



UNITED STATES
NUCLEAR REGULATORY COMMISSION
WASHINGTON, D. C. 20555

October 21, 1980

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Docket No. 50-219

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RECEIVED DISTRIBUTION
SERVICES UNIT
US NRC
DISTRIBUTION SERVICES
BRANCH

Mr. I. R. Finfrock, Jr.
Vice President
Oyster Creek Nuclear Generating Station
P. O. Box 388
Forked River, New Jersey 08731

Dear Mr. Finfrock:

By letter dated June 27, 1980, and supplement dated July 7, 1980, Jersey Central Power and Light Company (JCP&L) submitted an evaluation of two possible cracks in one of the two core spray systems. The two possible cracks are located within the reactor vessel between the inlet nozzle and the vessel shroud. Our letter dated July 9, 1980 provided the results of our evaluation of your submittals. The results of our evaluation indicated that if it is assumed that the linear indications are cracks and if the piping fails at these locations (inside the reactor vessel), addition of water to the reactor vessel through the affected core spray header reactor vessel nozzle would not restrict flooding capability. The staff agreed with your preliminary evaluation that, following failure of the second core spray inlet, the clad temperatures and metal-water reaction calculated in accordance with Appendix K requirements are below 10 CFR 50.46 limits. However, we indicated that our final approval is contingent upon submittal and review of the detailed analysis which was submitted in summary form.

By letter dated July 31, 1980, JCP&L submitted an analysis performed by the Exxon Nuclear Company that shows that the Oyster Creek reactor could experience a core spray line break LOCA with failure of cracks in the unbroken spray sparger and still meet the criteria of 10 CFR 50.46. This analysis assumed that although the cracked sparger could not be guaranteed to deliver the required spray cooling, the water inventory associated with the spray flow would still be delivered to the reactor vessel. The LOCA temperature transient would be terminated by bottom reflood.

The analysis consisted of previous blowdown results for the core spray line break to time of rated spray, a conservative estimate of the time to reflood to the core midplane, rod-to-rod and rod-to-cannister radiation from time of rated spray to reflood of core midplane and a reflood heat transfer coefficient of 25 BTU/hr-ft²-of following reflood to the core midplane. The maximum predicted cladding temperature was 2088°F.


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Based on our review, we conclude that the conservative analysis demonstrates that under the conditions described above, the Oyster Creek reactor will still meet the criteria of 10 CFR 50.46 and, therefore, it is acceptable.

Sincerely,


Dennis M. Crutchfield, Chief
Operating Reactors Branch #5
Division of Licensing

cc: See next page

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cc

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