



UNITED STATES
NUCLEAR REGULATORY COMMISSION

WASHINGTON, D.C. 20555-0001

July 14, 2000

ORGANIZATION: Nuclear Energy Institute

SUBJECT: SUMMARY OF MEETING WITH THE NUCLEAR ENERGY INSTITUTE (NEI) TO DISCUSS INDUSTRY'S COMMENTS ON THE "DRAFT GENERIC AGING LESSONS LEARNED" (GALL) REPORT, CHAPTERS IV, V, VII, AND VIII

On June 20-22, 2000, representatives of NEI met with the Nuclear Regulatory Commission (NRC) staff in Rockville, Maryland, regarding the industry's comments on Sections A2, B2, C2, D1, & D2 of Chapter IV, "Reactor Vessel, Internals, & Reactor Coolant System (RCS)", Sections A-E of Chapter V, "Engineered Safety Features", Sections A3, A4, A5, & C-I of Chapter VII, "Auxiliary Systems", and Sections A-H of Chapter VIII, "Steam and Power Conversion" of the draft GALL report, dated December 6, 1999. By letters dated May 30, May 31, and June 9, 2000, NEI has provided their written comments for discussion at this meeting. A list of meeting attendees is contained in Attachment 1. A draft handout titled "Light-Water Reactor (LWR) Environments for Structure/Component in GALL" that the staff provided to NEI during the meeting is contained in Attachment 2.

The staff asked the industry to clarify certain NEI comments on the draft GALL report. For those comments discussed, NEI indicated that the industry would consider revising its comments (identified below by numbers) by taking the following actions:

Chapter IV, "Reactor Vessel, Internals, & RCS", Sections A2, B2, C2, D1, & D2

<u>NEI Comment:</u>	<u>Actions</u>
A2-2	Review industry experience, including Information Notice (IN) 84-18 and IN 84-19, regarding Stress-Corrosion Cracking (SCC) at locations other than welded joints and the concentration of halogens in stagnant areas which can cause SCC.
A2-23	Provide new justification and writeup for this item.
A2-29	Provide industry experience with Primary Water Stress-Corrosion Cracking (PWSCC) for the Reactor Vessel.
A2-48	Review NUREG-1557 and justify the industry's position on why this degradation mechanism is not currently significant.
A2-50, B2-2, & B4 Various	Provide desired terminology for component descriptions.

- A2-65 Re-examine the guidelines and provide justification for comment.
- B2-8 Provide methodology and justification for determining the size and location of assumed flaws.
- B2-12 Provide specifics on programs relating to the neutron noise monitor and core barrel motion.
- B2-18, B4-5 Provide justification for using the control rod timing test for the aging management program.
- B2-22 Provide experience with wear of the core barrel flange.
- B2-33, B2-27 Provide justification that the radiation fluence level is not high enough to cause Irradiated-Assisted Stress-Corrosion Cracking (IASCC). Also, provide suggested radiation fluence level with justification.
- C2-12, C2-22 Provide technical justification for this comment after reviewing industry experience and NUREG-1557.
- C2-32 Propose Alloy 600 program which satisfies 10 elements of an effective aging management program.
- D1-20 Provide generic letter references and information to support justification for this comment.
- D1-23 Clarify fatigue analysis on the Steam Generator tubes.

Chapter V, "Engineered Safety Features", Sections A-E

No Actions

Chapter VII, "Auxiliary Systems", Sections A3, A4, A5, & C-1

- | <u>NEI Comment:</u> | <u>Actions</u> |
|---------------------|---|
| A3-4 | Evaluate reference IN 97-19 and how it pertains to this item. |
| E2-1 | Provide references for the amount of Sodium Pentaborate used. |
| E3-8 | Evaluate ASME Operations Notification (ON)-21 as it pertains to this issue. |

Chapter VIII "Steam and Power Conversion", Sections A-H

<u>NEI Comment</u>	<u>Actions</u>
Various	Provide list of components and justification for removal from GALL, as appropriate.
N/A	Provide ten element program for oil side of Bearing Oil Cooler.

Global Issues For All Chapters

1) All line items will be removed where the material is listed as stainless steel (SS), the environment is borated water, and aging mechanism is pitting or crevice corrosion. The staff does not consider pitting or crevice corrosion an aging mechanism for SS in a borated water environment if water chemistry is controlled.

The staff is preparing the draft GALL report for formal public comment in August 2000. NEI comments received prior to July 7, 2000, will be considered for incorporation into this draft of GALL. Comments received after that date will be considered for this draft of GALL only when the schedule permits.



Jim Strnisha, General Engineer
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Office of Nuclear Reactor Regulation

Project No. 690

Attachments: As stated

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Chapter VIII "Steam and Power Conversion", Sections A-H

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Various	Provide list of components and justification for removal from GALL.
N/A	Provide ten element program for oil side of Bearing Oil Cooler.

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The staff is preparing the draft GALL report for formal public comment in August 2000. NEI comments received prior to July 7, 2000 will be considered for incorporation into this draft of GALL. Comments received after that date will be considered during the public comment period in August.

/RA/

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Office of Nuclear Reactor Regulation

Project No. 690

Attachments: As stated

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NUCLEAR ENERGY INSTITUTE

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NRC MEETING WITH NEI TO DISCUSS INDUSTRY'S
COMMENTS ON THE (GALL) REPORT
ATTENDANCE LIST
June 20 - June 22, 2000

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DOUG WALTERS	NEI
ROBERT C. EVANS	NEI
PAUL AITKEN	VA POWER
JAMES CLABORDS	SCE&G
ERACH PATEL	PECO ENERGY
ROGER STEWART	CP&L
TONY GRENCI	CNS
MICHAEL SEMMLER	DUKE ENERGY
FRED POLASKI	PECO ENERGY
CHRIS W. FULWIDER	TVA
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YUNG Y. LIU	ANL
OMESH CHOPRA	ANL
VIK SKAH	ANL
SHIU WING TAM	ANL
AMY HULL	ANL
NOEL DUDLEY	ACRS
CHUCK HSU	NRC/RES/DET
SHOU-NIEN HOU	NRC/NRR/DE/EMCB
P.T. KUO	NRC/NRR/DRIP/RLSB
YUEH-LI (RENEE) LI	NRC/NRR/DE/EMEB
JOHN S. MA	NRC/NRR/DE/EMEB
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J. RAJAN	NRC/NRR/DE/EMEB
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J. RAJAN	NRC/NRR/DE/EMEB

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LWR Environments for Structure/Component in GALL

Structure/Component	PWR	BWR
Reactor and primary system	Chemically treated borated water or steam up to 340°C	High-purity water with up to 200 ppb of O ₂ and steam up to 288°C
Flanges, joints and bolting of reactor and primary system Connections	Air and leaking chemically treated borated water up to 340°C	Air and leaking high-purity water up to 288°C
Containment spray	Demineralized water with NaOH or Na thios.	Demineralized water
Standby liquid control system	N/A	Sodium pentaborate solution
Flanges, joints and bolting of standby liquid control system	N/A	Air and leaking sodium pentaborate solution
Chemical and volume control system	Chemically treated borated water	N/A
Flanges, joints and bolting of chemical and volume control system	Air and leaking chemically treated borated water	N/A
Dry external surfaces	Air, with metal temperatures up to 340°C	Air, with metal temperatures up to 288°C
Refueling systems	Chemically treated borated water	Demineralized water
Emergency core cooling system	Chemically treated borated water	Demineralized water
Closed cycle cooling systems	Demineralized water with corrosion inhibitors	Demineralized water with corrosion inhibitors
Closed cycle flanges, joints & boltings	Air and leaking demineralized water with corrosion inhibitors	Air and leaking demineralized water with corrosion inhibitors
Open cycle cooling systems	Raw water	Raw water