



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

April 24, 1989


DOCKET FILE

Docket No. 50-461

Mr. Dale L. Holtzscher  
Acting Manager - Licensing and Safety  
Clinton Power Station  
P. O. Box 678  
Mail Code V920  
Clinton, Illinois 61727

Dear Mr. Holtzscher:

By letter dated January 31, 1989, the Commission issued Amendment No. 18 to Facility Operating License No. NPF-62 for the Clinton Power Station, Unit No. 1. This amendment revised the Technical Specifications to support the first refueling of the reactor and subsequent reactor operation in the maximum extended operating domain and with reduced feedwater temperatures. Revised Technical Specification page B 3/4 4-5 was inadvertently omitted from the amendment. This revised page is enclosed for incorporation into your Technical Specifications.

  
John B. Hickman, Project Manager  
Project Directorate III-2  
Division of Reactor Projects - III,  
IV, V and Special Projects

Enclosure:  
As stated

cc w/enclosure:  
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## REACTOR COOLANT SYSTEM

### BASES

#### 3/4.4.5 SPECIFIC ACTIVITY

The limitations on the specific activity of the primary coolant ensure that the 2 hour thyroid and whole body doses resulting from a main steam line failure outside the containment during steady state operation will not exceed small fractions of the dose guidelines of 10 CFR 100. The values for the limits on specific activity represent interim limits based upon a parametric evaluation by the NRC of typical site locations. These values are conservative in that specific site parameters, such as site boundary location and meteorological conditions, were not considered in this evaluation.

The ACTION statement permitting POWER OPERATION to continue for limited time periods with the primary coolant's specific activity greater than 0.2 microcuries per gram DOSE EQUIVALENT I-131, but less than or equal to 4.0 microcuries per gram DOSE EQUIVALENT I-131, accommodates possible iodine spiking phenomenon which may occur following changes in THERMAL POWER. Operation with specific activity levels exceeding 0.2 microcuries per gram DOSE EQUIVALENT I-131 but less than or equal to 4.0 microcuries per gram DOSE EQUIVALENT I-131 must be restricted to no more than 800 hours per year, approximately 10 percent of the unit's yearly operating time, since these activity levels increase the 2 hour thyroid dose at the site boundary by a factor of up to 20 following a postulated steam line rupture. The reporting of cumulative operating time over 500 hours in any 6 month consecutive period with greater than 0.2 microcuries per gram DOSE EQUIVALENT I-131 will allow sufficient time for Commission evaluation of the circumstances prior to reaching the 800 hour limit.

Information obtained on iodine spiking will be used to assess the parameters associated with spiking phenomena. A reduction in frequency of isotopic analysis following power changes may be permissible if justified by the data obtained.

Closing the main steam line isolation valves prevents the release of activity to the environs should a steam line rupture occur outside containment.

The surveillance requirements provide adequate assurance that excessive specific activity levels in the reactor coolant will be detected in sufficient time to take corrective action.

#### 3/4.4.6 PRESSURE/TEMPERATURE LIMITS

All components in the reactor coolant system are designed to withstand the effects of cyclic loads due to system temperature and pressure changes. These cyclic loads are introduced by normal load transients, reactor trips, and start-up and shutdown operations. The various categories of load cycles used for design purposes are provided in Section 3.9 of the FSAR. During startup and shutdown, the rates of temperature and pressure changes are limited so that the maximum specified heatup and cooldown rates are consistent with the design assumptions and satisfy the stress limits for cyclic operation.

The operating limit curves of Figure 3.4.6.1-1 are derived from the fracture toughness requirements of 10 CFR 50 Appendix G and ASME Code Section III, Appendix G. The curves are based on the RT<sub>NDT</sub> and stress intensity factor information for the reactor vessel components. Fracture toughness limits and the basis of compliance are more fully discussed in FSAR subsection 5.3.1.5 entitled "Fracture Toughness."