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

**Subject: Beaver Valley Power Station, Unit No. 1
Docket No. 50-334, License No. DPR-66
Commitment Changes and
Report of Facility Changes, Tests and Experiments**

In accordance with 10 CFR 50.59(d)(2), the Report of Facility Changes, Tests, and Experiments for the Beaver Valley Power Station Unit No. 1 is provided as Attachment 1. This report provides a brief description of facility and procedure changes which required a 50.59 evaluation and a summary of each evaluation. The report covers the period of April 30, 2003, through November 14, 2004.

Commitment changes are described in Attachment 2, and are forwarded as part of this submittal in accordance with the NRC endorsed guidance of the Nuclear Energy Institute (NEI) related to the commitment change process (Reference: NEI 99-04). There are no new regulatory commitments contained in this letter or Attachment 1.

If you have any questions regarding this report, please contact Mr. Henry L. Hegrat, Supervisor - Licensing, at 330-315-6944.

Sincerely,


L. William Pearce

Attachments

c: Mr. T. G. Colburn, NRR Senior Project Manager
Mr. P. C. Cataldo, NRC Sr. Resident Inspector
Mr. H. J. Miller, NRC Region I Administrator

IE47

Beaver Valley Power Station Unit 1
Attachment 1
Facility Changes, Tests, and Experiments
April 30, 2003 - November 14, 2004

Page 1 of 3

Change Title

ECP 02-0574 – Install Reactor Cavity Drain in Primary Shield Wall

Change

In support of atmospheric containment conversion and power uprate projects, a reactor cavity drain has been installed. Analyses indicated that the drain would be needed to allow spray water in the cavity to flow to the containment sump, ensuring sufficient NPSH during some small break LOCA events. The drain consists of a twelve inch hole drilled through a concrete plug in the primary shield wall and installation of shielding to compensate for the removed concrete. This evaluation was performed because installation of the drain was planned to occur prior to NRC approval of containment conversion and power uprate license amendment requests.

Design functions considered in the evaluation include protection against proliferation of dynamic effects, structural integrity of the primary shield wall, ventilation effects, primary shielding and reactor coolant loop shielding. The location and angle of the hole in conjunction with the new radiation shield ensures that missile protection previously provided by the shield wall is not reduced. The load bearing capacity of the shield wall was not reduced below that which is necessary to withstand design basis loads. Sufficient excess air flow capacity is available in the reactor cavity to accommodate the new drain. Radiation shielding was provided to compensate for possible streaming through the hole.

Change Title

ECP 03-0542 – Installation of Auxiliary Crane in Containment

Change

This engineering change package installed an electric powered hydraulic articulating boom crane or “knuckle” crane as permanent equipment in the containment building on the operating floor. In addition to the crane itself, the base anchorage, support structure and utility pedestal were installed. The crane does not perform a safety function and is seismically supported so that it will not impair the safety functions of nearby equipment. During Modes 1 through 4 the crane would be in a stored configuration. During other modes the crane would be used to perform a variety of load handling activities.

Considerations in this evaluation included potential effects on containment heat sinks, hydrogen generation, containment sump, seismic/structural impact, electromagnetic/radio-frequency interference, heavy load handling, internal missiles, and

Beaver Valley Power Station Unit 1
Attachment 1
Facility Changes, Tests, and Experiments
April 30, 2003 - November 14, 2004

Page 2 of 3

fire protection. It was concluded that the effect of decreased containment free volume and increased heat sink mass on containment response would be negligible. Increased aluminum and zinc quantities would not be sufficient to warrant revising existing hydrogen generation analyses. The limited use of unqualified coatings on the crane components is not expected to contribute to sump screen blockage. Controls have been implemented to minimize potential debris sources associated with the crane and the hydraulic oil reservoir has been provided with a secondary containment to collect oil from a tank failure. Loading on the containment structure was evaluated in accordance with the original design basis codes and standards. The remote control system frequency does not coincide with any other FENOC devices and the effect of interference on crane operation is limited to initiating "sleep" mode, de-energizing all output modules and stopping crane action. The crane satisfies NUREG-0612 general guidelines in Section 5.1.1 and interim protection measures in Section 5.3. Equipment used to maintain safe shutdown is not located near the crane and the crane is only used when in Modes 5, 6 or when defueled. The crane is connected to a temporary outage power source, eliminating the possibility of an electrical fire while the plant is operating. Failure of the hydraulic oil tank would be contained by a secondary containment tank and the area contains no hot piping that could serve as an ignition source for hydraulic oil.

Change Title

Temporary Modification 1-03-019 – Stem Clamp Applied to Pressurizer PORV Block Valve

Change

This temporary modification installed a clamp to prevent movement of the valve stem on pressurizer PORV block valve MOV-1RC-535. The clamp disabled the valve in the closed position, disabling the relief function normally provided by its associated downstream power operated relief valve. The clamp was installed because it was believed that the valve operator had reached "stall" torque while closing the valve during a surveillance test. Since this could have exceeded the one-time torque limit and an internal inspection was not immediately feasible, the valve stem was secured in the closed position. The remaining PORV block valves were successfully stroked. Therefore, sufficient remaining PORV capacity was available to satisfy accident analysis assumptions and technical specification requirements.

Beaver Valley Power Station Unit 1
Attachment 1
Facility Changes, Tests, and Experiments
April 30, 2003 - November 14, 2004

Page 3 of 3

Change Title

Temporary Modification 1-04-003 – Auxiliary Steam System Valve Blocked Open

Change

Due to a malfunctioning hydraulic operator, this temporary modification was initiated to mechanically block open valve HYV-1AS-101B which is an isolation valve providing auxiliary steam to the safeguards area and primary auxiliary building. In the event of a high-energy line break, redundant valves HYV-1AS-101A and HYV-1AS-101B close to isolate steam from the safeguards area and primary auxiliary building within 30 seconds after ambient temperature reaches 111 degrees F. A third (manual) valve can also be used to isolate the line, but would result in a delay in isolation if the redundant valve HYV-1AS-101A failed to trip. The evaluation concluded that there is negligible impact on safety related equipment in areas subject to the assumed high-energy line break as a result of a delay in isolation. In addition to manual isolation capability, the evaluation also considered supplemental administrative and procedural controls that were implemented with respect to maintaining the line manually isolated when not in use and in response to temperature alarms.

Beaver Valley Power Station Unit 1
Attachment 2
Commitment Changes

Page 1 of 3

Change Title

Change to Leak Testing Frequency for Recirculation Spray Heat Exchangers

Change

As an alternative to a verbal commitment to freon testing made in a meeting with the NRC in April, 1980, the NRC was notified by letter dated February 26, 1993, that air makeup testing was being substituted as the method for leak testing recirculation spray heat exchangers. This testing was being performed on an 18 month frequency. This frequency has been extended to once per two fuel cycles and is being supplemented with eddy current testing performed periodically based on trending of tube degradation. The change is based on success with the chemical wet lay-up practice used for these heat exchangers. Leakage tests for the prior four fuel cycles revealed no leakage problems. Tubes sampled for eddy current testing have also shown no significant changes in condition.

Change Title

Change to Method for Verifying Heat Transfer Capability of Safety Related Heat Exchangers

Change

In response to Generic Letter (GL) 89-13, the means for verifying heat transfer capability for specific safety related heat exchangers was provided in a letter to the NRC dated January 29, 1990. The response identified the specific means for verification (i. e. testing and/or maintenance) for each particular heat exchanger. The revised commitment instead allows the use of either testing or regular maintenance for any of the heat exchangers. This change is based on experience that testing has normally been a less effective method of monitoring than periodic maintenance. Generic Letter 89-13 describes frequent regular maintenance as an acceptable alternative to testing for degraded performance.

Beaver Valley Power Station Unit 1
Attachment 2
Commitment Changes

Page 2 of 3

Change Title

Change to Administrative Requirement to Reduce Power During AMSAC Inoperability

Change

In October 1996, a response to a Notice of Violation (EA 96-244) for BVPS-1 committed to a voluntary administrative limitation that imposed a time limit for inoperability of the AMSAC system, after which plant power level was to be reduced to less than 40 percent. The administrative requirement to reduce plant power level has been replaced by a requirement to assess the safety significance of the condition per Generic Letter 91-18 within the next seven days. AMSAC is a backup system for auxiliary feedwater initiation required by 10 CFR 50.62. There is no regulatory requirement to establish an allowable outage time for AMSAC and the system is not used to mitigate a design basis transient analyzed in the UFSAR. The NRC Significance Determination Process was considered in evaluating the safety significance of eliminating the power reduction and extending the outage time by seven days while the GL 91-18 evaluation is being performed. Since the event duration category (3-30 days) remains the same, the degree of risk is unchanged. It has also been determined that the coincident probability of an event requiring AMSAC and a total loss of feedwater (i. e. conditions where AMSAC function is needed) is very small.

Change Title

Revision of Requirements to Allow a Preventive Maintenance Task to Enter the Performance Grace Period or To Exceed a Limit Date

Change

A letter to the NRC dated June 2, 2000, made reference to site requirements for preventive maintenance (PM) task deferral which included completion of a PM deferral form to be approved by the Maintenance Director and Plant General Manger, and initiation of a condition report prior to the PM task entering the allowable grace period. Site Vice President approval on the PM deferral form was also required if a PM task was deferred past its limit or late date.

Since the implementation of these controls, the performance of PM tasks by their scheduled date has improved and the expectations are being fulfilled. FENOC common process procedure NOP-WM-3001, "Preventive Maintenance Program," is now used to control PM task deferral.

Beaver Valley Power Station Unit 1
Attachment 2
Commitment Changes

Page 3 of 3

The change relaxes the administrative requirements for allowing a PM to go past its normally scheduled due date with requirements that are typical of FENOC and industry practices. The procedure provides that use of PM task deferral is to be minimized. PM tasks may be scheduled into the approved grace period to align with the schedule and available maintenance manpower without the administrative burden of processing a deferral form and a condition report. A condition report will continue to be generated if there is more than one deferral beyond the late date for the same PM work order.

Change Title

Removal of Service Water System Chlorine Injection Isolation Valves from Generic Letter 89-10 and 96-05 Valve Scope

Change

In a response to Generic Letter 96-05 on March 17, 1997, it was committed that valves within the scope of Generic letter 89-10 would be subject to a program to periodically verify capability to perform their safety function. Previously, four service water system chlorine injection isolation valves (2SWM-MOV-562, 3, 4 and 5) had been identified as being within GL 89-10 scope. These valves are no longer subject to the GL 96-05 commitment because the chlorine injection system is retired and the valves are disabled in the closed position. Therefore, the valves no longer perform a safety function.