



U.S.NRC

UNITED STATES NUCLEAR REGULATORY COMMISSION

Protecting People and the Environment

Generic Aging Lessons Learned (GALL) Report in License Renewal

Samson Lee, Division of License Renewal

International Atomic Energy Agency (IAEA)

**Technical Meeting on “Activities Related to International Generic
Ageing Lessons Learned Database”**

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U. S. License Renewal

- U. S. Atomic Energy Act
 - 40-year license to operate
 - Allows for renewal
- License renewal up to 20 years beyond current term (e.g., 40 to 60 years)



License Renewal Safety Principles

- The ongoing regulatory process is adequate to ensure the safety of currently operating plants
- The same plant operating rules apply during the renewal term
 - Requires additional actions for aging management of plant structures and components for license renewal

- **Safety Review**
 - Focus is on the effects of aging of long-lived, passive structures and components important to plant safety
 - NRC staff review is to determine that aging effects will be adequately managed for license renewal

Safety Review

- Safety review by NRC staff
 - Review application and supporting documentation
 - On-site audits
 - Issue Safety Evaluation Report

- On-site inspections by NRC staff

- Independent review by the Advisory Committee on Reactor Safeguards (ACRS)

- Opportunity for public hearing provided by the Atomic Safety and Licensing Board (ASLB)



License Renewal Guidance Documents

- Generic Aging Lessons Learned (GALL) report (NUREG-1801)
- Standard Review Plan for License Renewal (NUREG-1800)
- Regulatory Guide 1.188, “Standard Format and Content for Applications to Renew Nuclear Power Plant Operating Licenses”, endorsing Nuclear Energy Institute (NEI) guidance NEI 95-10



Development of GALL Report

- Based on extensive NRC research results, industry technical reports, plant operating experience, and NRC staff license renewal application review experience
- Issued for public comment
- Initial 2001 version approved by the Commission
- Living document – Revision 1 issued in 2005, next update (target December 2010)

GALL Report Contents

- Catalog of generic aging management evaluations
 - Reviews aging effects
 - Identifies relevant aging management programs
 - Evaluates program attributes to manage aging effects

- Evaluation conclusion
 - Program is adequate and no further evaluation is needed, or
 - Program should be augmented or new program considered



Application of GALL Report

- GALL report is technical basis for the Standard Review Plan
- NRC staff on-site audit to verify license renewal applicant's claim of consistency with GALL report (including plant-specific operating experience)
- NRC staff review focus is on areas where existing programs should be augmented or new programs considered as recommended in GALL report

Conclusions

- GALL report is a key technical document for license renewal
 - Documents NRC expectations to ensure a stable regulatory process

- GALL report improves effectiveness and efficiency of NRC staff review
 - Applicants typically claim 80% consistency with GALL report
 - Helps focus NRC resources by not re-reviewing aging evaluations that have been found adequate generically