. B. Burwell, DRL
R. Campbell, DRL
D. Roth, DRL
D. L. Pomeroy, CO
R. J. McDermott, CO
M. Wetterhahn, DRL

Jersey Central Power & Light

T. J. McCluskey
D. E. Hefner
I. R. Finrock, Jr.
J. K. Pickard (Pickard, Lowe)
W. R. Schmidt (MPR Associates)

General Electric Company

J. L. Benson
F. F. Smith
W. Walker
R. H. Pfitzeumaner
R. A. Huggins
R. M. Ketchel, D. C. Office
R. V. Poe, D. C. Office
L. K. Holland, San Jose Office

Jersey Central presented a summary of the control rod malfunctions and indications of faulty rod drive performance which led to their decision to shut down the Oyster Creek plant on April 18, 1970. GE then presented a description of the control rod drives and discussed problems encountered and the safety significance of these problems. This included: Excessive stall withdrawal flow rates, increased drive water pressure necessary for collet piston actuation, high temperature alarms, pluggage of cooling water orifices, rod scrams to incomplete insertion, erratic buffer times, flooding of the scram dump volume during a reactor scram, the bulging of index tubes, and the breakage of piston seals and springs. GE stated that these kinds of failures have occurred in most GE plants, that they are not unsafe failures, and are expected to occur during the normal operation of GE-built plants. They have, however, taken one corrective measure. They have reduced the accumulator precharge pressure to 575 psig from 860 psig. This should eliminate the bulging of index tubes and alleviate the problem of breaking seals.

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Jersey Central removed, repaired and reinstalled 136 of their 137 control rod drives. In order to avoid rapid recurrence of the drive problems, they have reduced the accumulator precharge pressure, flushed the control rod guide tubes to remove crud and they have taken special care in the venting of the drives after installation. (Inadequate venting can cause the breaking of seals.)

The details of what Jersey Central found in the disassembly and inspection of the drives and their program for reassembly, testing and surveillance of the drives were presented at the meeting and were affirmed in a letter from I. Finrock to P. A. Morris, May 18, 1970.

Regulatory then introduced the subject of reviewing this matter and inquired as to its review by Jersey Central's principal safety committee, the General Office Review Board. Regulatory was dismayed to learn that this matter had not been reviewed by the GORB and informed Jersey Central of their concern that such an important safety matter was overlooked by the management. Jersey Central then said they would have the GORB review the matter before the plant is started up.

The next subject was that of stainless steel safe ends. MPR Associates, consultants to Jersey Central, presented what they found during the inspection of 3 reactor vessel nozzles at Oyster Creek. The north and south core spray nozzles, and a control rod drive return line nozzle were inspected. Inconel weld metal had been laid over the sensitized stainless steel and extended over the stainless steel piping as well. After grinding the surface of the inconel, it was tested with liquid penetrant, and cracks appeared. Further grinding disclosed more cracks. However, these were described as "hot cracks" which are common when inconel is laid on stainless steel. The cracks were found to be only in the inconel and only in that portion of the inconel which was over stainless steel piping and no cracks were found in the inconel over the sensitized stainless steel safe ends.

The repair program is to first grind out all indications of cracks. If, after grinding, the base metal has been untouched or if it is stainless steel and there remains a sufficient thickness of metal, no further work will be done. If those conditions are not met, a weld repair will be performed.

Jersey Central's GORB has been reviewing the problems with safe ends.

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