



UNITED STATES
NUCLEAR REGULATORY COMMISSION
WASHINGTON, D.C. 20555-0001

May 16, 2001

Mr. Gary Van Middlesworth
Site General Manager
Duane Arnold Energy Center
Nuclear Management Company, LLC
3277 DAEC Road
Palo, IA 52324-0351

SUBJECT: DUANE ARNOLD ENERGY CENTER - ISSUANCE OF AMENDMENT
REGARDING MAIN TURBINE BYPASS VALVE SURVEILLANCE TEST
FREQUENCY REDUCTION (TAC NO. MA9276)

Dear Mr. Van Middlesworth:

IES Utilities Incorporated submitted a letter dated June 9, 2000, requesting a license amendment. IES Utilities Inc. was succeeded by Nuclear Management Company, LLC (NMC), as the licensed operator of the Duane Arnold Energy Center (DAEC). By letter dated October 5, 2000, NMC (the licensee) requested the Nuclear Regulatory Commission (NRC) staff continue to process and disposition licensing actions previously docketed and requested by IES Utilities Inc. for DAEC.

The U.S. Nuclear Regulatory Commission has issued the enclosed Amendment No. 239 to Facility Operating License No. DPR-49 for the DAEC. This amendment consists of changes to the Technical Specifications (TS) in response to your application dated June 9, 2000.

The amendment revises the main turbine bypass valve surveillance test frequency in TS 3.7.7, surveillance requirement SR 3.7.7.1, from 31 days to 92 days.

A copy of the Safety Evaluation is also enclosed. Notice of Issuance will be included in the Commission's next biweekly *Federal Register* notice.

Sincerely,

Brenda L. Mozafari, Project Manager, Section 1
Project Directorate III
Division of Licensing Project Management
Office of Nuclear Reactor Regulation

Docket No. 50-331

Enclosures: 1. Amendment No. 239 to DPR-49
2. Safety Evaluation

cc w/encls: See next page

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/RA/

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Duane Arnold Energy Center

cc

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UNITED STATES
NUCLEAR REGULATORY COMMISSION
WASHINGTON, D.C. 20555-0001

NUCLEAR MANAGEMENT COMPANY, LLC

DOCKET NO. 50-331

DUANE ARNOLD ENERGY CENTER

AMENDMENT TO FACILITY OPERATING LICENSE

Amendment No. 239
License No. DPR-49

1. The U.S. Nuclear Regulatory Commission (the Commission) has found that:
 - A. IES Utilities Inc. submitted a letter dated June 9, 2000, requesting a license amendment for the Duane Arnold Energy Center (DAEC). IES Utilities Inc. was succeeded by Nuclear Management Company, LLC (NMC), as the licensed operator of the DAEC. By letter dated October 5, 2000, NMC (the licensee) requested the Nuclear Regulatory Commission (NRC) staff continue to process and disposition licensing actions previously docketed and requested by IES Utilities Inc. for DAEC. The application for amendment by the licensee dated June 9, 2000, complies with the standards and requirements of the Atomic Energy Act of 1954, as amended (the Act), and the Commission's rules and regulations set forth in 10 CFR Chapter I;
 - B. The facility will operate in conformity with the application, the provisions of the Act, and the rules and regulations of the Commission;
 - C. There is reasonable assurance (i) that the activities authorized by this amendment can be conducted without endangering the health and safety of the public, and (ii) that such activities will be conducted in compliance with the Commission's regulations;
 - D. The issuance of this amendment will not be inimical to the common defense and security or to the health and safety of the public; and
 - E. The issuance of this amendment is in accordance with 10 CFR Part 51 of the Commission's regulations and all applicable requirements have been satisfied.
2. Accordingly, the license is amended by changes to the Technical Specifications as indicated in the attachment to this license amendment and paragraph 2.C.(2) of Facility Operating License No. DPR-49 is hereby amended to read as follows:

(2) Technical Specifications

The Technical Specifications contained in Appendix A, as revised through Amendment No. 239 , are hereby incorporated in the license. The licensee shall operate the facility in accordance with the Technical Specifications.

3. The license amendment is effective as of the date of issuance and shall be implemented within 30 days of the date of issuance.

FOR THE NUCLEAR REGULATORY COMMISSION


for Claudia M. Craig, Chief, Section 1
Project Directorate III
Division of Licensing Project Management
Office of Nuclear Reactor Regulation

Attachment: Changes to the Technical Specifications

Date of Issuance: May 16, 2001

ATTACHMENT TO LICENSE AMENDMENT NO. 239

FACILITY OPERATING LICENSE NO. DPR-49

DOCKET NO. 50-331

Replace the following pages of the Appendix A Technical Specifications with the attached revised pages. The revised areas are identified by amendment number and contain marginal lines indicating the areas of change. Bases page is included for information only.

Remove

3.7-17
B 3.7-35

Insert

3.7-17
B 3.7-35

SURVEILLANCE REQUIREMENTS

SURVEILLANCE		FREQUENCY
SR 3.7.7.1	Verify one complete cycle of each main turbine bypass valve.	92 days
SR 3.7.7.2	Perform a system functional test.	24 months
SR 3.7.7.3	Verify the TURBINE BYPASS SYSTEM RESPONSE TIME is within limits.	24 months

BASES

ACTIONS
(continued)

B.1

If the Main Turbine Bypass System cannot be restored to OPERABLE status and the MCPR limits for an inoperable Main Turbine Bypass System are not applied, THERMAL POWER must be reduced to < 25% RTP. As discussed in the Applicability section, operation at < 25% RTP results in sufficient margin to the required limits, and the Main Turbine Bypass System is not required to protect fuel integrity during the Feedwater Controller Failure Maximum Demand transient. The 4 hour Completion Time is reasonable, based on operating experience, to reach the required unit conditions from full power conditions in an orderly manner and without challenging unit systems.

SURVEILLANCE
REQUIREMENTS

SR 3.7.7.1

Cycling each main turbine bypass valve through one complete cycle of full travel demonstrates that the valves are mechanically OPERABLE and will function when required. The 92 day Frequency is based on operating experience, is consistent with the procedural controls governing valve operation, and ensures correct valve positions. Operating experience has shown that these components usually pass the SR when performed at the 92 day Frequency. Therefore, the Frequency is acceptable from a reliability standpoint.

SR 3.7.7.2

The Main Turbine Bypass System is required to actuate automatically to perform its design function. This SR demonstrates that, with the required system initiation signals, the valves will actuate to their required position. The 24 month Frequency is based on the need to perform this Surveillance under the conditions that apply during a plant startup and because of the potential for an unplanned transient if the Surveillance were performed with the reactor at power. Operating experience has shown the 24 month Frequency, which is based on the refueling cycle, is acceptable from a reliability standpoint.

(continued)



UNITED STATES
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SAFETY EVALUATION BY THE OFFICE OF NUCLEAR REACTOR REGULATION

RELATED TO AMENDMENT NO. 239 TO FACILITY OPERATING LICENSE NO. DPR-49

NUCLEAR MANAGEMENT COMPANY, LLC

DUANE ARNOLD ENERGY CENTER

DOCKET NO. 50-331

1.0 INTRODUCTION

By letter dated June 9, 2000, IES Utilities Inc. submitted a request to amend the Technical Specifications (TS) for the Duane Arnold Energy Center (DAEC). The proposed TS amendment would change the main turbine bypass valve (BV) surveillance test frequency from 31 days to 92 days. On August 7, 2000, IES Utilities Inc. was succeeded by Nuclear Management Company, LLC (NMC), as the licensed operator of DAEC. By letter dated October 5, 2000, NMC (the licensee) requested that the Nuclear Regulatory Commission (NRC) staff continue to process and disposition licensing actions previously docketed and requested by IES Utilities Inc. for DAEC.

2.0 BACKGROUND

At DAEC, the main turbine bypass system (MTBS) is designed to control steam pressure when reactor steam generation exceeds turbine requirements during reactor startup, sudden load reduction, and reactor cooldown by passing the excess steam flow to the condenser without going through the turbine. The bypass capacity of the MTBS is slightly less than 25 percent of the nuclear steam supply system's rated steam flow. Sudden load reductions within the capacity of the steam bypass can be accommodated without a reactor scram. The MTBS limits peak pressure in the main steam lines and maintains reactor pressure within acceptable limits during certain transient events that cause rapid pressurization (for example, feedwater controller failure at maximum demand, turbine trips, and generator load rejections), so that the minimum critical power ratio (MCPR) safety limit is not exceeded.

3.0 EVALUATION

The current TS Surveillance Requirement (SR) 3.7.7.1 for DAEC requires a 31-day frequency for surveillance of each BV. The current 31-day frequency of TS SR 3.7.7.1 is based on engineering judgment. The licensee proposes to change from the 31-day frequency to a 92-day frequency for each of the two BVs. The proposed 92-day SR frequency is based on operating experience.

The licensee states in its June 9, 2000, application that, while the valve cycling test ensures the BVs are mechanically free to move, the 31-day testing frequency puts an unnecessary burden

on DAEC plant personnel. In order to perform the test, reactor power must be decreased to less than 85 percent. The licensee states that this reactivity manipulation and pressure change creates the possibility for a plant transient/trip due to valve cycling, and lowers the plant capacity factor.

The licensee states that DAEC in-house operating experience has shown that the BVs have reliable equipment performance in that they consistently pass the valve cycling test when cycled at the 31-day frequency. In addition, the licensee states that, as specified in the requirements of Limiting Condition of Operation 3.7.7, DAEC has applied a more restrictive MCPR limit that does not require verifying operable BVs; the BVs have been cycled at a 92-day frequency while the more restrictive MCPR limit has been applied. The licensee states that the results are satisfactory and the failure rate is zero.

Based on the above, the NRC staff finds that reducing the frequency of cycling the BVs will not impact the equipment performance and, yet, will reduce the burden on the plant personnel, reduce potential plant transient/trip due to valve cycling, and, thus, increase safety. In particular, DAEC in-house operating experience has demonstrated that a 92-day frequency provides reasonable assurance that the BVs will remain operable, and this frequency is consistent with that recommended by the licensee's turbine manufacturer, as well as that of the standard stroke test for safety-related valves that are governed by TS 5.5.6, "In Service Testing Program". The NRC staff finds the proposed change does not change the OPERABILITY requirements and functional characteristics of the MTBS, meets 10 CFR 50.36(c)(3) "Surveillance Requirements," and, therefore, is acceptable.

4.0 STATE CONSULTATION

In accordance with the Commission's regulations, the Iowa State official was notified of the proposed issuance of the amendment. The State official had no comments.

5.0 ENVIRONMENTAL CONSIDERATION

The amendment changes a surveillance requirement. The NRC staff has determined that the amendment involves no significant increase in the amounts, and no significant change in the types, of any effluents that may be released offsite, and that there is no significant increase in individual or cumulative occupational radiation exposure. The Commission has previously issued a proposed finding that the amendment involves no significant hazards consideration, and there has been no public comment on such finding (65 FR 46009, dated July 26, 2000). Accordingly, the amendment meets the eligibility criteria for categorical exclusion set forth in 10 CFR 51.22(c)(9). Pursuant to 10 CFR 51.22(b), no environmental impact statement or environmental assessment need be prepared in connection with the issuance of the amendment.

6.0 CONCLUSION

The Commission has concluded based on the considerations discussed above, that (1) there is reasonable assurance that the health and safety of the public will not be endangered by operation in the proposed manner, (2) such activities will be conducted in compliance with the

Commission's regulations, and (3) the issuance of the amendment will not be inimical to the common defense and security or to the health and safety of the public.

Principal Contributor: J. Lamb

Date: May 16, 2001