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RECIP.NAME RECIPIENT AFFILIATION
DENTON,H.R. Office of Nuclear Reactor Regulation, Director

SUBJECT: Forwards response to NRC 800307 ltr providing comments re proposed Tech Spec changes for radiological & environ monitoring. Revised pages to application for Tech Spec changes encl. See ltr

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GD

Iowa Electric Light and Power Company

July 25, 1980
LDR-80-204

LARRY D. ROOT
ASSISTANT VICE PRESIDENT
NUCLEAR GENERATION

331

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

Dear Mr. Denton:

The enclosure to this letter is our response to Mr. Thomas Ippolito's letter dated March 7, 1980 which provided NRC comments relating to our proposed Technical Specifications for radiological and environmental monitoring at the Duane Arnold Energy Center (DAEC).

Responses to the NRC comments as well as revised pages to the application for technical specification changes resulting from the responses are included in the enclosure. This revised application has been reviewed by the DAEC Operations and Safety Committees.

Three signed and notarized originals and 37 additional copies of our response are submitted herewith. This response consisting of the foregoing letter and enclosures hereto is true and accurate to the best of my knowledge and belief.

IOWA ELECTRIC LIGHT AND POWER COMPANY

By Larry D. Root
Larry D. Root
Assistant Vice President
Nuclear Generation

Subscribed to and Sworn to Before Me
on this 25th day of July,
19 80.

C004
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1/40

Sue E. Scott
Notary Public In and For The
State of Iowa

SUE E. SCOTT
My Commission Expires
September 30, 1981

LDR/RFS/mz
Enclosure
cc: R. Salmon
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L. Liu
S. Tuthill
K. Meyer
D. Mineck
J. Van Sickel
K. Eccleston (NRC)
File: A-117
LC800307

8008050338

Reply to NRC Comments on Proposed DAEC
Effluent and Environmental Technical Specifications

NRC Comment 1: In Table 3.14-1 indicate the following:

a. Are there flow rate devices in the discharge canal?

b. Does DAEC use radioactivity recorders?

c. Have you provided tank level devices on outside tanks?

Reply:

a. No.

b. DAEC uses a radioactivity recorder on the liquid radwaste effluent line, but the recorder itself does not function as a controller, ie, initiate an alarm or trip. Alarm and trip is initiated by the radioactivity monitor.

c. Liquid level indicating devices are installed in condensate storage tanks located outside.

NRC Comment 2: Action 18 should provide for 2 members of the staff to verify release.

Reply:

The action statement has been revised to clearly state the requirement for two staff members to be satisfied that the release rate calculation and value alignment are correct.

NRC Comment 3: In Table 4.14-1:

a. The source check on the liquid effluent line should be performed prior to each release.

b. Delete the "notation" for the channel check.

Reply:

a. On any day on which a release is made, a source check shall be made at least once, prior to the first release.

b. On a day when a release is not made via a monitored pathway, a channel check should not be necessary.

NRC Comment 4: In Table 4.14-2 provide P-32/Fe-55 sampling.

Reply:

Dr. Bernd Kahn, of the Georgia Institute of Technology, is currently evaluating the prospect of P-32 and Fe-55 analyses. We believe that any decision on sampling and analyzing for these nuclides should be held in abeyance pending the results of Dr. Kahn's report.

NRC Comment 5: Dose limits in Sections 3.14.3, 3.15.3, and 3.15.4 should also be on an annual basis.

Reply:

The Bases to the named Specifications explain the intent of the Commission in adopting 10CFR50, Appendix I. For the purpose of developing limiting conditions of operation in technical specifications, it is clear that quarterly limits were intended by the Commissioners.

NRC Comment 6: In Section 3.14.4 use the OPERABILITY wording of NUREG-0473.

Reply:

The Basis of Specification 3.14.4 explains the derivation of the radioactivity concentration above which liquid radwaste will be treated before discharge and below which the concentration is ALARA.

NRC Comment 7: Provide a specification for maximum curie content (sic) outdoor storage tanks.

Reply:

Guidance in NUREG-0133, section 4.4 does not include outside tanks that are surrounded by liners, dikes, or walls capable of holding the tank contents and have tank overflow and drains connected to the liquid radioactive waste management system. At DAEC, outside liquid storage tanks having a potential for receiving radioactive liquid, namely the condensate storage tanks, are surrounded by dikes capable of holding the tank contents and are piped to the liquid radioactive waste management system. Therefore it is concluded that a specification on the maximum radioactive material content of outside storage tanks is not called for.

NRC Comment 8: In Section 3.15.1, action a. should also be to immediately suspend releases as per NUREG-0473.

Reply:

Immediately suspending gaseous releases when the operability or setpoint requirement in Specification 3.15.1 is not satisfied should not be assumed, a-priori, to be the preferred action. Actions required by Table 3.15-1 provide a reasonable period of time to restore operability before suspending gaseous release.

NRC Comment 9: In Table 3.15-1, does R4 cover all 3 release vents?

Reply:

All three reactor building release vents exhaust from a common fan room. Air being discharged is monitored in at least one vent stack whose exhaust fan is operating.

NRC Comment 10: Is the noble gas release through the turbine building vent exhaust an unmonitored release?

Reply:

The question presumes there is a significant and measurable noble gas release from the turbine building.

Radioactive noble gas measurements at Millstone and Oyster Creek were 141 and 122 μCi/sec respectively. (NUREG-0016, Table 2-17). The BWR-GALE code is based on a nominal release rate of 110 μCi/sec from the turbine building (NUREG-0016, Table 1-1). Diluted by 72,000 $ft^3$ air/min exhausted from the DAEC turbine building, the estimated radioactive noble gas concentration discharged is only 3 to 4 μCi/ml. This concentration is about the lower limit of detection expected of a noble gas monitor. Therefore, it is questionable whether radioactive noble gas released via the turbine building vent is measureable.

Secondly, calculations of the whole body dose to the population within 50 miles due to all noble gas discharges from DAEC* estimate only about 4 man rem per year based on the 1980 population estimate and 7 man rem per year during the plant life. Since noble gas discharged via the turbine building vents is responsible for only a part of the population dose, it has been demonstrated* not to be cost-beneficial to treat air exhausted from the turbine building. Then certainly it is not reasonable to spend more than 4 to 7 thousand dollars to attempt to monitor the air exhausted from the turbine building.

The turbine seal steam and non-condensable gas from the main condenser air ejector are routed through the Offgas Stack where they are monitored.

NRC Comment 11: In Table 3.15-1, indicate monitoring for the drywell purge and, per NUREG-0473, Rev. 2, indicate that on loss of monitor, purge is suspended immediately.

Reply:

The drywell atmosphere is monitored and the instrument equipped with a radioactive noble gas high activity alarm. The drywell is purged only through the Standby Gas Treatment System whose effluent is monitored at the Offgas Stack (ref. Basis Figure B-1, monitor point R-3). Thereby the drywell purge is monitored before release.

NRC Comment 12: In Tables 3.15-1 and 4.15-1 indicate that effluent monitor applicability is at all times.

Reply:

Tables 3.15-1 and 4.15-1 apply to effluent monitors at all times when a release is being made. Table 4.15-1 has been revised to reflect this operability requirement.

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*Evaluation of the Duane Arnold Energy Center to Demonstrate Conformance to the Design Objectives of 10 CFR50 Appendix I, Iowa Electric Power Co., Table 3-15, May 1976.

NRC Comment 13: In Table 4.15-1 indicate that you have a channel functional test that will isolate the offgas treatment system and the drywell purge.

Reply:

DAEC has a channel functional test for the offgas post-treat radiation monitor that will isolate the offgas treatment system. The channel functional test is performed at least once per reactor operating cycle, normally during a refueling outage.

NRC Comment 14: In Table 4.15-1 the channel calibration for the hydrogen analyzers should be 1 and 4 vol % hydrogen.

Reply:

Table 4.15-1 has been revised to state this condition.

NRC Comment 15: Specification 4.15.2 should be dose controlling as per NUREG-0473, and should be applicable at all times.

Reply:

Specifications 3.15.1, 3.15.3, 4.15.2.1 and 4.15.2.2 are designed to require monitoring radioactive noble gases and limitation of monitored releases so that offsite concentrations do not exceed the limit on concentrations in unrestricted areas specified in 10CFR20.106. When this condition on the airborne concentration is met, the dose equivalent rate limit for noble gases in NUREG-0473, Specification 3.11.2.4 will also be met.

Whenever Specifications 3.15.3 and 3.15.4 are met, the dose equivalent rate limits for noble gases and for radioiodines, radioactive materials in particulate form, and radionuclides (other than noble gases) with half-lives greater than 8 days in NUREG-0473, Specification 3.11.2.4 will be met. Therefore, inclusion of the dose rate stated according to NUREG-0473 Specification 3.11.2.4 does not seem to add to the control already stated in the proposed specifications.

NRC Comment 16: Is there a grab sample on the turbine building vent?

Reply:

No. Iodine and particulates are sampled continuously.

NRC Comment 17: In Table 4.15-2 sampling should also include the notes b, c, d and e from Table 4.11-2 of NUREG-0473, Rev. 2.

Reply:

Table 4.15-2 note c is similar to NUREG-0473, Rev. 2, Table 4.11-2 note b.

Table 4.15-2 note d has been revised to call for changing sample media at least once every 7 days.

Historically, tritium concentrations in the area of the spent fuel pool have been so low that we continue to believe that sampling monthly provides adequate confirmation of the low tritium level.

NRC Comment 18: In 3.15.5 indicate that the offgas treatment system is in operation whenever the main condenser air ejector system is in operation as per NUREG-0473, Rev. 2.

Reply:

A new Specification 3.15.5 has been added to reflect that the Waste Gas System (AOG) shall be in operation whenever the main condenser air ejector is in operation. (ref Bases Figure B-1).

NRC Comment 19: Provide specification on ventilation system operability as per NUREG-0473, Rev. 2.

Reply:

Specification 3/4.15.5 has been redesignated 3/4.15.6 and exhaust ventilation treatment equipment has been included.

NRC Comment 20: In Specification 3.15.6, why do you indicate that the hydrogen level be held to 4% only downstream of recombiners?

Reply:

The system upstream of the recombiners and the recombiners are explosion-proof and can withstand the effect of a hydrogen explosion.

NRC Comment 21: Add drywell venting/purging specification as per NUREG-0473, Rev. 2.

Reply:

The suggested specification requires venting or purging the containment drywell through the Standby Gas Treatment System. At the DAEC, installed ducting will only permit venting or purging the drywell through the Standby Gas Treatment System, as indicated in Bases Figure B-1. Consequently a specification requiring that this be done serves no purpose.

NRC Comment 22: Add solid waste system specification as per NUREG-0473, Rev. 2.

Reply:

In view of recent NRC and Agreement State activities affecting radioactive waste burial practices, Iowa Electric Light and Power Company is reviewing its solid waste management program (facilities and practices) at the DAEC. As an outcome of the review, it is expected that near-term and long-term modifications to the DAEC facilities and practices required to respond to recent regulatory developments affecting radioactive waste solidification and disposal will be determined.