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MCGAUGHY,R.W. Iowa Electric Light & Power Co.
RECIP.NAME RECIPIENT AFFILIATION
DENTON,H. Office of Nuclear Reactor Regulation, Director

SUBJECT: Application to amend License DPR-49,consisting of Proposed Change Request RTS-185,modifying containment purge/vent valve operating limitations,per NRR 841001 safety evaluation & TMI Item II.E.4.2.6 compliance,Fee paid.

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Iowa Electric Light and Power Company

April 5, 1985
NG-85-0908

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

Subject: Duane Arnold Energy Center
Docket No: 50-331
Op. License No: DPR-49
RTS-185, Containment Purge/Vent Valves
File: A-117, A-107a, A-107b
Reference: Letter, D. Vassallo to L. Liu, dated October 1, 1984

Dear Mr. Denton:

In accordance with the Code of Federal Regulations, Title 10, Parts 50.59 and 50.90, Iowa Electric Light and Power Company hereby requests revision to the Technical Specifications (TS) for the Duane Arnold Energy Center (DAEC).

The purpose of this proposed change is to modify certain containment purge/vent valve operating limitations based on the results of the referenced NRR Safety Evaluation, "Demonstration of Containment Purge/Vent Valve Operability and Item II.E.4.2.6 Compliance," dated October 1, 1984. Approval of portions of this application depends upon the installation of overpressure protection of the Standby Gas Treatment System (SGTS). This modification is currently underway; however, completion during the current refueling outage may not be possible due to procurement problems. We request that this Technical Specification change not be implemented until we notify you that the SGTS overpressure protection is operable. This change is being submitted at this time to satisfy your request that a Technical Specification change be submitted which limits the opening angle of purge/vent valves to 30 degrees or less.

This proposed change request, RTS-185, has been reviewed by both the DAEC Operations Committee and Safety Committee.

In accordance with the requirements of 10 CFR Part 170, we are enclosing the required application fee of $150.

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

This application, which consists of three signed originals and 37 copies with their 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 5th day of April 1985.

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

RWM/SLS/ta*

Attachments: 1) Evaluation of Change Pursuant to 10 CFR 50.92
2) List of Affected Pages

cc: S. Swails
L. Liu
S. Tuthill
M. Thadani
NRC Resident Office
T. Houvenagle (ICC)
Commitment Control No. 850014

RTS-185
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.

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, and CV-4307) 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.

Currently, the DAEC is in the process of modifying the SGTS to provide it with overpressure protection to prevent either train of the SGTS from being damaged by a hypothetical DBA/LOCA during purging. The modification will be completed during the Cycle 7/8 refueling outage which is scheduled to begin February 1, 1985.

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.

(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.

(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.

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.