Dominion Nuclear Connecticut, Inc.
Millstone Power Station
Rope Ferry Road
Waterford, CT 06385

Dominion

DEC - 4 2001

Docket No. 50-336
B18435

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

Millstone Nuclear Power Station, Unit No. 2
Revised Commitment Associated With Generic Letter 83-28

On July 8, 1983,[1] the Nuclear Regulatory Commission (NRC) transmitted Generic Letter (GL) 83-28, to Licensees. In a letter dated March 7, 1986,[2] the NRC approved GL 83-28 action items 4.2.1 and 4.2.2 for Millstone Unit No. 2. In the Safety Evaluation Report attached to the March 7, 1986,[2] letter, the NRC requested that if any change to the trending interval for the Reactor Trip Circuit Breaker (RTCB) trip torque testing is contemplated, approval from the NRC must be obtained.

The purpose of this letter is to request NRC approval to extend the RTCB trip torque test interval to a refueling outage interval and to delete the requirement for trending the RTCB trip torque test values. The rationale for these changes is presented in Attachment 1 to this letter. Additionally, Dominion Nuclear Connecticut, Inc., (DNC) currently has a commitment change process in place at Millstone that is based on the industry and NRC accepted[3] guidance in Nuclear Energy Institute (NEI) 99-04.[4] Therefore, DNC is also requesting that the NRC address the acceptability of managing future changes to commitments associated with GL 83-28 using this process. A response is requested by July 1, 2002, prior to the RTCB trip torque testing to be performed in August 2002.

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(1) D. G. Eisenhut (U.S. NRC) letter To All Licensees of Operating Reactors, Applicants for Operating License, and Holders of Construction Permits, "Required Actions Based on Generic Implications of Salem ATWS Events (Generic Letter 83-28)," dated July 8, 1983.

(2) A. C. Thadani (U.S. NRC) letter to J. F. Opeka, Northeast Nuclear Energy Company, "Preventive Maintenance and Surveillance Program for Reactor Trip Breakers for Millstone - 2 (Items 4.2.1 and 4.2.2 of Generic Letter 83-28)," dated March 7, 1986.

(3) Nuclear Regulatory Commission Regulatory Issue Summary 2000-17; Managing Regulatory Commitments Made By Power Reactor Licensees to the NRC Staff.

(4) Nuclear Energy Institute 99-04, Revision 2, "Guideline for Managing NRC Commitments," dated December 19, 1995.

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The regulatory commitments contained in this letter are located in Attachment 2.

Should you have any questions regarding this submittal, please contact Mr. Paul R. Willoughby at (860) 447-1791, extension 3655.

Very truly yours,

DOMINION NUCLEAR CONNECTICUT, INC.

Raymond P. Necci, Vice President
Nuclear Operations - Millstone

Attachments: (2)

cc: H. J. Miller, Region I Administrator
J. T. Harrison, NRC Project Manager, Millstone Unit No. 2
NRC Senior Resident Inspector, Millstone Unit No. 2

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Attachment 1

Millstone Nuclear Power Station, Unit No. 2

Justification for Commitment Change

Justification for Commitment Change

Background

General Electric (GE) Service Advice Letter, (SAL) 175 (CPDD) No. 9.3, dated April 2, 1979, and its Supplement, dated April 15, 1983, discussed the malfunction of AK breakers with undervoltage (UV) devices. Specifically, the SAL identified that for breakers that have been in service for several years without adequate maintenance, the UV device can fail to trip the breakers when the voltage is removed. It was suspected that the cause of the increase in torque required to trip the breaker was hardened grease in the trip shaft bearings or dirt accumulated on the trip latch surface. This SAL provided information for adjustment of the UV device to ensure adequate force is provided by the UV device to operate the trip shaft. The SAL identified the maximum trip shaft torque as 1.5 pound-inches to ensure tripping by the UV device for AK-25 breakers. Millstone Unit No. 2 uses AK-25 breakers for the Reactor Trip Circuit Breakers (RTCBs).

Surveillance of the RTCB trip torque at three month intervals was initially desirable to establish the maintenance interval for revitalizing bearing grease to attain the normal RTCB maintenance interval. Since required preventive maintenance (PM) intervals are a function of many complex factors, such as environment, temperature, obtained trip torque after maintenance, etc., a specific time interval for lubrication revitalization for all possible situations was difficult to estimate. However, historical data have shown no failures due to high RTCB trip torque. Therefore, the current PM performed on a refueling basis has proven to be effective.

A safety concern was raised regarding the Millstone Unit No. 2 (MP2) approach to performing RTCB trip torque testing. This testing entailed performing the test while the RTCB was racked in and energized in the closed position. The vendor recommends that no intrusive testing be performed while the RTCB is in this configuration. Furthermore, testing in this mode presents a risk to personnel safety. Therefore, this testing was temporarily changed to be performed with the breaker in its test position to address the safety concern. Based on a review of the online RTCB trip torque trend data and the rationale provided below, continued on-line RTCB trip torque testing is not warranted given the risks to personnel safety.

Justification

MP 2 currently performs verification of the RTCB trip torque on a semi-annual interval and trends the results of this testing (refer to last page for information on tests on the RTCBs and their frequencies). RTCB trip torque measurements are also performed on an as-found and as-left condition during the performance of the refueling PM. Millstone Unit No. 2 has been trending the RTCB trip torque measurements since 1984 at an initial 3 month interval which was increased in July 2000 to the current semi-annual periodicity. The results of these trip torque measurements do not indicate a degrading,

grease hardening condition. The results do indicate that there is no known instance of a Millstone Unit No. 2 RTCB failing as a result of a high RTCB trip torque measurement, i.e., greater than 1.5 in-lb. This RTCB trip torque verification is performed as a result of aging and grease hardening issues associated with the type of grease initially installed in the trip shaft bearings. This was a contributing factor which precipitated the ATWS event on which Generic Letter (GL) 83-28 is based. This grease has been replaced in all RTCBs with the vendor recommended Mobilgrease 28 which is less susceptible to the age hardening condition in the environment in which the RTCBs are installed. The only lubricant currently used on the breaker for both electrical and mechanical areas is Mobilgrease 28 which is specified by GE.

Mobilgrease 28 is manufactured from a synthesized hydrocarbon fluid and a non-soap thickener. It offers outstanding performance over wide temperature ranges, with excellent retention and resistance to high temperature degradation. In addition, it resists water washing, provides superior load-carrying ability, reduces frictional drag, and prevents excessive wear. Tests show that Mobilgrease 28 prevents friction oxidation (fretting) and lubricates rolling element bearings under conditions of high speeds and temperatures. It has also shown superior ability to lubricate heavily loaded sliding mechanisms, such as wing flap screw jacks which are used to set the flaps on commercial and military aircraft for landings and takeoffs.

Mobilgrease 28 is recommended by GE as the only grease to use on AK-25 breakers. It is used by several power plants across the country. EPRI guidance TR112938, "Routine Preventive Maintenance Guidance for AK and AKR Type Circuit Breakers," Section 3 states, "In general, GE recommends Mobilgrease 28 for lubrication of the mechanical and electrical surfaces of the AK and AKR breakers," and "Industry experience has shown that Mobilgrease 28 is less susceptible to hardening than white grease or black grease."

Millstone Unit No. 2 limits the shelf life of Mobilgrease 28 in the warehouse to six years. This is done so that the grease used on the AK-25 RTCBs is never older than 15 years. Currently, although not specifically required by procedure, the Mobilgrease 28 is replaced during the nine year RTCB overhaul. A change to the nine year RTCB overhaul procedure will be made by December 31, 2001, to specifically require that the Mobilgrease 28 be completely replaced. This will continue to assure a margin of five years based on the twenty year service life discussed in the GE report, PDS 9906, "Final Results for the Simulated Life Cycle Management Evaluation of D6A15A1 Grease in Magne-Blast Circuit Breakers." This report provided results of an evaluation which determined the service life of Mobilgrease 28 to be twenty years.

The report also provided results of an evaluation of a maximum operating cycle of 4.5 years, i.e., no operation of the breaker for 4.5 years. The evaluation found that operation after a 4.5 year operating cycle was acceptable. The Millstone Unit No. 2 operating cycle is one month because the RTCBs are cycled during the monthly matrix testing (refer to last page for information on tests on the RTCBs and their frequencies).

Conclusion

The RTCB trip torque measurements have been performed at a quarterly and subsequently semi-annual basis at Millstone Unit No. 2. The RTCBs are also cycled on a monthly basis during the performance of the logic matrix testing. (Refer to last page for information on tests and frequencies on the RTCBs). Each breaker is cycled six times during which the trip shaft is operated. This provides operation of the bearing and agitation of the grease. Millstone Unit No. 2 has been performing the RTCB trip torque test since 1984 and the data collected has shown no evidence of degrading conditions. To date there have been no failures of Millstone Unit No. 2 reactor trip breakers to trip during the monthly matrix testing and no failures due to high RTCB trip torque. Furthermore, the breakers are located in an extremely clean and dry environment which contributes to their reliability to perform the reactor protection function.

Based on the above discussion, Dominion Nuclear Connecticut, Inc., requests that the RTCB trip torque measurements be extended from a six month interval to a refueling outage interval and the requirement for trending the RTCB trip torque test values be deleted.

Summary of Tests and PMs Performed on RTCBs	
RTCB Trip Torque	Semi-annual (proposed refueling)
RTCB Logic Matrix and Trip Path	Monthly
RTCB UV and Trip device	Refueling
RTCB Trip Torque As-Found and As-Left	Refueling
RTCB Overhaul	Nine year

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Attachment 2

Millstone Nuclear Power Station, Unit No. 2

List of Regulatory Commitments

List of Regulatory Commitments

The following table identifies action committed to by DNC in this document.

Number	Commitment	Due
B18435-01	Perform RTCB trip torque testing.	Every refueling outage
B18435-02	Revise nine year RTCB overhaul procedure to specifically require that the Mobilgrease 28 be completely replaced.	December 31, 2001