

UNITED STATES GOVERNMENT

Memorandum

MAY 5 1969

TO : Files *JS* (Thru) Roger S. Boyd, Chief, Research & Power Reactor Safety Branch, Division of Reactor Licensing

DATE: MAY 5 1969

FROM : Donald F. Knuth, Research & Power Reactor Safety *D.F. Knuth* Branch, Division of Reactor Licensing

SUBJECT: MEETING WITH JERSEY CENTRAL POWER AND LIGHT COMPANY TO DISCUSS DRYWELL COOLING SYSTEMS, DOCKET NO. 50-219

On April 30, 1965, a meeting was held between the AEC Staff and representatives of Jersey Central Power and Light Company. The purpose of the meeting was to discuss the conceptual design of the containment dry well heat removal systems for the Oyster Creek Plant. Those present at the meeting included:

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|------|----------------|-------------------------------|
| (1) | D. R. Rees | Jersey Central Power |
| (2) | D. E. Hetrick | Jersey Central Power |
| (3) | J. K. Pickard | Jersey Central Power |
| (4) | R. A. Huggins | General Electric Co. |
| (5) | R. B. Lemon | General Electric Co. |
| (6) | J. B. Violette | General Electric Co. |
| (7) | R. S. Boyd | Division of Reactor Licensing |
| (8) | D. R. Muller | Division of Reactor Licensing |
| (9) | R. J. Tedesco | Division of Reactor Licensing |
| (10) | J. J. Shea | Division of Reactor Licensing |
| (11) | B. Grimes | Division of Reactor Licensing |
| (12) | D. F. Knuth | Division of Reactor Licensing |

In the AEC's Hazards Analysis, which was issued at the time of the public hearing, a discussion of the consequences of a maximum credible type accident coincident with failure of the means for injecting water into the reactor or dry well was discussed. The Staff concluded that because of the extremely serious consequences of such an accident another independent system of a different design which is redundant in important components should be provided to remove heat from the containment dry well. A meeting was requested by Jersey Central and General Electric to discuss the conceptual design of the proposed redundant cooling system.

The safeguards now proposed are fully duplicated in that each of the following systems is redundant. A description of one-half of each system is given below:

- (1) Core Spray System - The core spray system is a low pressure system utilizing 3 half capacity pumps. The pumps take suction from the suppression pool and discharge through a core spray header into the core.

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- (2) Suppression Cooler System - A suppression cooler system is provided to work in conjunction with the core spray system. The core spray water is pumped from the suppression pool through the core and then spills back into the suppression pool. The suppression cooler system then removes energy from the pool and transfers it outside the containment. This system contains a single pump and heat exchanger and by recirculating the water will remove approximately 12 Mw of energy under accident conditions.
- (3) Dry Well Cooling System - A system similar in capacity to the suppression cooler system is provided to remove energy from the containment dry well in the event the core spray system fails. This system also contains a single pump and heat exchanger and when desired will pump water from the suppression pool to a dry well spray header.

It is the opinion of the designer that the system as now proposed meets the criteria of two systems each of which is redundant, and the detailed plant design is proceeding on that basis.

One other topic briefly mentioned was that of metal-water reaction assumptions in the accident model. It was indicated that other groups within the AEC regulatory program were working on consistent criteria and that this work as stated in the metal water reaction symposium would be completed in two weeks.