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AUG 07 1984

Mr. A. Schwencer, Chief
Licensing Branch No. 2
Division of Licensing
U. S. Nuclear Regulatory Commission
Washington, DC 20555

SUBJECT: Limerick Generating Station, Units 1 and 2
Information for Materials Engineering Branch (MTEB)
Regarding SER Confirmatory Issue #12 - Preservice
Inspection (PSI) Program

REFERENCES: 1) Telecon between M. Hum/C. Y. Cheng (NRC/MTEB) and D. Schmidt (PECo), 7/20/84
2) Letter, J. S. Kemper (PECo) to A. Schwencer (NRC), dated 7/17/84

ATTACHMENTS: 1) Limerick Unit 1 PSI Relief Request No. 19, Rev. 1
2) Limerick Unit 1 PSI Relief Request No. 20, Rev. 1
3) History of Welds in Relief Requests 19 and 20

FILE: GOVT 1-1 (NRC)

Dear Mr. Schwencer:

As discussed in the reference (1) telecon, attachments 1 and 2 provide revisions to Relief Requests 19 and 20. The Limerick Unit 1 relief requests were originally transmitted by reference (2). Attachment 3 provides additional information to supplement these revised relief requests.

Sincerely,

J. W. Gallagher
for
J. S. Kemper

RRH/cam08028405
Attachments
cc: See Attached Service List

A047
1/1

cc: Judge Lawrence Brenner (w/o enclosure)
Judge Richard F. Cole (w/o enclosure)
Troy B. Conner, Jr., Esq. (w/o enclosure)
Ann P. Hodgdon, Esq. (w/o enclosure)
Mr. Frank R. Romano (w/o enclosure)
Mr. Robert L. Anthony (w/o enclosure)
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Angus R. Love, Esq. (w/o enclosure)
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Atomic Safety & Licensing Appeal Board (w/o enclosure)
Atomic Safety & Licensing Board Panel (w/o enclosure)
Docket & Service Section (w/o enclosure)
Martha W. Bush, Esq. (w/o enclosure)
Mr. James Wiggins (w/o enclosure)
Mr. Timothy R. S. Campbell (w/o enclosure)
Ms. Phyllis Zitzer (w/o enclosure)
Judge Peter A. Morris (w/o enclosure)

Limerick Generating Station, Unit 1
Preservice Inspection Relief Request
ASME B&PV Code, Section XI

19. Class 1 Pressure Retaining Welds in Piping
Code Item No. B4.5, Category B-J

Code Requirement:

Those pipe longitudinal and circumferential pressure retaining welds included in Code Category B-J of Table IWB-2500 shall be volumetrically examined per Item B4.5 of Table IWB-2600. Indications shall be evaluated using the acceptance standards for examination evaluation specified in subarticle IWB-3100 of the 1974 Edition of Section XI, including Addenda through Summer 1975.

Relief Request:

Relief is requested to use the acceptance standards specified in the 1980 Edition of ASME Section XI, including Addenda through Winter 1981 (anticipated code edition to be used for ISI examination), in lieu of the 1974 Edition of ASME Section XI, including Addenda through Summer 1975. This relief is requested for the evaluation of seven (7) longitudinal welds, identified as RRA-027LD Max./Min., RRA-028LU Max./Min., RRA-037LD Max., RRA-038LU Max., RHB-005LD Max. and one (1) circumferential weld identified as FWB-028. These welds are included in the Component Summary Table.

Justification for Granting Relief

The factors considered in the use-as-is disposition of weld flaw indications are as follows:

1. Use of the 1980 Edition of ASME Section XI, including Addenda through Winter 1981, for determining acceptance criteria for preservice examinations is appropriate and in compliance with 10CFR50 requirements. The 1980 Edition of ASME Section XI uses recently developed piping weld acceptance criteria based on fracture mechanics. These acceptance criteria reflect current technology for ASME Section XI applications which did not exist in the 1974 Edition, Summer 1975 Addenda. This technology acknowledges that service induced flaw growth results from planar as opposed to laminar oriented flaws. It requires the use of a flaw sizing evaluation technique, recording of flaw sizes above a given size, and subsequent examinations to check for possible growth or the origination of new service induced flaws. It is already a requirement of 10CFR50 that the first ISI examination for Limerick Unit 1 has to be performed to a Section XI Code Edition that uses pipe weld acceptance criteria based on fracture mechanics.

Limerick Generating Station, Unit 1
Preservice Inspection Relief Request
AMSE B&PV Code, Section XI

2. All indications, which produced a response greater than 20% of reference level during the preservice examinations, were investigated to determine their extent, shape, identity and location. The indications were characterized and considered to be unacceptable per the evaluation standards of ASME Section XI, 1974 Edition including Addenda through Summer 1975; however, these indications are acceptable per the evaluation standards of ASME Section XI, 1980 Edition including Addenda through Winter 1981. The indications were characterized as either subsurface or multiple planar flaws per Article IWA-3000 of the 1980 Edition of ASME Section XI. Flaw aspect ratios were developed and evaluated using the acceptance criteria specified in Article IWB-3000 of the 1980 Edition. ⚠

3. Welds were previously examined by radiography and evaluated as required by ASME Section III and all were found to be acceptable. The shop fabricated piping subassemblies have satisfied all ASME Section III requirements as signified by signoff of Form NPP-1 and application of the ASME Section III Code NPT Stamp.

Based on the above, it was concluded that there were no safety or plant reliability concerns and the subject welds were accepted for use-as-is.

The welds included in this relief request will receive successive inservice inspections in accordance with subsubarticle IWB-2420 of ASME Section XI, 1980 Edition including Addenda through Winter 1981, which is the anticipated code edition for the inservice inspection (ISI) program. This requires more frequent inspection than would normally be required for welds without indications.

RRH/pd08068402

Limerick Generating Station, Unit 1
Preservice Inspection Relief Request
ASME B&PV Code, Section XI

20. Class 2 Pressure Retaining Welds in Piping
Code Item No. C2.1, Categories C-F and C-G

Code Requirement:

Those pipe longitudinal and circumferential pressure retaining welds included in Code Categories C-F and C-G of Table IWC-2520 shall be volumetrically examined per Item C2.1 of Table IWC-2600. Indications shall be evaluated using the acceptance standards for examination evaluation specified in subarticle IWC-3000 of the 1974 Edition of Section XI, including Addenda through Summer 1975.

Relief Request:

Relief is requested to use the acceptance standards specified in the 1980 Edition of ASME Section XI, including Addenda through Winter 1981 (anticipated code edition to be used for ISI examination), in lieu of the 1974 Edition of ASME Section XI, including Addenda through Summer 1975. This relief is requested for the evaluation of four (4) welds, identified as RHB-194, HP-117, RDA-019, and RDB-011. These welds are included in the Component Summary Table.

Justification for Granting Relief

The factors considered in the use-as-is disposition of weld flaw indications are as follows:

1. Use of the 1980 Edition of ASME Section XI, including Addenda through Winter 1981, for determining acceptance criteria for preservice examinations is appropriate and in compliance with 10CFR50 requirements. The 1980 Edition of ASME Section XI uses recently developed piping weld acceptance criteria based on fracture mechanics. These acceptance criteria reflect current technology for ASME Section XI applications which did not exist in the 1974 Edition, Summer 1975 Addenda. This technology acknowledges that service induced flaw growth results from planar as opposed to laminar oriented flaws. It requires the use of a flaw sizing evaluation technique, recording of flaw sizes above a given size, and subsequent examinations to check for possible growth or the origination of new service induced flaws. It is already a requirement of 10CFR50 that the first ISI examination for Limerick Unit 1 has to be performed to a Section XI Code Edition that uses pipe weld acceptance criteria based on fracture mechanics.

Limerick Generating Station, Unit 1
Preservice Inspection Relief Request
AMSE B&PV Code, Section XI

2. All indications, which produced a response greater than 20% of reference level during the preservice examinations, were investigated to determine their extent, shape, identity and location. The indications were characterized and considered to be unacceptable per the evaluation standards of ASME Section XI, 1974 Edition including Addenda through Summer 1975; however, these indications are acceptable per the evaluation standards of ASME Section XI, 1980 Edition including Addenda through Winter 1981. The indications were characterized as either subsurface or multiple planar flaws per Article IWA-3000 of the 1980 Edition of ASME Section XI. Flaw aspect ratios were developed and evaluated using the acceptance criteria specified in Article IWC-3000 of the 1980 Edition.

3. Welds were previously examined by radiography and evaluated as required by ASME Section III and all were found to be acceptable. The shop fabricated piping subassemblies have satisfied all ASME Section III requirements as signified by signoff of Form NPP-1 and application of the ASME Section III Code MPT Stamp. ⚠1

Based on the above, it was concluded that there were no safety or plant reliability concerns and the subject welds were accepted for use-as-is.

The welds included in this relief request will receive successive inservice inspections in accordance with subsubarticle IWC-2420 of ASME Section XI, 1980 Edition including Addenda through Winter 1981, which is the anticipated code edition for the inservice inspection (ISI) program. This requires more frequent inspection than would normally be required for welds without indications.

RRH/pd08068403

HISTORY OF WELDS IN RELIEF REQUEST 19 AND 20

WELD I.D.	SECTION III		SECTION XI		NPP-1 SIGNOFF	HYDRO TEST DATE	N-5 SIGN-OFF DATE	N-5 STAMP DATE	BASE METAL MAT'L	WELD METAL MAT'L	REMARKS
	DATE OF EXAM	TESTOR; LOCATION	DATE TESTOR LOCATION	DATE FLAW IDENTIFIED							
RRA-027 LO MIN RRA-027 LO MAX RRA-028 LU MIN RRA-028 LU MAX	9-13-79	ASSOCIATED PIPING SHOP	6-2-83 NES SITE	6-14-83	3/18/80	8/27/83	7/10/84	7/19/84	SA-240 TP 316	ER-316L E316 LT-3	NCR-7563
RRA-037 LO MAX RRA-038 LU MAX	9-17-79	ASSOCIATED PIPING SHOP	6-1-83 6-2-83 NES SITE	6-14-83	11/15/79	8/27/83	7/10/84	7/19/84	SA-240 TP 316	ER-316L E-16 LT-3	NCR-7564
RHB-005 LO MAX	11-17-79	TEXAS PIPE SHOP	5-18-83 NES SITE	4-17-84	12/14/79	3/24/83	4/16/84	4/17/84	SA-240 TP 316	308L	NCR S869M
FWB-028	5-5-79	PEABODY (GEO) SITE	7-31-83 NES SITE	8-4-83	N/A	12/23/83	4/20/84	4/24/84	SA352 LCB SA240 WPL-6	E7018 E70S-2	NCR 7877
RHB-194	6-22-81	PEABODY (GEO) SITE	5-7-84 NES SITE	5-15-84	N/A	4/21/83	LATER	LATER	SA234G WPB SA351GR CF8M	ER309L E309L-16	NCR S868M
HP-117	6-2-79	PEABODY (GEO) SITE	6-19-84 NES SITE	6-25-84	N/A	1/30/84	LATER	LATER	SA234 WPB SA216 WPB	E70S-2 E7018	NCR S867M
RDA-019	2-21-81	RCI SHOP	3-18-83 NES SITE	1-6-84	10/1/81	10/13/83	LATER	LATER	SA106 GR. B SA234 WPB	E70S-2 E7018	NCR 9161
RBD-011	3-23-81	RCI SHOP	7-23-83 NES SITE	2-28-84	10/1/81	10/13/83	LATER	LATER	SA106 GR. B SA234 WPB	E70S-2 E7018	NCR S866M