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 FACIL: 50-331 Duane Arnold Energy Center, Iowa Electric Light & Pow 05000331
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 MCGAUCHY, R. W. Iowa Electric Light & Power Co.
 RECIP. NAME RECIPIENT AFFILIATION
 DENTON, H. Office of Nuclear Reactor Regulation, Director (post 851125)

SUBJECT: Forwards supplemental info re 850701 Relief Requests 14, 15
 & 17 concerning pipe elevation variations from ASME Boiler
 & Pressure Vessel Code, Section XI, 1974 Edition - 1975 Summer
 Addenda.

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Iowa Electric Light and Power Company

January 15, 1986

NG-86-0204

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
ASME Section XI Relief Requests
Reference: Letter, R. McGaughy (Iowa Electric) to
H. Denton (NRC) dated July 1, 1985 (NG-85-2258)
File: A-286, A-107

Dear Mr. Denton:

The referenced letter transmitted requests for relief from ASME Boiler and Pressure Vessel Code, Section XI, 1974 Edition through 1975 Summer Addenda. During the review of these relief requests, several questions were raised by the NRC reviewer regarding Relief Requests 14, 15 and 17. Attached you will find supplemental information applicable to these Relief Requests.

Relief Requests 14 and 15 were submitted due to pipe elevation variations that would result in hydrostatic test pressures in excess of 106% Code test pressure. Attachment 1 provides the piping design pressures, operating pressures, Code-required hydrostatic test pressures, and pipe elevations with corresponding test pressures based on limiting the actual test pressure to 106% of the Code-required test pressure. Relief Request 17 (Attachment 2) has been revised for added clarity.

Should you have any questions, please contact this office.

Very truly yours,

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

RWM/SAR/ta*

Attachments: 1) Supplementary Information, Relief Requests 14 and 15
2) Relief Request 17, Rev. 1

cc: S. Reith
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Acc'd

ASME SECTION XI REQUEST FOR RELIEF 14 - SUPPLEMENTARY INFORMATION

<u>SYSTEM</u>	<u>Design Pressure psig</u>	<u>Code Test Pressure psig</u>	<u>Length of line pressurized to less than Code Test Pressure</u>	<u>Bounding Elevations</u>	<u>Operating Pressures psig</u>	<u>Requested Test Pressures psig</u>
Residual Heat Removal (RHR)-B Loop	375	469 ¹	52 feet (4-inch line)	Max 808' Min 718'	281 320	Range 453 ² -457 ³ Range 493 ² -497 ⁴
RHR Discharge to Fuel Pool Cooling	375	469 ¹	50 feet (8-inch line) 1 foot (1-inch line)	Max 826' Min 751'	273 304	Range 459 ² -464 ³ Range 492 ² -497 ⁴
RHR Suction	175	219 ¹	44 feet (18-inch line) 283 feet (8-inch line)	Max 829' Min 718'	113 162	Range 180 ² -184 ³ Range 228 ² -232 ⁴

ASME SECTION XI REQUEST FOR RELIEF 15 - SUPPLEMENTARY INFORMATION

River Water Supply - Both Loops	125	138 ⁵	23 feet (24-inch line) 30 feet (18-inch line) 8 feet (8-inch line) 4 feet (6-inch line)	Max 775' Min 729'	50 69	Range 122 ² -126 ³ Range 142 ² -146 ⁴
Emergency Service Water - Both Loops	157	173 ⁵	436 feet (8-inch line) 798 feet (6-inch line) 523 feet (4-inch line) 42 feet (3-inch line) 296 feet (2-inch line) 227 feet (1-inch line) 69 feet (3/4-inch line)	Max 860' Min 717'	55 117	Range 117 ² -121 ³ Range 179 ² -183 ⁴

¹Code Test Pressure = 1.25 x System Design Pressure²Minimum - Low end of control band³Maximum - High end of control band⁴Based on limiting maximum test pressure to 106% of Code Required Test Pressure⁵Code Test Pressure = 1.10 x System Design Pressure

IOWA ELECTRIC LIGHT AND POWER COMPANY
DUANE ARNOLD ENERGY CENTER
Docket No: 50-331
Op. License No: DPR-49

ASME SECTION XI REQUEST FOR RELIEF

RELIEF REQUEST NO. 17, Rev. 1

SYSTEM: Reactor Recirculation

COMPONENTS: Recirculation pump seal pressure sensing line.
Refer to P&ID M-116

CODE CLASS: - 3

CODE TEST REQUIREMENT:

The system test pressure shall be at least 1.10 times the system design pressure. (IWD-5200)

BASIS FOR RELIEF:

This piping includes the pressure sensing instrument lines leading from the recirculation pump backup seals (number two seals). There are no isolation valves between the seals and the piping, thus there is no practical method of pressurizing the piping to the Code required test pressure.

Due to the design of the recirculation pump seal assemblies, this piping is limited in pressure to that of the number two seal cavities. During normal operation and hydrostatic testing, this piping is pressurized to approximately 500 psig. Pressurizing these lines to the required hydrostatic test pressure of 1683 psig is impractical due to the potential for damage to the number one pump seals.

ALTERNATE EXAMINATION:

During hydrostatic testing, this piping will be pressurized to approximately 500 psig.