

Iowa Electric Light and Power Company

September 28, 1992
NG-92-4344

JOHN F. FRANZ, JR.
VICE PRESIDENT, NUCLEAR

Dr. Thomas E. Murley, Director
Office of Nuclear Reactor Regulation
U. S. Nuclear Regulatory Commission
Attn: Document Control Desk
Mail Station P1-137
Washington, DC 20555

Subject: Duane Arnold Energy Center
Docket No: 50-331
Op. License No: DPR-49
Response to Generic Letter No. 92-04

Reference: 1) NRC GL No. 92-04, "Resolution of
the Issues Related to Reactor
Vessel Water Level Instrumentation
in BWRs Pursuant to 10 CFR
50.54(f)"

2) BWROG Report, "BWR Reactor Vessel
Water Level Instrumentation",
BWROG-92074

3) Letter, Emergency Procedures
Committee (EPC) to BWROG Plant
Operations Superintendents,
OG92-907-62

File: A-101b, SPF-158

Dear Dr. Murley:

This letter provides Iowa Electric Light and Power Company's (IELP's) response to Generic Letter No. 92-04 (reference 1) in accordance with 10 CFR 50.54(f).

Reference 1 discussed potential inaccuracies in certain vessel level instrumentation due to the presence of non-condensable gases in the instrument reference leg. These gases could build up over time due to improper installation of condensing chambers or due to reference leg leakage. During depressurization below 450 psig, these gases may come out of solution in the reference leg and cause a false high level indication.

The BWR Owner's Group (BWROG) report on this phenomenon (reference 2) concluded that automatic safety systems will be actuated at pressures well above 450 psig, even for worst-case

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Dr. Thomas E. Murley
September 28, 1992
NG-92-4344
Page 2

gas concentrations. Reference 1 stated that the NRC staff is confident that all emergency cooling systems will initiate as designed and that interim plant operation is acceptable. Reference 1 also requested actions be taken by licensees in order to resolve the matter of potential inaccuracies for longer-term operation. These actions are listed below along with our responses.

Requested Action

1. In light of potential errors resulting from the effects of noncondensable gases, each licensee should determine:
 - a. The impact of potential level indication errors on automatic safety system response during all licensing basis transients and accidents;
 - b. The impact of potential level indication errors on operators' short and long term actions during and after all licensing basis accidents and transients;
 - c. The impact of potential level indication errors on operator actions prescribed in emergency operating procedures or other affected procedures not covered in (b).

IELP Response

1.a. The BWROG provided to the NRC and member utilities a copy of their report, "BWR Reactor Vessel Water Level Instrumentation" (reference 2). This report addresses the safety impact of potential water level indication errors on automatic system response during all licensing basis transients and accidents. The analysis basis is contained in Section 6.0, "Safety Analysis", of the report and is summarized in Section 2.2, "Plant Response to Postulated Accident Scenarios". IELP has determined that the information in the BWROG report is applicable to the design of DAEC. This conclusion is based on our review of the report and the evaluation made by General Electric as contained in Attachment 2 to the report.

The DAEC staff has reviewed the licensing basis transients and accidents in our UFSAR Chapter 15 and has determined that potential water level indication errors will not have any adverse effects. Our staff has further determined that all Emergency Core Cooling System (ECCS) actions initiated from low-low and low-low-low reactor water level signals are not affected by non-condensibles since they are generated by

Dr. Thomas E. Murley
September 28, 1992
NG-92-4344
Page 4

IELP Response

2.a. and b. DAEC operators have been informed on the effects of noncondensable gases on cold reference leg instruments. A walkdown was performed to identify any leakage on the reference legs of affected instruments. Three valves were identified having minor leakage. Two of these valves have been repaired; the third is scheduled for repair during the next forced outage. Engineering has also reviewed data from previous DAEC plant shutdowns and has found no evidence of noncondensable gases affecting reference legs.

Requested Action

3. Each licensee should provide its plans and schedule for corrective actions, including any proposed hardware modifications necessary, to ensure the level instrumentation system design is of high functional reliability for long term operation. Since this instrumentation plays an important role in plant safety and is required for both normal and accident conditions, the staff recommends that each utility implement its longer term actions to assure a level instrumentation system of high functional reliability at the first opportunity but prior to starting up after the next refueling outage commencing 3 months after the date of this letter.

IELP Response

1. The repair of the leaking instrument valve is planned for the next forced outage. Operators will receive formal training on this phenomenon as part of their normal requalification training. IELP endorses the RWROG testing plan submitted to the NRC and will evaluate results of that testing for input on DAEC level instrument configuration.

IELP has satisfied the requirements of reference 1 and determined that there are no adverse effects on safety functions or operator actions at DAEC due to non-condensable gases in level instrument reference legs. Please contact this office if you have any further questions.

Dr. Thomas E. Murley
September 28, 1992
NG-92-4344
Page 5

This letter is true and accurate to the best of my knowledge and belief.

IOWA ELECTRIC LIGHT AND POWER COMPANY

By David L. Wilson for
John F. Franz, Jr.
Vice President, Nuclear

State of Iowa
(County) of Linn

Signed and sworn to before me on this 28 day of September,
1992, by Hermette M. Curmes.

Notary Public in and for the State of Iowa

9-11-94

Commission Expires

JFF/JMD/pjv-

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