

DEC 2 - 1971

Docket No. 50-231

General Electric Company  
ATTN: Dr. Bertram Wolfe  
General Manager  
Breeder Reactor Development Operation  
310 DeGuigne Drive  
Sunnyvale, California 94086

Gentlemen:

Your Proposed Change No. 2 dated June 12, 1970, subsequently amended on July 30, 1970, requested a change to the Technical Specifications of Provisional Operating License No. DR-15 that would: (a) revise the qualification requirements for key personnel, (b) clarify limits for the release of radioactive effluents from plant stack, and (c) increase the allowable flow in the pump-around loop. Items (a) and (b) were designated as Change No. 3 and authorized, as modified, by letter dated April 12, 1971. We have now reviewed item (c) that would increase the allowable flow in the pump-around loop. We have designated this action as Change No. 7.

During the course of our review, we found that certain modifications were necessary to meet our licensing requirements. These modifications, as discussed with you, have been made. We conclude that the change, as modified, does not present significant hazards considerations not described or implicit in the Safety Analysis Report and that there is reasonable assurance that the health and safety of the public will not be endangered. Accordingly, pursuant to Section 50.59 of 10 CFR Part 50, the Technical Specifications of Provisional Operating License No. DR-15 are hereby changed as follows:

- (1) Substitute replacement page 3.4-2 attached.
- (2) Change 3.4.B to read "the reactor vessel pump-around loop shall be operating with the flow maintained at a nominal value of 2.0 gpm or less".

Sincerely,

15/  
Donald J. Skovholt  
Assistant Director for Reactor Operations  
Division of Reactor Licensing

Enclosure:  
Replacement page 3.4-2

D-12/6/71

A/73 LC

cc: OFFICE Paul B. Van Buren, Attorney  
General Electric Company

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DATE ▶

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P.Erickson:pl

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SATeets

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RJSchemel

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DJSkovhol

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UNITED STATES  
ATOMIC ENERGY COMMISSION  
WASHINGTON, D.C. 20545

December 2, 1971

Docket No. 50-231

General Electric Company  
ATTN: Dr. Bertram Wolfe  
General Manager  
Breeder Reactor Development Operation  
310 DeGuigne Drive  
Sunnyvale, California 94086

Gentlemen:


Change No. 7  
License No. DR-15

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During the course of our review, we found that certain modifications were necessary to meet our licensing requirements. These modifications, as discussed with you, have been made. We conclude that the change, as modified, does not present significant hazards considerations not described or implicit in the Safety Analysis Report and that there is reasonable assurance that the health and safety of the public will not be endangered. Accordingly, pursuant to Section 50.59 of 10 CFR Part 50, the Technical Specifications of Provisional Operating License No. DR-15 are hereby changed as follows:

- (1) Substitute replacement page 3.4-2 attached.
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Sincerely,

  
Donald J. Skovholt  
Assistant Director for Reactor Operations  
Division of Reactor Licensing

Enclosure:  
Replacement page 3.4-2

cc: Paul B. Van Buren, Attorney  
General Electric Company

## Sodium Coolant System

### Notes

Each of the four sodium coolant loops, including pumps, heat exchangers, and associated controls and coolant equipment, must be operable during reactor operation to assure adequate core cooling capability for normal and emergency conditions. The 300°F minimum temperature in the sodium loops assures that the sodium temperature will be maintained above the plugging temperature to avoid potential oxide plugging problems. The 300°F value provides a reasonable margin above 275°F, which is expected to be the lowest plugging temperature that can be clearly determined. Plugging temperatures below 275°F are difficult to determine, because the characteristic drop in flow with decreasing temperature is not clearly distinguishable at lower temperatures. In addition, the 300°F minimum temperature in the primary loops assures adequate shutdown margin for the core as specified in 3.3.A.

The pump-around loop circulates sodium continuously between the reactor vessel and the primary drain tank. This loop must be operable during reactor operation to maintain the reactor sodium level within prescribed limits and to provide assurance that the loop is available for accident situations. (1)

The pump around flow rate will be set high enough to avoid numerous low flow alarms due to normal flow rate variations. The average flow rate over a reasonable period of time will not exceed 2 gpm during reactor operation.

The argon cover gas system is required to be operable to maintain the conditions described in Specification 3.4.D. The vent vacuum pump is required to reprime the auxiliary primary coolant system in the event sodium is lost from that system during some abnormal (accident) condition.

The cover gas pressure in the secondary system is set equal to the cover gas pressure in the reactor (which is at a lower elevation) so that the secondary sodium pressure in the IHX will be greater than the primary sodium pressure in the IHX. This will assure that leakage of radioactive sodium from the primary coolant system to the secondary coolant system will not occur. (2) Under normal operating conditions, the secondary sodium pressure will exceed the primary sodium pressure by about 30 psi in the main IHX and about 43 psi in the auxiliary IHX. Small leaks may occur in the IHX, but the differential pressure will prevent the radioactive primary sodium from entering the