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Dresden Nuclear Power Station  
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REGULATORY DOCKET FILE 60

October 29, 1976

BBS Ltr. #760-76

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Mr. Dennis L. Ziemann  
Operating Reactors - Branch 2  
Division of Operating Reactors  
U. S. Nuclear Regulatory Commission  
Washington, D. C. 20555

SUBJECT: Technical Specification Changes for Drywell-Torus  
Differential Pressure

REFERENCE: Your letter to Mr. R. L. Bolger, of Commonwealth  
Edison, dated October 4, 1976; concerning Dresden  
Units 2/3 Differential Control System

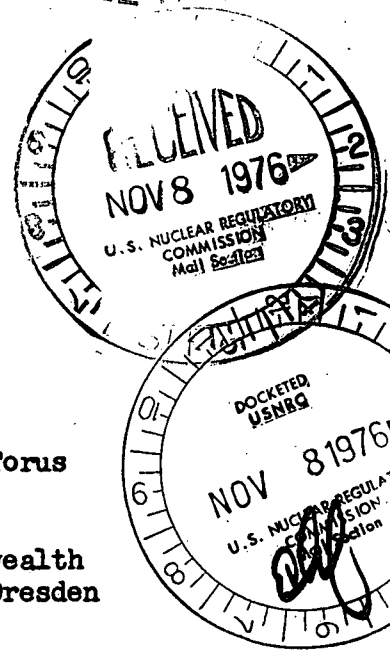
Dear Mr. Ziemann:

In the referenced letter you requested information in  
connection with our differential pressure control system. This  
letter is in response to your request.

In regards to the method used to maintain the Drywell-  
Torus differential two methods are employed at Dresden. Either  
the Nitrogen Inerting System or the Differential Pressure Control  
System will satisfactorily maintain a differential pressure of  
1.0 PSID. Specific operating methods and changes in valve line up  
are covered in our Technical Specification change submittal of  
April 12, 1976.

Concerning the method used to monitor the drywell-torus  
differential pressure we have found that the computer system is  
the most accurate. This system will give a print out of drywell  
pressure, and torus pressure at a regular interval or upon demand.  
In addition to the computer system, drywell and torus pressure can  
be read on control room indicators. Containment pressure can be  
read from indicator 8540-1 on panel 902(3)-3. Instrument 8540-1  
has a range of zero to five pounds; and is fed from pressure  
transmitter 1624. Torus pressure can be read from indicator 1602-1,  
which has a range of minus five inches Hg to a positive five pounds.  
This instrument is fed from pressure transmitter 1623. For both  
torus and drywell pressure indicators, only one instrument channel  
exists. Of the two pressure indicators only the -5 to +5 torus  
pressure indicator is mentioned in the Technical Specifications.  
The -5 to +5 torus pressure indicator is required by Table 4.2.1  
to be calibrated once every three months.

Also, in regards to the effect of torus water level on  
the PUA, we have determined that water level in excess of the required  
minimum will not change the PUA. This subject is covered in greater  
detail in our letter from Mr. G. A. Abrell to you dated October 1, 1976.

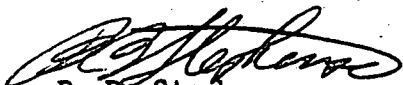


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Enclosed you will find our proposal for a change in the Technical Specifications dealing with the drywell pressure suppression chamber differential pressure. You will note in our proposal that a loss of cooling lake capacity was added to the exceptions for the requirement for a differential pressure. This addition is based on the number of deviations occurring from a loss of cooling lake capacity. Also, in our proposal a change was made to increase the allowable reduction period from 2 hours to 12 hours. The bases for this change is the normal eight hour period required to build up drywell suppression chamber pressure with the nitrogen make up system, and to allow an adequate time for the station to go to open cycle operation in the event of a loss of cooling lake capacity.

If you have any questions in regards to the information contained in this letter please contact Mr. T. Lang of this station.

Sincerely,

  
B. B. Stephenson  
Station Superintendent

BBS:CES:gt

Enclosure

cc: File/NRC

**BASES:**

The drywell pressure suppression chamber differential pressure is important because it will prevent post-LOCA hydro shocking of the pressure suppression chamber support structures. As specified in Dresden's Plant Unique Analysis, a Mark I BWR facility must maintain differential pressure at 1.00 PSID or greater.

Hydro shocking of the pressure suppression chamber can also be reduced by operating at minimum torus water level. However, if torus water level is maintained between normal Technical Specification Limits the effect on PUA (Plant Unique Analysis) is minimal, and a differential pressure of 1.00 PSID or greater is adequate.

Drywell Pressure Suppression Chamber differential pressure may be reduced to below the required 1.00 PSID for a period of 12 hours to perform operability test on the drywell pressure suppression chamber vacuum breakers, and for an unforeseen loss in cooling lake capacity. The period of 12 hours is based on normal drywell pressure build up to 1.00 PSID, with use of the Nitrogen makeup system (about 8 hours) and a period of four hours for testing. With loss of the cooling lake the station will have to go to open cycle operation, which will reduce the temperature of the Reactor Building Closed Cooling Water. This reduction in cooling water temperature will cause the drywell coolers to operate at a greater efficiency which will cause drywell pressure to drop. The period of 12 hours where differential pressure can be reduced will allow an adequate amount of time to go to open cycle operation and to build up drywell pressure suppression chamber differential to required limits with the Nitrogen make up system.

## LIMITING CONDITIONS FOR OPERATIONS

## SURVEILLANCE REQUIREMENTS

### 3.7 Containment Systems

#### Drywell Suppression Chamber Differential Pressure

- a. Differential pressure between the drywell and suppression chamber shall be maintained at equal to or greater than 1.00 PSID except as specified in (1) (2) and (3) below:
- (1) This differential shall be established within 24 hours of achieving operating temperature and pressure.
  - (2) The differential pressure can be reduced below 1.00 PSID 24 hours prior to taking the mode switch out of "Run" for a unit shutdown.
  - (3) This differential may be decreased to less than 1.00 PSID for a maximum of 12 hours during required operability testing of the drywell pressure suppression chamber vacuum breakers, and an unforeseen loss in differential pressure due to a loss in cooling lake capability.
- b. If the differential pressure of specification 3.7.a cannot be maintained, an orderly shutdown shall be initiated and the reactor shall be in the Hot Shutdown condition within 12 hours and the Cold Shutdown condition within the following 24 hours.

### 4.7 Containment Systems

#### Drywell Suppression Chamber Differential Pressure

- a. The pressure differential between the drywell and suppression chamber shall be recorded at least once each shift when the differential pressure is required.