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 RECIP. NAME RECIPIENT AFFILIATION
 DENTON, H. R. Office of Nuclear Reactor Regulation, Director (post 851125)

SUBJECT: Supplemental application to amend License DPR-49,
 incorporating Tech Spec Change RTS-185a re vent & purge
 valves.

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Iowa Electric Light and Power Company

December 18, 1986
NG-86-4230

50-331

Mr. Harold Denton, Director
Office of Nuclear Reactor Regulation
U.S. Nuclear Regulatory Commission
Washington, D. D. 20555

Re: Duane Arnold Energy Center
Subject: Technical Specification Change (RTS-185a)
Vent and Purge Valves
File: A-117

Dear Mr. Denton:

Transmitted herewith is a revision to our application for amendment to Appendix A (Technical Specifications) to Operating License DPR-49 for the Duane Arnold Energy Center (DAEC). The application (RTS-185a) was submitted by letter of April 5, 1985, NG-85-0908.

This change, consisting of RTS-185a, has been reviewed by the DAEC Operations Committee and the DAEC Safety Committee. A check for \$150 was submitted with our original application. No further fees are enclosed. The balance of the fee will be paid upon billing.

Pursuant to the requirements of 10 CFR 50.91, a copy of this application and analysis of no significant hazards considerations is being sent to our appointed state official.

To facilitate your review, all pages of the original submittal are included with this proposed change. The pages have been updated to reflect revisions to the Technical Specifications which have been approved subsequent to the original application for change.

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Three signed and 37 additional copies of this revision are transmitted, this application, consisting of the foregoing letter and enclosures, is true and accurate to the best of my knowledge and belief.

IOWA ELECTRIC LIGHT AND POWER COMPANY

BY Richard W. McGaughy
Richard W. McGaughy
Manager, Nuclear Division

Subscribed and sworn to Before Me on
this 18th day of December 1986.

Kathleen M. Furman
Notary Public in and for the State of Iowa

RWM/BWR/pjv*

- Attachments: 1) Evaluation of Change Pursuant to 10 CFR 50.92
2) Proposed Change RTS-185a including List of Affected Pages
3) RTS-185a Revised Pages.

cc: B. Reid L. Liu
L. Root
B. Gilbert
NRC Resident Office
T. Houvenagle (UD)

RTS-185a
EVALUATION OF CHANGE WITH RESPECT TO 10 CFR 50.92

Summary

The purpose of this proposed change is to:

- a. Change the wording of Specification 3.7.A.9 which limits the time which certain containment vent/purge valves may be open and replacing it with the requirement that vent/purge valves may only be opened for inerting, de-inerting, testing, or pressure control. Specification 3.7.A.9 was added to the Technical Specifications by Amendment 100 to reduce the probability of a DBA/LOCA occurring while the vent/purge valves are open, possibly resulting in an uncontrolled release to the environs. At the time of Amendment 100, the NRC had not completed its evaluation of the DAEC vent/purge valves' capability to close against DBA/LOCA pressures. Since that time, the NRC has determined that the DAEC valves, as modified, are capable of closing against DBA/LOCA pressures. In addition, the DAEC is modifying its Standby Gas Treatment System (SGTS) to provide overpressure protection. This modification will protect both trains of SGTS against the pressure pulse and moisture resulting from a DBA/LOCA postulated to occur while the vent/purge valves are open. Specification 3.7.A.10 provides reporting requirements if Specification 3.7.A.9 cannot be met. The revised 3.7.A.9 makes 3.7.A.10 no longer applicable and it is, therefore, being deleted.
- b. Require periodic verification that the DAEC vent/purge valves are limited to a maximum opening angle to 30 degrees by adding Note 5 to Table 3.7-2.
- c. Revise subsection 3.7.D.2 to reflect more closely the wording of the Standard Technical Specifications. This revision requires restoring the inoperable valves to OPERABLE and clarifies the acceptable method for providing isolation of lines which contain inoperable valves. This includes a notation that the closed valves may be reopened on an intermittent basis under administrative control. The corresponding surveillance requirement, 4.7.D.2, is deleted.

In accordance with the requirements of 10 CFR 50.92, the enclosed application is judged to involve no significant hazards based upon the following information:

- (1) Does the proposed license amendment involve a significant increase in the probability or consequences of an accident previously evaluated?

Response:

- a. Eliminating the requirement to limit purge time through containment vent/purge valves (CV-4302, CV-4303, CV-4300, CV-4301, CV-4307, CV-4309 and CV-4310) does not increase the probability or consequences of an accident. The requirement to limit purge time to 90 hours per year as currently described in Specification 3.7.A.9 was added to reduce the probability of a DBA/LOCA occurring while the vent/purge valves are open, which could have

prevented the valves from closing and result in an uncontrolled release of containment atmosphere to the environs. On October 1, 1984, the NRC issued a Safety Evaluation to the DAEC which demonstrated that the containment purge and vent valves, as modified, could close against the buildup of containment pressure in the event of a DBA/LOCA. The Safety Evaluation also closed out NUREG-0737 Action Item II.E.4.2.6 for the DAEC. Because the vent/purge valves, as modified, have been demonstrated to be able to close against DBA/LOCA pressures, the probability of occurrence of an accident has not been increased by deleting the 90 hour purge requirement from Specification 3.7.A.9.

Given the fact that the vent/purge valves are capable of closing against DBA/LOCA pressures, only two factors related to this Technical Specification change affect the consequences of such an accident: the radiological release from the primary containment during the five-second closing time of the vent/purge valves and the potential destruction of both trains of the Standby Gas Treatment System (SGTS) from overpressurization or moisture during the five-second closing of the valves.

The NRC issued a Safety Evaluation on December 29, 1983, in which the staff concluded that the radiological consequences of a hypothetical DBA/LOCA, while the containment is in the purge mode and the reactor is at full power operation, do not exceed the requirements of 10 CFR 100 and do not alter the NRC's previous conclusions reached in the original Safety Evaluation Report for the DAEC.

The DAEC has modified the SGTS to provide it with overpressure protection to prevent damage to either train of the SGTS from a hypothetical DBA/LOCA during purging.

The new wording of Specification 3.7.A.9 limits the operation of vent/purge valves to certain evolutions already allowed or required by the Technical Specifications and UFSAR.

Based on the discussion above, the rewording of Specification 3.7.A.9 will not increase the consequences of an accident or malfunction of equipment previously evaluated in the DAEC UFSAR.

- b. Adding the requirement to limit the opening angle of the vent/purge valves to 30 degrees by mechanical means to the Technical Specifications provides additional assurance that this modification will remain functional. The DAEC has demonstrated to the NRC that these vent/purge valves are capable of closing against the buildup of containment pressure in the event of a DBA/LOCA if the valves are limited mechanically to a maximum opening angle of 30 degrees. Therefore, this Technical Specification change does not increase the probability of occurrence of an accident or the consequences of an accident.

- c. The revision of subsection 3.7.D.2 does not change the requirement to isolate lines which contain inoperable valves. It provides specific guidance regarding acceptable methods for isolating affected lines or permits restoration of the inoperable valve to OPERABLE status within 4 hours. The deletion of the surveillance requirement (subsection 4.7.D.2) does not adversely affect the function of this specification, since isolation of affected lines will be controlled administratively. The provision allowing opening of isolated valves on an intermittent basis will allow for testing of other valves in the line under administrative control while preventing the line from being isolated for an excessive period. These changes do not increase the probability of occurrence of an accident or the consequences of an accident.

- (2) Does the proposed license amendment create the possibility of a new or different kind of accident from any accident previously evaluated?

Response:

- a. The rewording of Specification 3.7.A.9 merely allows the DAEC more flexibility to perform plant evolutions which are already allowed by Technical Specifications and the UFSAR. Therefore, the possibility for an accident different from any previously evaluated is not created.
- b. Adding the 30 degree opening limit for vent/purge valves to the Technical Specifications provides additional assurance that these valves will perform as designed and, therefore, does not create the possibility for an accident different from those previously evaluated.
- c. The revision of subsection 3.7.D.2 to clarify the acceptable methods of isolating affected lines and the deletion of subsection 4.7.D.2 do not change the functional requirements of the Technical Specifications for isolating lines which contain inoperable valves, and, therefore, do not create the possibility for an accident different from those previously evaluated.

- (3) Does the proposed amendment involve a significant reduction in a margin of safety?

Response:

- a. According to the discussion in (1)a. above, the DAEC vent/purge valves and SGTS will remain functional during and after a DBA/LOCA. Therefore, the rewording of Specification 3.7.A.9 does not prevent the containment isolation systems or SGTS from performing their intended function as designed. Therefore, the margin of safety is not reduced.
- b. Adding the 30 degree opening limit for vent/purge valves to the Technical Specifications provides additional assurance that these valves will perform their function as designed. Therefore, the margin of safety is not reduced.
- c. The clarification of the acceptable methods of isolating the lines with inoperable valves and the notation that the isolated valves may be opened

intermittently under administrative control do not change the functional requirements of the Technical Specification to limit the time during which the plant is operated with a line containing an inoperable isolation valve unisolated. The deletion of the surveillance requirement for recording the position of the other valve in the line on a daily basis does not change the functional requirement of the Technical Specification because the isolation of the lines must still be controlled administratively. Therefore, the margin of safety is not reduced.

In the April 6, 1983 Federal Register, the NRC published a list of examples of amendments that are not likely to involve a significant hazards concern.

a. Examples (iv) and (v) of that list state:

(iv) A relief granted upon demonstration of acceptable operation from an operating restriction that was imposed because acceptable operation was not yet demonstrated. This assumes that the operating restriction and the criteria to be applied to a request for relief have been established in a prior review and that it is justified in a satisfactory way that the criteria have been met.

(v) Upon satisfactory completion of construction in connection with an operating facility, a relief granted from an operating restriction that was imposed because the construction was not yet completed satisfactorily. This is intended to involve only restrictions where it is justified that construction has been completed satisfactorily.

Example (iv) applies to the operability of the DAEC vent/purge valves and Example (v) applies to the installation of overpressure protection for the Standby Gas Treatment System, both of which are required for the NRC to grant relief from the 90 hour per year purge limitation.

b. Example (ii) of that list states:

(ii) A change that constitutes an additional limitation, restriction, or control not presently included in the technical specifications: for example, a more stringent surveillance requirement.

Example (ii) applies to the addition of the 30 degree opening limit for the vent/purge valves to the Technical Specifications.