

April 18, 2011

MEMORANDUM TO: Docket File

FROM: N. Kalyanam, Project Manager /RA/  
Plant Licensing Branch IV  
Division of Operating Reactor Licensing  
Office of Nuclear Reactor Regulation

SUBJECT: WATERFORD STEAM ELECTRIC STATION, UNIT 3 - VERBAL  
AUTHORIZATION OF REQUEST FOR ALTERNATIVE, W3-ISI-019  
(TAC NO. ME5701)

By letter dated February 16, 2011 (Agencywide Documents Access and Management System (ADAMS) Accession No. ML110480488), Entergy Operations, Inc. (Entergy, the licensee), requested U.S. Nuclear Regulatory Commission (NRC) approval of a proposed "Request for Alternative W3-ISI-019, Inspection of Reactor Vessel Head In-Core Instrument Nozzles during the Third Ten-Year Inservice Inspection for Interval," for Waterford Steam Electric Station, Unit 3 (Waterford 3).

The licensee requested relief from the inspection requirements of American Society of Mechanical Engineers Boiler and Pressure Vessel Code (ASME Code) Case N-729-1, "Alternative Examination Requirements for Pressurized Water Reactor (PWR) Reactor Vessel Upper Heads With Nozzles Having Pressure-Retaining Partial Penetration Welds, Section XI, Division 1," as required and conditioned by Title 10 of the *Code of Federal Regulations* (10 CFR) Part 50.

For W3-ISI-019, relief was requested due to the inability to qualify the ultrasonic examination techniques and personnel for examination of in-core instrument (ICI) nozzles in accordance with the requirements. Part of the basis for W3-ISI-019 was that industry officials made the decision to discontinue efforts to establish a generic qualification program for volumetric examination of Combustion Engineering (CE) ICI nozzles due to CE licensees' replacement or planned replacements of the reactor vessel heads (RVHs).

The NRC authorized the same proposed alternative for Waterford 3 during the 16<sup>th</sup> refueling outage. The licensee had planned to replace the RVH during refueling outage RF17. The licensee was scheduled to replace its RVH concurrently with replacement of the original steam generators. Replacement of both components would necessitate a temporary opening in containment.

The licensee discovered a manufacturing condition with the replacement steam generators which would prevent their installation during RF17. Replacing the upper head alone in RF17 would present a significant hardship to perform temporary openings in containment during sequential refueling outages. Further, due to the planned replacement of the Waterford 3 RVH, and industry's decision to discontinue generic efforts to establish a volumetric qualification

program for CE plant ICI nozzles, it would be a hardship for the licensee to develop and complete a qualification program between the fall of 2010 and RF17 at Waterford 3.

Based on the previous NRC authorizations of the licensee's proposed alternatives and similar hardships existing now for RF17, the staff concludes that the licensee's proposed alternatives provide reasonable assurance of structural integrity and leak-tightness of the subject ICI nozzles, and that complying with the requirements of ASME Code Case N-729-1, as required and conditioned by 10 CFR 50.55a(g)(6)(ii)(D), would result in hardship without a compensating increase in the level of quality and safety.

Accordingly, the NRC staff concludes that the licensee has adequately addressed all of the regulatory requirements set forth in 10 CFR 50.55a(a)(3)(ii). Therefore, the NRC staff provided the verbal authorization for the proposed alternatives, W3-ISI-019, for the Waterford 3 for the 17th refueling outage, in the spring of 2011, up to the commencement of the 18th refueling outage in the fall of 2012 when the RVH is scheduled to be replaced.

All other ASME Code requirements for which relief was not specifically requested and approved in this relief request remain applicable, including third-party review by the Authorized Nuclear Inservice Inspector.

The participants in the telephone call were:

NRR

M. Markley  
T. Lupold  
J. Collins  
N. Kalyanam

REGION IV

J. Melfi

ENTERGY

W. Steelman  
J. Pollock  
R. Williams  
W. Sims  
S. Bennett

Docket No. 50-382

program for CE plant ICI nozzles, it would be a hardship for the licensee to develop and complete a qualification program between the fall of 2010 and RF17 at Waterford 3.

Based on the previous NRC authorizations of the licensee's proposed alternatives and similar hardships existing now for RF17, the staff concludes that the licensee's proposed alternatives provide reasonable assurance of structural integrity and leak-tightness of the subject ICI nozzles, and that complying with the requirements of ASME Code Case N-729-1, as required and conditioned by 10 CFR 50.55a(g)(6)(ii)(D), would result in hardship without a compensating increase in the level of quality and safety.

Accordingly, the NRC staff concludes that the licensee has adequately addressed all of the regulatory requirements set forth in 10 CFR 50.55a(a)(3)(ii). Therefore, the NRC staff provided the verbal authorization for the proposed alternatives, W3-ISI-019, for the Waterford 3 for the 17th refueling outage, in the spring of 2011, up to the commencement of the 18th refueling outage in the fall of 2012 when the RVH is scheduled to be replaced.

All other ASME Code requirements for which relief was not specifically requested and approved in this relief request remain applicable, including third-party review by the Authorized Nuclear Inservice Inspector.

The participants in the telephone call were:

<u>NRR</u>	<u>REGION IV</u>	<u>ENTERGY</u>
M. Markley T. Lupold J. Collins N. Kalyanam	J. Melfi	W. Steelman J. Pollock R. Williams W. Sims S. Bennett

Docket No. 50-382

DISTRIBUTION:

PUBLIC	RidsNrrLAJBurkhardt Resource
LPLIV Reading	RidsNrrPMWaterford Resource
RidsAcrsAcnw_MailCTR Resource	RidsRgn4MailCenter Resource
RidsNrrDciCpnb Resource	JClark, RIV/DRP/RPB-E
RidsNrrDorlLpl4 Resource	JCollins, NRR/DCI/CPNB

**ADAMS Accession No. ML111010356**

\*via e-mail

OFFICE	NRR/LPL4/PM	NRR/LPL4/LA	NRR/DCI/CPNB/BC	NRR/LPL4/BC	NRR/LPL4/PM
NAME	NKalyanam	JBurkhardt	TLupold*	MMarkley (BSingal for)	NKalyanam
DATE	4/12/11	4/12/11	4/6/11	4/18/11	4/18/11

**OFFICIAL RECORD COPY**