



FirstEnergy Nuclear Operating Company

Beaver Valley Power Station  
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L-16-093

10 CFR 50.59(d)(2)

ATTN: Document Control Desk  
U.S. Nuclear Regulatory Commission  
Washington, DC 20555-0001

SUBJECT:  
Beaver Valley Power Station, Unit No. 2  
Docket No. 50-412, License No. NPF-73  
Report of Facility Changes, Tests and Experiments

In accordance with 10 CFR 50.59(d)(2), the FirstEnergy Nuclear Operating Company hereby submits the attached Report of Facility Changes, Tests and Experiments for the Beaver Valley Power Station, Unit No. 2. This report reflects the implemented changes, tests and experiments that were evaluated pursuant to 10 CFR 50.59 during the period of November 15, 2014 through April 1, 2016

There are no regulatory commitments established in this submittal. If there are any questions or if additional information is required, please contact Mr. Thomas A. Lentz, Manager – Fleet Licensing, at (330) 315-6810.

Sincerely;

Marty L. Richey

Attachment:  
Beaver Valley Power Station, Unit No. 2, Report of Facility Changes, Tests and Experiments

cc: NRC Region I Administrator  
NRC Resident Inspector  
NRC Project Manager  
Director BRP/DEP  
Site BRP/DEP Representative

Attachment  
L-16-093

Beaver Valley Power Station, Unit No. 2,  
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Title: Installation of Reactor Coolant Pump Shutdown Seals

Activity Description:

The number 1 seal inserts in each of the the Unit 2 reactor coolant pumps (RCPs) were replaced with the Generation III SHIELD® shutdown seal (SDS). This included replacement of the existing number 1 runner retainer sleeve and retainer sleeve adapter with a SDS sleeve and SDS sleeve adapter. The updated final safety analysis report (UFSAR) was reviewed and necessary changes to the RCP description were identified. No changes were required to the Technical Specifications, or Technical Specification Bases.

The Generation III SHIELD® SDS limits RCP shaft leakage and is designed to function only when exposed to an elevated reactor coolant temperature downstream of the RCP number 1 seal, which could occur as a result of a coincident loss of all thermal barrier heat exchanger cooling and number 1 seal injection cooling.

Summary of Evaluation:

With one exception, there were no affected UFSAR-described system, structure, or component design functions. The RCP design function of providing core cooling required further evaluation given it could be adversely impacted if the SDS were to inadvertently actuate.

The evaluation concluded that inadvertent actuation cannot cause a mechanical failure of the RCP given its small size and the negligible amount of resistance it can apply against the RCP shaft sleeve and is therefore not an accident initiator. It will not increase the frequency of occurrence of accidents previously evaluated in the UFSAR. FirstEnergy Nuclear Operating Company (FENOC) concluded that the proposed activity could proceed without obtaining a license amendment. As previously reported, the Generation III SHIELD® SDS was installed in one of the RCPs during the 2R17 refueling outage, which began in April of 2014. The remaining two RCPs were modified with the Generation III SHIELD® SDS during the 2R18 refueling outage, which began in September of 2015.