



NRC Staff Assessment
of
NEI's
Proposed Approach for Updating
the
GALL Report

March 9, 2004

1



NEI - Why Change?

- ▶ Differences between GALL and LRA
AMR/AMP structure
 - ▶ Inefficient, low percentage of matches
- ▶ Needed because too many applicant
assumptions are needed to make match
- ▶ Goal is to increase GALL to LRA
AMR/AMP matches

2



NEI - Restructure GALL AMR Results

- › Restructuring will make GALL more similar to applicant LRA format

3



NEI - Restructure GALL - AMR Rollup

- › Proposes potential changes to:
 - › Components – Generalize descriptions
 - › Materials – Broader groups
 - › Environment – Reduced number
 - › Aging effects - Simplify
- › Rollup of MEAPs
 - › Common to most applications

4



| NEI - Components – Generalize Descriptions

- AMPs → typically component independent
 - Manage aging effects of material and environment
 - Recommend generalizing component names
 - For some components, specifics are necessary
 - Not candidates for rollup

5



| NRC Staff - Components – Comment

- Component-specific issues need to be addressed in GALL
 - Need to identify
 - Design specific considerations
 - Intended function considerations
 - Operation experiences

6



NRC Staff - Components – Comment

- Retain current GALL Table 2 system and subsystem structure
 - Needed to assure that valuable information and system understanding is not lost
 - Used in assessing programs
 - GALL is aid for project team review

7



NEI - Materials – Broader Groups

- GALL is inconsistent in materials groupings
- Redefine materials based on:
 - Type susceptibility → aging effects
 - Make generic, as justified
 - Specific material types only if susceptible to unique aging effect
 - Address component materials (e.g., cladding) as individual materials

8



NRC Staff - Materials – Comment

- Address specific material/composite susceptibility
 - e.g., Divide stainless steel group into
 - Austenitic SS
 - CASS
 - High strength SS (e.g., PH, strain-hardened, martensitic)

9



NEI - Environment – Reduced Number

- GALL used environmental limits of system, not aging effect
 - Redefine based on aging effect limits applicable to material
 - Reduce number

10



NRC Staff – Environment – Comment

- › NRC staff agrees that
 - › Environmental limits should be more consistent
 - › Limits should be based on aging effect parameters
- › Prefer keeping treated water environments separate (i.e., type of inhibitors or biocides)
 - › Different EPRI guidelines apply, based on application

11



NEI - Aging Effects - Simplify

- › GALL Table 2 lists aging effects and mechanisms
 - › Mechanisms considered during AMR reviews, results reported as effects
 - › Typically suitability of AMP is determined primarily on ability to prevent aging effect
 - › Use aging mechanism only if different AMP

12



NRC Staff - Aging Effects – Comment

- › Need to consider aging mechanism that causes aging effect
 - › Necessary to understand mechanism to know if AMP is acceptable to manage effect
 - › Want to retain both aging mechanism and effect
- › Need to consider rule language

13



Additional Changes

- › NEI - Additional MEAPs
 - › Based on NRC-approved precedents
 - › Most useful if new materials or environments
- › NRC staff agrees
 - › NEI list is only a partial list
 - › Use inputs from ANL and ISL
 - › Review of other NRC-approved precedents (SER) needed

14



NRC Staff - Additional Changes

- AMPs need to be updated
- Update
 - NUREG – 1800, SRP-LR
 - NUREG-1801, Volumes 1 & 2, GALL Report
 - Supporting text

15



Conclusions

- NEI proposal basically sound
- Need to address implementation issues identified by NRC staff

16



| Discussion

- Need input from industry concerning what, if any, input it wants to provide
 - Scope
 - Schedule
 - Form (relational database)
 - *Justification (bases) for proposed changes*