

Dave Morey
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November 21, 2001

Docket Nos. 50-348

NEL-01-0286

U. S. Nuclear Regulatory Commission
ATTN: Document Control Desk
Washington, DC 20555-0001

Joseph M. Farley Nuclear Plant Unit 1
Third 10-Year Interval
Request For Relief No. RR-50

Ladies and Gentlemen:

In accordance with the provisions of 10 CFR 50.55a, Southern Nuclear Operating Company (SNC) is requesting NRC approval of the enclosed Relief Request for Farley Nuclear Plant Unit 1. If granted, this relief will allow reduced coverage of welds for two pressurizer safety valve nozzle welds and one pressurizer spray weld. Approval is requested by October 1, 2002 to support ongoing ISI activities.

There are no commitments contained in this letter. If you have questions, please advise.

Respectfully submitted,


Dave Morey

EWC/kaw: FNP1_RR50.doc

Enclosures:

Enclosure 1, with Attachments 1 and 2

A047

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U. S. Nuclear Regulatory Commission

cc: Southern Nuclear Operating Company
Mr. L. M. Stinson, General Manager

U. S. Nuclear Regulatory Commission, Washington, D. C.
Mr. F. Rinaldi, Licensing Project Manager – Farley

U. S. Nuclear Regulatory Commission, Region II
Mr. L. A. Reyes, Regional Administrator
Mr. T. P. Johnson, Senior Resident Inspector – Farley

ENCLOSURE 1

**SOUTHERN NUCLEAR OPERATING COMPANY
FARLEY UNIT 1
THIRD 10-YEAR INTERVAL
REQUEST FOR RELIEF NO. RR-50**

SOUTHERN NUCLEAR OPERATING COMPANY
FARLEY UNIT 1
THIRD 10-YEAR INTERVAL
REQUEST FOR RELIEF NO. RR-50

- I. System/Component(s) for Which Relief is Requested: Volumetric examination of the Class 1 pressure retaining piping welds identified in Attachment 1 to this request for relief.
- II. Code Requirement: For dissimilar welds, Category B-F, Table IWB-2500-1, of ASME Section XI, 1989 Edition, no addenda, requires surface and volumetric examination of pressure-retaining welds in Class 1 piping. Applicable examination volume is shown in ASME Section XI Figure IWB-2500-8, ASME Section XI, Appendix III, Supplement 4, and includes essentially 100% of the weld length.
- III. Code Requirement from Which Relief is Requested: Relief is requested from performing a full Code coverage volumetric examination of the Class 1 piping welds identified in Attachment 1 to this request for relief.
- IV. Basis for Relief: As shown in Attachment 2, these nozzle to safe-end welds (or safe-end to nozzle weld) have physical limitations on both sides of the weld that restrict coverage and make it impractical to achieve 100% of the total examination volume. To obtain 100% volumetric coverage of dissimilar metal welds, scans must be conducted clockwise and counter-clockwise on the weld (plus 1/2-inch of adjacent base metal) to detect reflectors transverse to the weld. Scans must also be conducted from both sides of the weld to detect reflectors parallel to the weld. Complete coverage for reflectors located transverse to the weld was obtained; however, due to the limited scan surface on the nozzle and safe-end sides, complete coverage for reflectors located parallel to the weld was not obtained.
- V. Alternate Examination: The recommended industry practice for examination of dissimilar metal welds was utilized. This practice includes a 45° and 60° refracted longitudinal wave examination to meet Code requirements plus a supplemental 45° shear wave to examine nozzle base material. This will be done on accessible areas.
- VI. Justification for Granting Relief: Obtaining the required ultrasonic volumetric coverage for these welds would require re-design and replacement of the pressurizer head or the pressurizer and attached piping systems, which is impractical and which would be an extreme burden for Southern Nuclear.

Complete Code coverage of the examination volume was obtained for reflectors transverse to the weld; therefore, axially oriented cracks should have been detectable. For reflectors parallel to the weld, at least one direction coverage was obtained through the entire examination volume (see Attachment 2) plus a 45° shear wave examination was performed as an aid in detecting any cracks that may have propagated into the carbon steel nozzle. With this coverage, there is reasonable assurance that significant circumferential cracking would have been detected and that the structural integrity of the weld is being maintained. SNC requests that relief be authorized pursuant to 10 CFR 50.55a(g)(6)(i).
- VII. Implementation Schedule: This request for relief is applicable to examinations performed using the 1989 Edition of Section XI during the current inspection interval ending on November 30, 2007.
- VIII. Relief Request Status: This request for relief is awaiting NRC approval.

ATTACHMENT 1

**SOUTHERN NUCLEAR OPERATING COMPANY
FARLEY UNIT 1
THIRD 10-YEAR INTERVAL
REQUEST FOR RELIEF NO. RR-50**

RR-50

ATTACHMENT 1

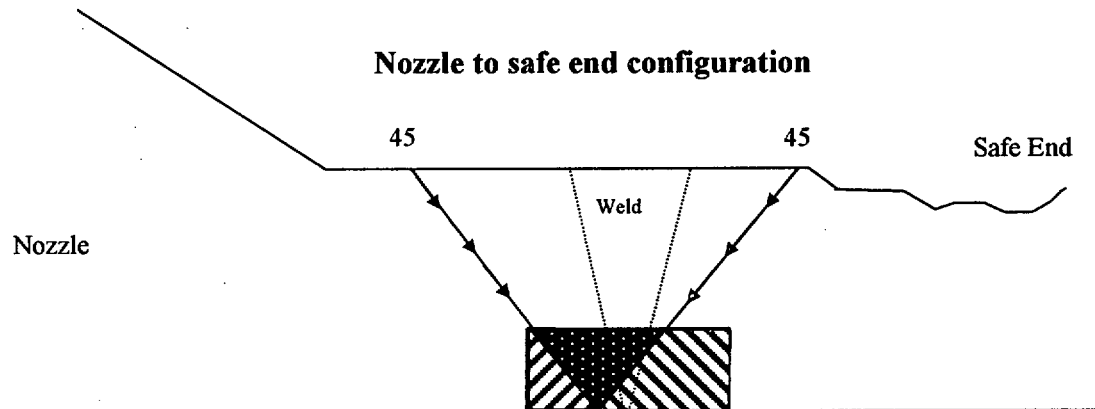
ASME Section XI Category/Item No.	Identification No.	Description	Limitation	Approximate Percentage
B-F / B5.40	ALA1-4502-1DM	6" Nozzle to Safe-end Pressurizer Safety Valve Nozzle	Limited examination due to nozzle and safe-end configuration	UT - 81% PT - 100%
B-F / B5.40	ALA1-4503-1DM	6" Nozzle to Safe-end Pressurizer Safety Valve Nozzle	Limited examination due to nozzle and safe-end configuration	UT - 81% PT - 100%
B-F / B5.40	ALA1-4205-35DM	4" Safe-end to Nozzle Pressurizer Safety Valve Nozzle	Limited examination due to nozzle and safe-end configuration	UT - 81% PT - 100%

ATTACHMENT 2

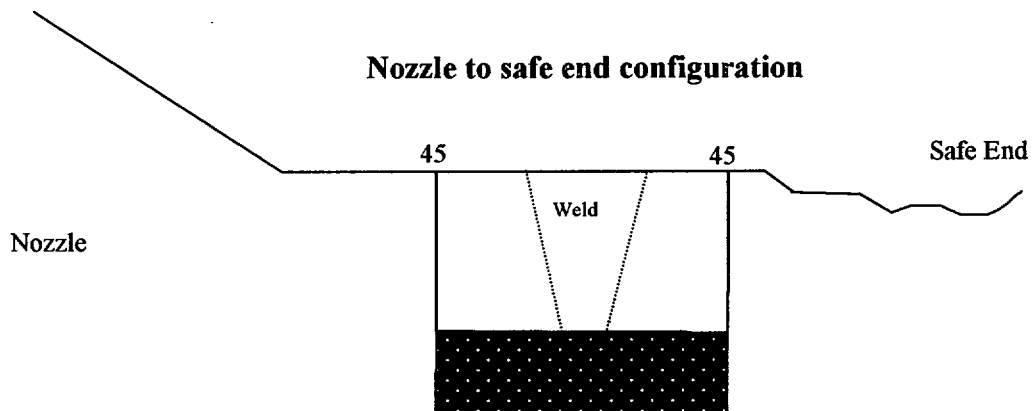
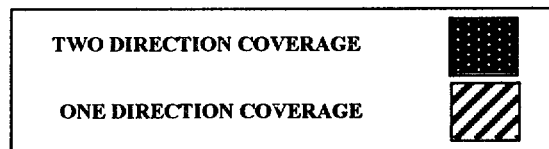
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ATTACHMENT 2



LIMITED COVERAGE SCANNING for DEFECTS
PARALLEL to the WELD



COMPLETE COVERAGE SCANNING for DEFECTS
TRANSVERSE to the WELD