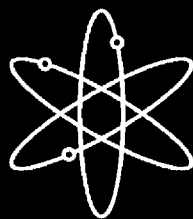


Generic Aging Lessons Learned (GALL) Report



Tabulation of Results



**U.S. Nuclear Regulatory Commission
Office of Nuclear Reactor Regulation
Washington, DC 20555-0001**



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Generic Aging Lessons Learned (GALL) Report

Tabulation of Results

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Abstract

The Generic Aging Lessons Learned (GALL) report contains the staff's generic evaluation of the existing plant programs and documents the technical basis for determining where existing programs are adequate without modification and where existing programs should be augmented for the extended period of operation. The evaluation results documented in the GALL report indicate that many of the existing programs are adequate to manage the aging effects for particular structures or components for license renewal without change. The GALL report also contains recommendations on specific areas for which existing programs should be augmented for license renewal. An applicant may reference the GALL report in a license renewal application to demonstrate that the programs at the applicant's facility correspond to those reviewed and approved in the GALL report and that no further staff review is required. The focus of the staff review is on the augmented existing programs for license renewal. The incorporation of the GALL report information into the NUREG-1800, "Standard Review Plan for Review of License Renewal Applications for Nuclear Power Plants," as directed by the Commission, should improve the efficiency of the license renewal process.

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ABBREVIATIONS

ACI	American Concrete Institute
ADS	automatic depressurization system
AFW	auxiliary feedwater
ALARA	as low as reasonably achievable
AMP	aging management program
AMR	aging management review
ANSI	American National Standards Institute
ASCE	American Society of Civil Engineers
ASME	American Society of Mechanical Engineers
ASTM	American Society for Testing and Materials
B&PV	boiler and pressure vessel
B&W	Babcock & Wilcox
BWR	boiling water reactor
BWRVIP	Boiling Water Reactor Vessel and Internals Project
CASS	cast austenitic stainless steel
CB	core barrel
CCCW	closed-cycle cooling water
CE	Combustion Engineering
CEA	control element assembly
CEDM	control element drive mechanism
CFR	Code of Federal Regulations
CFS	core flood system
CLB	current licensing basis
CRD	control rod drive
CRDM	control rod drive mechanism
CRDRL	control rod drive return line
CRGT	control rod guide tube
CVCS	chemical and volume control system
DC	direct current
DHR	decay heat removal
DSCSS	drywell and suppression chamber spray system
ECP	electrochemical potential
EDG	emergency diesel generator
EFPD	effective full power day
EPRI	Electric Power Research Institute
EQ	environmental qualification
FAC	flow-accelerated corrosion
FERC	Federal Energy Regulatory Commission
FSAR	Final Safety Analysis Report
FW	feedwater
GALL	Generic Aging Lessons Learned
GE	General Electric
GL	generic letter

ABBREVIATIONS (continued)

HELBs	high-energy line breaks
HP	high pressure
HPCI	high-pressure coolant injection
HPCS	high-pressure core spray
HPSI	high-pressure safety injection
HVAC	heating, ventilation, and air conditioning
I&C	instrumentation and control
IASCC	irradiation assisted stress corrosion cracking
IC	isolation condenser
ID	inside diameter
IEB	inspection and enforcement bulletin
IEEE	Institute of Electrical and Electronics Engineers
IGA	intergranular attack
IGSCC	intergranular stress corrosion cracking
IN	information notice
INPO	Institute of Nuclear Power Operations
IPA	integrated plant assessment
IR	insulation resistance
IRM	intermediate range monitor
ISI	inservice inspection
ITG	Issues Task Group
LER	licensee event report
LG	lower grid
LOCA	loss of coolant accident
LP	low pressure
LPCI	low-pressure coolant injection
LPCS	low-pressure core spray
LPM	loose part monitoring
LPRM	low-power range monitor
LPSI	low-pressure safety injection
LRT	leak rate test
LWR	light water reactor
MFW	main feedwater
MIC	microbiologically influenced corrosion
MS	main steam
MSR	moisture separator/reheater
MT	magnetic particle testing
NDE	nondestructive examination
NEI	Nuclear Energy Institute
NFPA	National Fire Protection Association
NPAR	nuclear plant aging research
NPS	nominal pipe size
NRC	Nuclear Regulatory Commission
NRMS	normalized root mean square

ABBREVIATIONS (continued)

NSAC	Nuclear Safety Analysis Center
NSSS	nuclear steam supply system
NUMARC	Nuclear Management and Resources Council
OCCW	open-cycle cooling water
OD	outside diameter
ODSCC	outside diameter stress corrosion cracking
OM	operation and maintenance
PT	penetrant testing
PWR	pressurized water reactor
PWSCC	primary water stress corrosion cracking
QA	quality assurance
RCCA	rod control cluster assemblies
RCIC	reactor core isolation cooling
RCP	reactor coolant pump
RCPB	reactor coolant pressure boundary
RCS	reactor coolant system
RG	Regulatory Guide
RHR	residual heat removal
RICSIL	rapid information communication services information letter
RMS	root mean square
RWC	reactor water cleanup
RWST	refueling water storage tank
RWT	refueling water tank
SAW	submerged arc weld
SC	suppression chamber
SCC	stress corrosion cracking
SDC	shutdown cooling
SFP	spent fuel pool
SG	steam generator
S/G	standards and guides
SIL	services information letter
SIT	safety injection tank
SLC	standby liquid control
SOER	significant operating experience report
SRM	source range monitor
SRM	staff requirements memorandum
SRP-LR	standard review plan for license renewal
SS	stainless steel
SSC	systems, structures, and components
TGSCC	transgranular stress corrosion cracking
TLAA	time-limited aging analysis

ABBREVIATIONS (continued)

UCS	Union of Concerned Scientists
UHS	ultimate heat sink
USI	unresolved safety issue
UT	ultrasonic testing
UV	ultraviolet

INTRODUCTION

The GALL report, Volume 2 contains 11 chapters and an appendix. The majority of the chapters contain summary descriptions and tabulations of evaluations of aging management programs for a large number of structures and components in the various major plant systems in the light-water reactor nuclear power plants. The major plant systems include the containment structures (Chapter II), structures and component supports (Chapter III), reactor vessel, internals and reactor coolant system (Chapter IV), engineered safety features (Chapter V), electrical components (Chapter VI), auxiliary systems (Chapter VII), and steam and power conversion system (Chapter VIII).

Also in Volume 2 of the GALL report, Chapter I addresses the application of the ASME Code for license renewal. Chapter IX is not used. Chapter X contains the time-limited aging analysis evaluation of aging management programs under 10 CFR 54.21(c)(1)(iii). Chapter XI contains the aging management programs for the structures and mechanical and electrical components. The Appendix of Volume 2 of the GALL report addresses quality assurance (QA) for aging management programs.

The evaluation process for the aging management programs and the application of the GALL report is described in the Summary, Volume 1, of the GALL report.

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