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SUBJECT: Forwards response to safety evaluation on Generic Ltr 81-21 re natural circulation cooldown.

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July 18, 1988

U. S. Nuclear Regulatory Commission
Attention: Document Control Desk
Washington, D. C. 20555

Subject: Oconee Nuclear Station
Docket Nos. 50-269, -270, -287
Generic Letter 81-21
Natural Circulation Cooldown

Dear Sir:

By letter dated June 5, 1985, the NRC provided to Duke the Staff's Safety Evaluation (SE) on Generic Letter 81-21. The NRC Staff's SE stated that Oconee Nuclear Station could perform a natural circulation cooldown without void formation. In addition, the June 5, 1988 NRC letter requested Duke to describe the training program that deals with the prevention or mitigation of reactor vessel voiding. By letter dated July 11, 1985 Duke provided a response.

By letter dated June 13, 1988, the NRC Staff provided a supplemental SE which discusses the NRC Staff's assessment of Duke's response. By the June 13, 1988 letter, the NRC has requested Duke submit an update or schedule on the status of the simulator modelling. Accordingly, please find attached Duke's response to the requested information.

Very truly yours,

Hal B. Tucker

Hal B. Tucker

PFG/30/sbn

Attachment

xc: Dr. J. Nelson Grace, Regional Administrator
U. S. Nuclear Regulatory Commission
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Oconee Nuclear Station

Ms. Helen Pastis
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Washington, D. C. 20555

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Attachment

Duke Power Company

Oconee Nuclear Station

Updated Response to NRC Item Concerning Natural Circulation Cooldown

(1) As a part of the training, there is proper simulator modelling of upper head voiding.

Response:

The Oconee Simulator does not presently faithfully model upper head voiding during natural circulation cooldown operations. However, an upgrade of certain models is presently being pursued with the Westinghouse Corporation, a part of which will be a completely new Reactor Coolant System model. The W proposal for this portion of the project specifically addresses the capability to reproduce upper head voiding as a result of nonequilibrium density changes through the system, including steam bubble formation in the reactor vessel head; the model will be capable of handling single- and two-phase, two-component flow conditions during forced or natural circulation operations. Duke anticipates beginning the site acceptance tests no later than the first quarter of 1989, with final acceptance of all models by no later than the third quarter of 1989.