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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 for amend to License DPR-49, revising effective date for Amend 121 to 850731 to permit performance of 10-yr vessel hydrostatic test w/loaded fuel. Fee paid.

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Iowa Electric Light and Power Company

June 14, 1985
NG-85-2892

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
Technical Specification Change (RTS-191)
NDT Operating Curve Implementation
Reference: RTS-181 Submittal, January 11, 1985, NG-85-0003
File: A-117, B-11

Dear Mr. Denton:

In response to our request of January 11, 1985 (NG-85-0003), the NRC expeditiously issued Amendment No. 121 to the operating license for the Duane Arnold Energy Center on May 28, 1985. That amendment incorporates revised reactor vessel pressure-temperature operating limits which are necessary for operation after completion of six effective full power years (EFPY) of operation. As you know, the plant is presently in the Cycle 7/8 refueling outage; we anticipate that the six-year period will be completed approximately 45 days after operation is resumed.

The current outage has been extended beyond the time scheduled when we requested the revision of technical specifications accomplished by Amendment No. 121. Application of the revised limits would require removal of fuel from the reactor vessel prior to conduct of the vessel hydrostatic test. That test had been planned for earlier completion during the current outage, but we now expect that it will begin approximately June 21.

Removal of the fuel requires unnecessary fuel-handling operations. Those operations would also contribute to further lengthening of the outage.

On the other hand, compliance with the revised limits established by Amendment No. 121 is not required for the safe conduct of the vessel hydrostatic test. The test can be safely conducted in conformance with the prior limits as indeed was our intention when we requested the amendment in January. We therefore request that the NRC revise Amendment No. 121 by changing its effective date to July 31, 1985, thus permitting the performance of the 10-year vessel hydrostatic test while the vessel remains loaded with fuel.

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We request that this amendment be granted on an emergency basis and notice published thereafter. Use of the usual notice process would delay the effectiveness of the amendment for more than thirty days, resulting in additional shutdown of the plant for a corresponding period. Such an extension of the shutdown would involve a substantial increase in the cost of the outage itself and for replacement power.

Additional details are set out in Attachment 1. Attachment 2 is the evaluation made pursuant to 10 CFR §50.92. A check for $150.00 is also enclosed. We shall very much appreciate your prompt action on this request.

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.

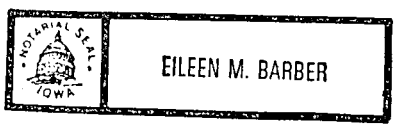
This application, which consists of three signed originals and 37 copies with their enclosures, is true and accurate to the best of my knowledge and belief.

IOWA ELECTRIC LIGHT AND POWER COMPANY

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

Subscribed and sworn to Before Me on
this 14th day of June 1985.

Eileen M. Barber
Notary Public in and for the State of Iowa



Attachments

RWM/MJM/ta*

cc: M. Murphy
L. Liu
S. Tuthill
M. Thadani
NRC Resident Office
T. Houvenagle (ICC)

6/14/1985
Attachment 1 to
NG-85-2892

Background

In our January 11, 1985, submittal (NG-85-0003), we requested revision of the DAEC technical specifications to incorporate revised reactor vessel pressure-temperature operating limits. The proposed limits would account for minor estimated changes in fracture toughness due to neutron fluence on the vessel during the first six effective full power years (EFPY) of operation and were intended to cover operation during the second such six EFPY. In retrospect, it would have been appropriate to request that the amendment be made effective upon restart of the plant. However, as stated in NG-85-0003, in January we anticipated that restart would occur in May and that NRC review of the requested technical specification changes would not be completed until early July--i.e., six months after our submittal.

When NG-85-0003 was submitted, the DAEC Cycle 7/8 refueling outage was scheduled to begin on February 1, 1985, and be completed by May 20, 1985. During the outage, we are required to perform the 10-year hydrostatic test of the reactor vessel and that test was scheduled to be done after the fuel had been loaded (approximately May 6).

The outage began on schedule but, during the outage, pipe cracks were discovered. The associated repair work and other unanticipated problems have extended the outage. We now expect to restart the plant on July 3, some six weeks later than was scheduled in January 1985. Meanwhile, the NRC completed its review of the requested amendment incorporating revised pressure-temperature operating limits earlier than we had expected and issued the amendment on May 28, 1985.

Application of the revised limits would, in effect, make it impossible to perform the hydrostatic test while the fuel is in the reactor vessel. In our view, the alternatives available are to unload the fuel before performing the hydrostatic test or to perform that test while adhering to the limits which were in effect prior to the recent amendment. The reactor has not yet achieved six EFPY of operation and, therefore, the validity of old limits is unquestioned. The revised limits are based on the vessel's estimated fracture toughness at completion of twelve EFPY. Those limits are therefore extremely conservative for use at this time. Use of the old limits would not create any additional risk and in fact would avoid the element of risk which is inherent in unloading and reloading the fuel as would be required if the revised limits are followed.

6/14/85
Attachment 2
to NF-85-2892

EVALUATION PURSUANT TO
10 CFR 50.92

SUMMARY

The DAEC Technical Specifications required that new Reactor Pressure Vessel (RPV) Nil-Ductility Transition Temperature (NDT) limit curves be submitted 6 months prior to completion of 6 effective full-power years (EFPY). We submitted such revised limits in our January 11, 1985 submittal (NG-85-0003), which assumed a May 20, 1985 date for Cycle 8 startup and a July 15, 1985 date to reach 6 EFPY. These revised limits were subsequently approved as License Amendment 121 and are effective as of May 28, 1985.

As part of our 10 year In-Service Inspection (ISI) program being conducted during this refueling outage, a hydrostatic test of the RPV must be satisfactorily performed. To perform this hydrostatic test using the new NDT limits, without removing the fuel already loaded into the vessel, would require the test to be conducted in the temperature range of 193° to 212°F. The lower temperature is derived from the NDT limit at the hydrostatic test pressure. According to our conservative interpretation of the DAEC technical specifications, the upper limit may be exceeded only if the Safety/Relief Valves (S/RVs) are operable (as well as numerous other safety systems). Those valves cannot be operable during the test because their opening setpoints are lower than the required test pressure. This allowable temperature range is too narrow to be effectively maintained during the testing period. Therefore, alternative test conditions must be used; the practical options are either to request a technical specification change allowing the 0 to 6 EFPY limits to be used or to unload the fuel, perform the test, and reload the core. The second option would delay the startup for Cycle 8. The following evaluation shows that using the 0 to 6 EFPY limits has less risk than removing and reloading the fuel and is therefore the preferred alternative.

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:

No. Use of the 0 to 6 EFPY NDT limit curves does not increase the probability or consequences of an accident over that of using the 6 to 12 EFPY NDT limit curves. Since the reactor has not yet achieved 6 EFPY and cannot exceed 6 EFPY until approximately 45 days after Cycle 8 Startup, the NDT limit curves which were effective prior to Amendment 121 will remain technically valid for some time after Cycle 8 startup. Therefore, using the 0 to 6 EFPY NDT limit curves does not increase the probability or consequences of an accident. Given the present situation, Amendment 121 requires that the fuel be unloaded prior to performing the hydrostatic test and then reloaded. Unloading and reloading of fuel has been extensively studied and is judged not to pose a significant risk to the health and safety of the public. Although the risk is not considered significant, there is, nevertheless, an element of risk involved in unloading and reloading the fuel. This technical specification change eliminates that risk.

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

Response:

No. Use of the 0 to 6 EFPY NDT limit curves has been previously analyzed and therefore does not create the possibility of a new or different kind of accident.

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

Response:

No. Since the reactor has not yet achieved 6 EFPY the 0 to 6 EFPY NDT limit curves are still valid and therefore their use does not reduce the margin of safety.

In the April 6, 1983 Federal Register, the NRC published examples of amendments that are not likely to involve a significant hazards concern. Example (iv) of that list refers to relief which

> "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."

As the 0 to 6 EFPY limit curves were previously evaluated and found to be acceptable for use up to the fluence associated with 6 EFPY, allowing these limits to be used instead of the present restriction imposed by the 6 to 12 EFPY limits, is judged to fall within the scope of this example.

Therefore, based upon all the above information, this change is judged to involve no significant hazards.