
Safety Evaluation Report

with Open Items Related to the License Renewal of
the R.E. Ginna Nuclear Power Plant

Docket No. 50-244

Rochester Gas and Electric Corporation

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

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ABSTRACT

This safety evaluation report (SER) documents the technical review of the R.E. Ginna Nuclear Power Plant (Ginna), license renewal application (LRA) by the U.S. Nuclear Regulatory Commission staff (staff). By letter dated July 30, 2002, Rochester Gas and Electric Corporation (RG&E or the applicant) submitted the LRA for Ginna in accordance with Title 10 of the *Code of Federal Regulations* Part 54 (10 CFR Part 54 or the Rule). RG&E is requesting renewal of the operating license for Ginna (license number DPR-18) for a period of 20 years beyond the current expiration of midnight, September 18, 2009.

The Ginna plant is located in the Town of Ontario, in the northwest corner of Wayne County, NY, on the south shore of Lake Ontario. The construction permit was issued by the NRC on April 1966, with a provisional operating license on September 19, 1969, and a full-term operating license on December 10, 1984. The Ginna unit consists of a Westinghouse pressurized-water reactor with nuclear steam supply systems designed to operate at core power levels up to 1520 megawatts-thermal, or approximately 490 megawatts-electric.

This SER presents the status of the staff's review of information submitted to the NRC through September 16, 2003, the cutoff date for consideration in the SER. The staff has identified open items that must be resolved before the staff can make a determination on the application. These items are summarized in Section 1.5 of this report. In order to close these items, the staff requires the additional information identified. The staff will present its final conclusion on its review of the Ginna application in its update to this SER.

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ABBREVIATIONS

A	ampacity
AC	alternating current
ABVS	auxiliary building ventilation system
ACI	American Concrete Institute
ACRS	Advisory Committee on Reactor Safeguards
AEC	Atomic Energy Commission
AERM	aging effect requiring management
AFW	auxiliary feedwater
AISC	American Institute of Steel Construction
AMP	aging management program
AMR	aging management review
AMSAC	ATWS mitigation system actuation circuitry
ANS	American Nuclear Society
ANSI	American National Standards Institute
AOR	abnormal occurrence report
AR	action report
ASME	American Society of Mechanical Engineers
ASTM	American Society for Testing and Materials
ATWS	anticipated transient without a scram
AVT	all-volatile treatment
BMI	bottom mounted instrument
BTP	branch technical position
B&W	Babcock and Wilcox
BWR	boiling-water reactor
C	Celsius
CAR	corrective action report
CASS	cast austenitic stainless steel
CCW	component cooling water
CDHR	container hydrogen detectors and recombiner
CD-ROM	compact disk-read only memory
CFR	<i>Code of Federal Regulations</i>
CI	confirmatory item
CIC	contaminant isolation component
CLB	current licensing basis
CMIS	Configuration Management Information System
C-RAI	clarification of request for additional information
CREATS	control room emergency air treatment system
CRD	control rod drive
CRDM	control rod drive mechanism
CS	containment spray or carbon steel
CST	condensate storage tank
CUF	cumulative usage factor
CV	check valve
CVCS	chemical and volume control system

CW	circulating water
DAM	data acquisition modules
DBD	design basis document
DC	direct current
D-RAI	draft request for additional information
ECCS	emergency core cooling system
EDG	emergency diesel generator
EDY	effective degradation years
EFPY	effective full-power year
EFWST	emergency feedwater storage tank
EPR	ethylene propylene rubber
EPRI	Electric Power Research Institute
EQ	environmental qualification
ESF	engineered safety features
ESFAS	engineered safety features actuation system
F	Fahrenheit
FAC	flow-accelerated corrosion
FCC	Federal Communications Commission
F_{en}	environmental fatigue multiplier
FERC	Federal Energy Regulatory Commission
FMP	Fatigue Monitoring Program
FP	fire protection
FRP	fiberglass reinforced plastic
FSAR	final safety analysis report
ft-pd	foot-pound
GAI	Gilbert Associates, Inc.
GALL	Generic Aging Lessons Learned (Report)
GEIS	generic environmental impact statement
GL	generic letter
GSI	generic safety issue
GTR	generic technical report
HELB	high energy line break
HEPA	high efficiency particulate air
HIC	high integrity container
HRRM	high-range radiation monitor
HSLAS	high strength low alloy steel
HTK	high temperature kerite
HVAC	heating, ventilation, and air conditioning
I&C	instrumentation and controls
IASCC	irradiation-assisted stress-corrosion cracking
ID	inner diameter

IDR	inspection discrepancy report
IEB	inspection and enforcement bulletin
IGA	intergranular attack
IGSCC	intergranular stress-corrosion cracking
IN	information notice
INPO	Institute of Nuclear Power Operations
IPA	integrated plant assessment
IR	insulation resistance
ISG	Interim staff guidance
ISI	inservice inspection
J	joule
Kip	one thousand pounds
KV	kilovolt
LBB	leak before break
LER	licensee event report
LOCA	loss-of-coolant accident
LR	license renewal
LRA	license renewal application
MeV	one million electron volts
MIC	microbiologically influenced corrosion
MRP	Materials Reliability Program
MRV	minimum required value
MSIV	main steam isolation valve
MSL	mean sea level
MT	magnetic particle test
MWe	megawatt-electric
NACE	National Association of Corrosion Engineers
NaOH	sodium hydroxide
NCR	nonconformance report
NDE	nondestructive examination
ND-QAP	Quality Assurance Program for Station Operation
NEI	Nuclear Energy Institute
NEPA	National Environmental Policy Act of 1969
NFPA	National Fire Protection Association
NIS	nuclear instrumentation system
NNS	non-nuclear safety
NPAR	nuclear plant aging research
NPS	nominal pipe size
NRC	U.S. Nuclear Regulatory Commission
NSR	non-safety-related

NSSS	nuclear steam supply system
OD	outside diameter
ODSCC	outside diameter stress-corrosion cracking
OI	open item
OPPD	Omaha Public Power District
OPT	operability test
P&ID	pipng and instrumentation diagram
PLL	predicted lower limit
PMT	post-maintenance test
PORV	power operated relief valve
ppm	parts per million
psi	pounds per square inch
PSPM	Periodic Surveillance and Preventive Maintenance Program
PT	penetrant test
P/T	pressure and temperature
PTS	pressurized thermal shock
PVC	polyvinyl chloride
PWR	pressurized-water reactor
PWSCC	primary water stress-corrosion cracking
QA	quality assurance
QAPSO	Quality Assurance Program for Station Operator
RAI	request for additional information
RCCA	rod cluster control assembly
RCP	reactor coolant pump
RCPB	reactor coolant pressure boundary
RCS	reactor coolant system
RG	regulatory guide
RG&E	Rochester Gas and Electric Corp.
RHR	residual heat removal
RPV	reactor pressure vessel
RTD	resistance temperature detector
RT _{PTS}	reference temperature for pressurized thermal shock
RT _{NDT}	reference nil ductility transition temperature
RV	reactor vessel
RVI	reactor vessel internals
RVID	Reactor Vessel Integrity Database
RWST	refueling water storage tank
Sa	stress intensity
SAFW	standby auxiliary feedwater
SBO	station blackout
SC	structure and component

SC-1	safety class 1
SC-2	safety class 2
SC-3	safety class 3
SCC	stress-corrosion cracking
SEP	Systematic Evaluation Program
SER	safety evaluation report
SFP	spent fuel pool
SFC&FS	spent fuel cooling and fuel storage
SFR	system function report
SG	steam generator
SI	safety injection
SIT	structural integrity test
SOC	Statements of Consideration
SOER	significant operating event report
SPL	steam and power conversion
SPCS	steam and power conversion systems
SPING	system-level particulate, iodine, and noble gas monitors
SRP	Standard Review Plan
SRP-LR	standard review plan—license renewal
SS	safety significant or stainless steel
SSC	structures, systems and components
SW	service water
SWSROP	Service Water System Reliability Optimization Program
TDAFW	turbine-driven auxiliary feedwater
TLAA	time-limited aging analysis
TR	topical report
TRM	technical requirements manual
TSC	technical support center
TS	technical specification
UFSAR	updated final safety analysis report
USAS	United States of America Standards
USE	upper-shelf energy
UT	ultrasonic testing
UV	ultraviolet
V	volt
VAC	volts alternating current
VT	visual test
WCAP	Westinghouse Commercial Atomic Power (report)
WOG	Westinghouse Owners Group