

B&W POWER RANGE ADVICE TO TMI

50-320

3/78-5/79

ii
Okay Doctor, I am recording now.

Okay, you are recording now, let me talk for a couple of minutes and then lets stop, turn it off and Okay. What I have in front of me is a piece of paper received yesterday or this morning about 5:15 which is a copy of a communication from Babcock and Wilcox to Metropolitan Edison concerning the draft plan for moving from the present mode of operation to a stable long term mode of core cooling. This is to be discussed this evening with the management of GPU, Mr. Herman DeCamp and it is likely at that time he will propose this plan or something very similar to it as their current preferred method for placement of cthe core in a long term stable cooling mode. I want to read it over the phone into the recorder and we will transmit it in writing as soon as we get the equipment up. It is entitled:

7906210137

242 250

R
ROISMAN 79-98

PREREQUISITE TO ESTABLISH AN ULTIMATE REACTOR COOLANT SYSTEM CONDITIONS
FOR LONG TERM RECOVERY

1. Degas the Reactor

1. This must be done while we still have reactor coolant pumps. Do this by increasing pressurizer level to at least 300% and maintain the small bleed on the top of the pressurizer open to continue the degassing. Also, continue to degas through the makeup tank.

2. When sample sink is available verify total gas in reactor coolant system by normal analysis.

3. The reactor should at all times be in a condition to go immediately to natural circulation assuming failure of the A-1 reactor coolant pump and then inability to start any other reactor coolant pump.

This means:

a. Steam generator water level in A and B generators must be at 95% of operate range.

b. Auxiliary feed nozzle on mode generators must be capable of being fed.

- c. Sufficient auxiliary feed water must be available via the emergency steam nozzels to raise steam generator secondary water to within 10 feet of the botom of the upper tube sheet to promote natural circulation start.

II. Ground Rules for Final Condition of Three Mile Island to Reactor

1. Because of high activity levels in the reactor coolant the decay heat system must not repeat must not be used in the recirculation mode.
2. The reactor must be brought to a condition which has minimum grim _____ on mechanical equipment and instrumentation inside the reactor building. The reason for this is that radiation damage is occurring to reactor coolant pumps and instrumentation which may ultimately make them inoperable. The final condition of the reactor must be capable of being sustained for hundreds of days while reactor building cleanup proceeds with the objective of ultimately gaining access of the reactor coolant system.
4. The ultimate condition of the reactor must be achieveable from its present condition through an orderly and deliberate series of maneuvers involving the least complicated sequence possible.

III. Ultimate Condition of Reactor Ground Rules

1. Reactor coolant pumps assumed inoperable.
2. All reactor building instrumentation assumed inoperative through progressive failures to radiation degradation.
3. Makeup to reactor coolant system via a syntrifugal pump capable of about 500 PSI head through continuous operation to maintain pressure on the system via existing makeup of other lines. This may be a new pump with backup installed for this purpose.
4. Reactor pressure read or inferred from discharge pressure of the above described pump.
5. Rate of makeup determined by flow meter in discharge of above pump downstream of a recirc line. Recirc line needed to allow dead head operations. Steam generators are solid with continuous recirculation from auxiliary feed system from coldest source of acceptable waters on the site. Put ice in condensate tank?

6. Temperatures in steam generators determined by overflow water in secondary system.
7. Core temperature monitored by present in-core detectors which are assumed to survive.
8. HPI pumps assumed available to take water from BWST and cool reactor through electromagnetic release valve in core temperatures increased to acceptable levels.
9. It is assumed under the above conditions that natural circulation is taking place.

IV. Ultimate Building Cleanup to Gain Access to Reactor for Recovery

1. This is assuming that natural circulating as described in ultimate condition of reactor above.
2. Modification will be made to the recirculating line in the reactor building sump to extract in a controlled manner the 268,000 gallons of highly contaminated water now in the reactor building. It is assumed that portable materials will have to be brought to the site to process this highly contaminated water and ship it for storage or burial.

3. The reactor building spray system should be considered for water washing the building to further decrease decontamination or the activity described in No. 2 above for processing water is going on.
4. Use existing piping, make modifications as necessary to extract water from the reactor coolant system for disposal of purification to reduce coolant activity and building radiation levels.
5. Further actions as they are found to be necessary.

B and W Preliminary Proposal to Metropolitan Edison for putting a plan in place for deliberately moving from the current cooling mode toward the ultimate cooling mode of the core in its present state. I need that information to be available to Case and Levine as early as possible and will be transmitting the written form as soon as we get the equipment hooked up.