

UNITED STATES  
ATOMIC ENERGY COMMISSION

WASHINGTON, D.C. 20545

March 29, 1974

Docket Nos. 50-237 and 50-249

Commonwealth Edison Company  
ATTN: Mr. J. S. Abel  
Nuclear Licensing Administrator  
Boiling Water Reactors  
Post Office Box 767  
Chicago, Illinois 60690

Change No. 27  
License No. DPR-19  
Change No. 18  
License No. DPR-25

Gentlemen:


By letter dated October 9, 1973, and supplement dated January 21, 1974, you requested a change to modify the technical specifications concerning automatic generation control of Dresden Units 2 and 3. The automatic generation control, performed by automatic control of recirculation flow would allow automatic flow control in the range of 65 to 100 percent of rated core flow. This is a larger range than the presently authorized 70 to 100 percent but is the same range as authorized for the similar Quad-Cities 1 and 2 reactors and is well within the range of flow control previously evaluated by the staff for these facilities in the staff safety evaluations performed prior to issuance of the operating licenses. The maximum power and maximum rate of change of power attainable through the proposed automatic generation control remain well within limits previously evaluated and found acceptable for these facilities. The safety system remains completely independent of the automatic generation control system and the safety system acceptability is not affected by the proposed change.

On the basis of the above, we have concluded that operation in accordance with the proposed changes in Technical Specifications does not present a significant hazards consideration and that there is reasonable assurance that the health and safety of the public will not be endangered.

March 29, 1974

Pursuant to Section 50.59 of 10 CFR Part 50, the Technical Specifications of Facility Operating Licenses Nos. DPR-19 and DPR-25 are hereby changed by replacing pages 60 and 65 with the revised pages 60 and 65 appended hereto.

Sincerely,

  
Donald J. Skovholt  
Assistant Director  
for Operating Reactors  
Directorate of Licensing

Enclosures:  
Revised pages

cc w/enclosures:  
John W. Rowe, Esquire  
Isham, Lincoln & Beale

Morris Public Library

Anthony Z. Roisman, Esquire  
Berlin, Roisman and Kessler

cc w/enclosures and cy of CECO  
ltr dtd 10/9/73 and suppl dtd 1/21/74:  
Mr. Gary Williams  
Environmental Protection Agency  
1 N. Wacker Drive  
Chicago, Illinois 60606

### 3.3 LIMITING CONDITION FOR OPERATION

#### E. Reactivity Anomalies

The reactivity equivalent of the difference between the actual critical rod configuration and the expected configuration during power operation shall not exceed 1%  $\Delta K$ . If this limit is exceeded, the reactor will be shut-down until the cause has been determined and corrective actions have been taken if such actions are appropriate. In accordance with Specification 6.6, the AEC shall be notified of this abnormal occurrence within 24 hours.

- F. If Specifications 3.3.A through D above are not met, an orderly shutdown shall be initiated and the reactor shall be in the Cold Shutdown condition within 24 hours.

#### G. Economic Generation Control System

Operation of the unit with the Economic Generation Control system with automatic flow control shall be permissible only in the range of 65-100% of rated core flow, with reactor power above 20%.

### 4.3 SURVEILLANCE REQUIREMENT

#### E. Reactivity Anomalies

During the startup test program and startups following refueling outages, the critical rod configurations will be compared to the expected configurations at selected operating conditions. These comparisons will be used as base data for reactivity monitoring during subsequent power operation throughout the fuel cycle. At specific power operating conditions, the critical rod configuration will be compared to the configuration expected based upon appropriately corrected past data. This comparison will be made at least every equivalent full power month.

#### G. Automatic Generation Control System

Weekly, the range set into the Economic Generation Control System shall be recorded.

scram performance will detect local variations and also provide assurance that local scram time limits are not exceeded. Continued monitoring of other drives exceeding the expected range of scram times provides surveillance of possible anomalous performance.

The numerical values assigned to the predicted scram performance are based on the analysis of the Dresden 2 startup data and data from other BWR's with control rod drives the same as those on Dresden 2.

The occurrence of scram times within the limits, but significantly longer the average, should be viewed as an indication of systematic problem with control rod drives especially if the number of drives exhibiting such scram times exceeds eight, the allowable number of inoperable rods.

#### D. Control Rod Accumulators

The basis for this specification was not described in the SAR and, therefore, is presented in its entirety. Requiring no more than one inoperable accumulator in any nine-rod square array is based on a series of XY PDQ-4 quarter core calculations of a cold, clean core. The worst case in a nine-rod withdrawal sequence resulted in a  $k_{eff} < 1.0$  -- other repeating rod sequences with more rods withdrawn resulted in  $k_{eff} > 1.0$ . At reactor pressures in excess of 800 psig, even those control rods with inoperable accumulators will be able to meet required scram insertion times due to the action of reactor pressure. In addition, they may be normally inserted using the control-rod-drive hydraulic system. Procedural control will assure that control rods with inoperable accumulators will be spaced in a one-in-nine array rather than grouped together.

#### E. Reactivity Anomalies

During each fuel cycle excess operating reac-

tivity varies as fuel depletes and as any burnable poison in supplementary control is burned. The magnitude of this excess reactivity may be inferred from the critical rod configuration. As fuel burnup progresses, anomalous behavior in the excess reactivity may be detected by comparison of the critical rod pattern selected base states to the predicted rod inventory at that state. Power operating base conditions provide the most sensitive and directly interpretable data relative to core reactivity. Furthermore, using power operating base conditions permits frequent reactivity comparisons. Requiring a reactivity comparison at the specified frequency assures that a comparison will be made before the core reactivity change exceeds  $1\% \Delta K$ . Deviations in core reactivity greater than  $1\% \Delta K$  are not expected and require thorough evaluation. One percent reactivity limit is considered safe since an insertion of the reactivity into the core would not lead to transients exceeding design conditions of the reactor system.

#### G. Economic Generation Control System

Operation of the facility with the Economic Generation Control System with automatic flow control is limited to the range of 65-100% of rated core flow. In this flow range and with reactor power above 20% the reactor can safely tolerate a rate of change of load of 8 MW(e)/sec. (Reference FSAR Amendment 9 - Unit 2, 10-Unit 3). Limits within the Economic Generation Control System and Reactor Flow Control System preclude rates of change greater than approximately 4 MWe/sec.

When the Economic Generation Control System is in operation, this fact will be indicated on the main control room console. The results of initial testing will be provided to the AEC at the onset of routine operation with the Economic Generation Control System.