

May 3, 2005

MEMORANDUM TO: Cathy Haney, Program Director
Policy and Rulemaking Program
Division of Regulatory Improvement Programs, NRR

FROM: Joseph L. Birmingham, Project Manager */RA/*
Policy and Rulemaking Program
Division of Regulatory Improvement Programs, NRR

SUBJECT: SUMMARY OF MARCH 22, 2005, MEETING WITH INDUSTRY AND
THE MATERIAL RELIABILITY PROGRAM (MRP) ON REACTOR
VESSEL CLOSURE HEAD (RVCH) PENETRATIONS INSPECTION
REQUIREMENTS AND DRAFT ASME CODE CASE N-729

On March 22, 2005, Nuclear Regulatory Commission (NRC) staff met with representatives of industry and the Electric Power Research Institute Material Reliability Program (MRP) in a public meeting at NRC headquarters in Rockville, Maryland. At the meeting, industry discussed proposed inspection requirements contained in draft ASME Code Case N-729. The inspection requirements in the Code Case would, if acceptable, be an alternative to inspection guidance in NRC Order EA-03-009. Meeting attendees are listed in Attachment 1. The viewgraphs presented at the meeting by industry are in Attachment 2 (ADAMS Accession No. ML050880444). Additional background on the industry developed inspection intervals may be found in the summary for a September 8, 2004 meeting with industry on this subject, (ADAMS Accession No. ML042860061).

The purpose of the meeting was to provide a final opportunity for the NRC staff representatives to better understand the technical bases for the proposed inspection requirements and for the industry representatives to understand the areas of continued staff concern, prior to the next ASME Code meeting. The ASME Code has formal approval of this Code Case as a high priority activity to be acted upon in its upcoming May 2005 meetings. The areas of staff concern articulated previously to ASME during the consensus process include the reinspection frequency for cold head temperature plants, reinspection frequency of RPV heads containing Alloy 690 and Alloy 52/152 weld metals, NDE qualification requirements, and inspection zone coverage.

Industry began by reviewing the work that had been performed by industry and the MRP to develop data to provide a basis for an appropriate set of inspection requirements. The industry information has been documented in several MRP reports including MRP-55, "Crack Growth Rates for Evaluating Primary Water Stress Corrosion Cracking (PWSCC) of Thick-Wall Alloy 600 Material," MRP-75, "PWR RPV Upper Head Penetration Inspection Plan," MRP-110, "Materials Reliability Program Reactor Vessel Closure Head Penetration Safety Assessment for U.S. PWR Plants," MRP-111, "Materials Reliability Program, Resistance to Primary Water Stress Corrosion Cracking of Alloys, 690, 52, and 152 in Pressurized Water Reactors," and MRP-117, "Materials Reliability Program Inspection Plan for Reactor Vessel Closure Head Penetrations in U.S. PWR Plants." Industry discussed the results of its deterministic crack growth rate analyses as well as its probabilistic fracture mechanics analysis that indicated the

shortest time to failure for a penetration would be greater than 9 reinspection years (RIY).
CHaney

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Industry indicated that the analyses bound the proposed reinspection intervals by a factor of about 3. Details of the considerations in the analyses are outlined in attachment 2. Industry and staff discussed these analyses and, after much discussion, the staff indicated that it continued to have reservations on the proposed reinspection intervals.

Industry and staff then discussed several NRC questions on the draft Code Case. The questions were on the subjects of inspection frequency, nondestructive examination NDE qualifications, sample expansion, inspection coverage and volume, and the use of Appendix A. After discussing these issues with industry, the staff indicated that it continued to have reservations about the proposed inspection requirements, and it would provide written comments to both the responsible ASME contact and the NEI.

Having completed the agenda the staff asked for public comments or questions. After answering the public questions, the staff adjourned the meeting.

Project No. 689

Attachments: As stated

cc: See list

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 Attachments: As stated
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OFFICE	RPRP	EMCB	RPRP
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DATE	03/ 30 /2005	04/ 24 /2005	04/ 27 /2005

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**List of Attendees for March 22, 2005
Meeting on Reactor Pressure Vessel Head Penetrations Inspections
and Draft ASME Code Case N-729**

NAME	ORGANIZATION
Brian Sheron	NRC/NRR
Michael Mayfield	NRC/NRR/DE
Bill Bateman	NRC/NRR/EMCB
Terence Chan	NRC/NRR/EMCB
William Koo	NRC/NRR/EMCB
Bill Cullen	NRC/RES
Ken Chang	NRC/NRR/RLEP
Eric Reichelt	NRC/NRR/EMCB
Wallace Norris	NRC/RES
Jay Collins	NRC/NRR/EMCB
Hippolito Gonzalez	NRC/RES/MEB
Keith Wichman	NRC/NRR/EMCB
Joe Birmingham	NRC/DRIP/RPRP
Jim Riley	NEI
Christine King	EPRI
Craig Harrington	TXU Energy
William Sims	Entergy
Jack Lareau	Westinghouse
Ken Yoon	AREVA
Pete Riccardella	Structural Integrity Associates
Glenn White	Dominion Engineering
Robin Dyle	Southern Nuclear
Greg Kammerdeiner	First Energy
Altheia Wyche	SERCH/Bechtel
Dan Horner	McGraw Hill
Deann Raleigh	LIS, Scientech
Keith Kaufman*	Calvert Cliffs

* Via Telecon

cc: Via email
Mr. Jim Riley, NEI
jhr@nei.org

Distribution: Mtg EPRI/MRP on RPV head and Draft ASME CC N-729 3/22/05
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TChan
WKoo
KWichman
WCullen
JBirmingham
AHiser
AKeim
KChang
CGrimes
ESullivan (TSullivan)
HGonzalez
EReichelt
NChokshi
JCollins
RGuzman
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