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 FACIL: 50-244 Robert Emmet Ginna Nuclear Plant, Unit 1, Rochester G 05000244
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 CRUTCHFIELD, D. Operating Reactors Branch 5

SUBJECT: Forwards rept comparing instrumentation listed in Rev 2 to
 Reg Guide 1.97 & instrumentation available at facility.
 Revised emergency procedures, develop to meet Suppl 1 to
 NUREG-0737 requirements, expected to be complete by Aug 1984.

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 TITLE: OR/Licensing Submittal: Suppl 1 to NUREG-0737 (Generic Ltr 82-33)

NOTES: NRR/DL/SEP 1cy.

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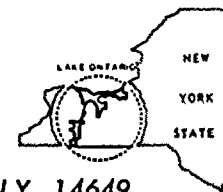
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ROCHESTER GAS AND ELECTRIC CORPORATION • 89 EAST AVENUE, ROCHESTER, N.Y. 14649

JOHN E. MAIER
Vice President

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January 31, 1984

Director of Nuclear Reactor Regulation
Attention: Mr. Dennis M. Crutchfield, Chief
Operating Reactors Branch No. 5
U.S. Nuclear Regulatory Commission
Washington, D.C. 20555

Subject: NUREG 0737, Supplement 1
R. E. Ginna Nuclear Power Plant
Docket No. 50-244

Dear Mr. Crutchfield:

Letters dated April 15, 1983 and August 3, 1983 provided RG&E's planned schedule for meeting the requirements of Supplement 1 to NUREG-0737. RG&E committed to submit a Regulatory Guide 1.97 compliance report in January 1984. The attachment to this letter is that report and provides a comparison between the instrumentation listed in the Regulatory Guide and the instrumentation available at Ginna. The attached comparison is meant to describe the instrumentation installed at Ginna. It is not necessarily meant to be a listing of the instrumentation that RG&E believes is required for response to emergency situations. The basis for requiring certain instruments or for deviating from the guidance of Regulatory Guide 1.97 will be developed, at least in part, around those parameters used in revised emergency procedures. The revised procedures are also being developed to meet the requirements of Supplement 1 to NUREG-0737, and a first draft is scheduled to be completed in August of this year. Accordingly, justification of instrumentation to be provided for preventing and mitigating accidents and a schedule for modifications to the plant, if required, will be provided in February 1985.

Very truly yours,

John Maier
John E. Maier

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ROCHESTER GAS & ELECTRIC

USNRC REG. GUIDE 1.97 REVISION 2 COMPARISON REPORT

Variable	Required Range	NRC Category	Present Ginna Status
Neutron Flux	10^{-6} to 100% power	1	Existing NIS not qualified to Category 1
Control Rod Position	Full in or not full in	3	Existing
RCS Soluble Boron Concent.	0-6000 ppm	3	Available on PASS, System Range: 50-6000 ppm
RCS Cold Leg Temperature	50-750°F	1	TW-450 and 451 are not qualified to Category 1; indication on Main Control Board is by recorder TR-410 (range 0-700°F)
RCS Hot Leg Temperature	50-750°F	1	No direct control room readout existing. Have cold leg temperature and delta T and qualified hot leg temperature to subcooling meter.
RCS Pressure	0-3000 psig	1	PT-420A feeds PR-429 (0-3000 psig) and is Category 1; PT-420 feeds PR-420 (0-3000 psig) but is not powered from Category I source.
Core Exit Temperature	200-1650°F	1	Existing 39-chromel-alumel thermocouples positioned over outlet nozzles at selected core locations. Range: 40-700°F on control board indicator, up to 1200°F on computer for all TCs and up to 2200°F on computer for 5 TCs. Future system upgrade will provide indication through entire required range. Current system not qualified to Category 1.
Coolant Level in Reactor	Core bottom to top	1	Not currently existing; system being designed
Degrees of Subcooling	200°F subcooling to 35°F superheat	2	Existing, (range: 0-100°F subcooling)

Variable	Required Range	NRC Category	Present Ginna Status
Containment Sump Narrow Range		2	Existing, Sump A: LT-2039 and LT-2044 (range: 0-30 ft.)
Containment Sump Wide Range	Bottom of containment to 600,000 gallon level	1	Existing, Sump B: LC-942(A-E) and LC-943(A-E) indication of 8, 78, 113, 180, 214 inches (214 inches = approx. 500,000 gal. which was previously justified and accepted by NRC).
Containment Pressure	10 psia to 3 times design pressure	1	Existing, PT-946 & 948 (10-200 psia)
Containment Isolation Valve Position	Closed/not closed	1	Existing, white status lights on MCB and backlighted push-buttons on CI matrix panels
Radioactivity Concentration or Radiation Level in Circulating Primary Coolant	1/2 to 100 times Tech. Spec. limit R/hr	1	Available with PASS system.
Analysis of Primary Coolant	10^{-6} to 10 Ci/gm or TID-14844 source term in coolant volume	3	Existing capability
Containment Area Radiation	1 to 10^7 R/hr	1	Existing
Radiation Exposure Rate (areas where access required to service equipment)	10^{-1} to 10^4 R/hr	2	Radiation meters provided (or will be provided) where post-accident operator access required. Ranges meet dose rate calculated using TID 14844 source term. Based on single failure considerations no access required to service equipment.
Effluent Radioactivity-Noble Gas:			
-Condenser Air Ejector Exhaust	10^{-6} to 10^5 uCi/cc	2	Existing
-Containment Purge Vent Exhaust	10^{-6} to 10^5 uCi/cc	2	Existing

Variable	Required Range	NRC Category	Present Ginna Status
-Plant Bldg. Exhaust Vent	10^{-6} to 10^3 uCi/cc	2	Existing
-Vent from S/G Safety Relief & Atmospheric Dump Valves	10^{-1} to 10^3 uCi/cc	2	Existing
Effluent Radioactivity - Particulates and Halogens. Sampling with Onsite Analysis Capability:			
-Containment Purge Vent Exhaust	10^{-3} to 10^2 uCi/cc	2	Existing
-Aux. Bldg. Vent Exhaust	10^{-3} to 10^2 uCi/cc	2	Existing
Containment Hydrogen Concentration	0-10%	1	Existing
Radiation Exposure Rate in Areas Adjacent to Containment	10^{-1} to 10^4 R/hr	2	Area monitors existing in Aux. Bldg. and Int. Bldg. (range: 10^{-4} to 10^1 R/hr)
RHR System Flow	0-110% design	2	Existing, FT-626 (0-4000 gpm)
RHR Heat Exchanger Outlet Temperature	32-350°F	2	Existing, TE-627 to computer (range: 0-310°F)
Accumulator Tank Level and Pressure	10-90% volume 0-750 psig	2	Narrow range instrument indicates ± 7 inches from normal fill level for accurate Tech. Spec. compliance; 0-800 psig pressure
Accumulator Isol. Valve Position	Closed or open	2	Existing, MOV 841 & 865 position indicated on MCB
Charging Flow	0-110% design	2	Existing, FT-128 (0-75 gpm, the maximum flow anticipated in normal operations)

Variable	Required Range	NRC Category	Present Ginna Status
SI Flow	0-110% design	2	Existing FT-924 & 925 (0-1000 gpm)
RWST Level	Top to bottom	2	Existing, LT-920 & 921 (0-100%)
Reactor Coolant Pump Status	Electric current	3	Ammeter existing at 4KV Bus (0-1200A)
Primary System Safety Relief Valve Positions (PORV's & Code Safeties)	Closed/not closed	2	Existing
Pressurizer Level	Bottom to top	1	Existing
Pressurizer Heater Status	Electric current	2	For control group of heaters, ammeter existing in Aux. Bldg. No ammeter for backup group, but have breaker position for both control and backup groups in Control Room.
Quench Tank Level	Top to bottom	3	Existing, LT-442 (0-100%)
Quench Tank Temp.	50-750°F	3	Existing, TE-439 (0-300°F)
Quench Tank Pressure	0 to design pressure	3	Existing, PT-440 (0-150 psig)
S/G Level	Tubesheet to separators	1	Existing, LT-460 & 470 input to LR-460 on MCB (0-518" H ₂ O)
S/G Pressure	From atmospheric press. to 20% above lowest safety valve setting (1300 psig)	2	Existing, PT-468, 469, 478, 479 (range: 0-1400 psig)
Safety/Relief Valve Positions or Main Steam Flow	Closed/not closed	2	Existing, main steam flow FT-464, 465, 474, 475 (range: 0-3.8 x 10 ⁶ pph). Safety/relief valve positions only during high radiation in secondary sys.

Variable	Required Range	NRC Category	Present Ginna Status
Main Feedwater Flow	0-110% design	3	Existing, FT-466, 467, 476, 477 (range: 0-3.8 x 10 ⁶ pph)
Aux. Feedwater Flow	0-110% design flow	2	Existing
Condensate Storage Tank	Plant Specific	1	CST Transmitters LT-2022A and LT-2022B are qualified; read 0-24 ft.
Containment Spray Flow	0-110% design flow	2	Existing NaOH flow, FT 930 and tank level, LT 931. No total spray flow.
CV Fan Heat Removal	Plant Specific	2	CV fan 1A, 1B, 1C, 1D on/off status at MCB, plenum exhaust temp.
CV Atmosphere Temp.	40-400°F	2	24 CV RTD's go to Leak Rate Test Panel; range - 40-130°F Also, RTD's in plenum exhaust read 0-600°F
CV Sump Water Temp	50-250°F	2	Not existing
Makeup Flow (Charging)	0-110% design	2	FT-128 (0-75 gpm, the maximum flow anticipated during normal operation)
Letdown Flow	0-110% design	2	FT-134 (0-100 gpm)
Volume Control Tank Level	top to bottom	2	LT-112 (0-100%)
Component Cooling Water Temp. to ESF	32-200°F	2	TE-621 from CCW Hx goes to computer (50-200°F)
High Level Radioactive Tank Level	top to bottom	3	L1001 (0-100%)
Radioactive Gas Holdup Tank Pressure	0 to 150% design	3	P1036, 1037, 1038, 1039 (0-150 psig) design pressure 150 psig, normal operation 100-110 psig.
Emergency Vent Damper Position	Open/close status	2	Existing for containment vent on MCB

Variable	Required Range	NRC Category	Present Ginna Status
Status of Standby Power and Other Energy Sources Important to Safety (hydraulic, pneumatic): -480 V Bus	Voltage, current pressure	2	Existing diesel voltmeters & ammeters on MCB
-Instrument Bus			Existing voltmeters on panels in control room; ammeters on inverters in battery rooms for bus 1A & 1C
-125 VDC Bus			Existing voltmeters and ammeters in Control Room
Radiation Exposure Meters (continuous indication at fixed locations)	Range, location, and qualification criteria to be developed to satisfy NUREG-0654, Section II.H.5b and 6b requirements for emergency radiological monitors	2	Existing procedures and equipment are used to initiate emergency measures in accordance with Appendix I and II.H.5b and 6b of NUREG 0654 and NRC approved plant Technical Specifications for compliance with 10 CFR 50 Appendix I.
Airborne Radio-halogens and Particulates (portable sampling with onsite analysis capability)	10^{-9} to 10^{-3} uCi/cc	3	Existing
Plant and Environs Radiation (portable instrumentation)	10^{-3} to 10^4 R/hr, photon 10^{-5} to 10^4 rads/hr, beta radiations and low energy photons	3	Existing

Variable	Required Range	NRC Category	Present Ginna Status
Plant and Environs Radioactivity (portable instrumentation)	Multichannel gamma ray spectrometer	3	Existing
Wind Direction	0-360°	3	Existing
Wind Speed	0-67 mph	3	Existing at 33, 150, 250 ft. elevations (range: 0-100 mph)
Estimation of Atmospheric Stability	Based on vertical temperatures differences	3	Existing, 2 RTD's at 33, 150, 250 ft. elevations; delta T between each elevation
Primary Coolant and Sump:	Grab Sample	3	Available with PASS system
-Gross Activity	10 ⁻⁶ to 10 Ci/cc		
-Gamma Spectrum	Isotopic Analysis		Existing
-Boron Content	0-6000 ppm		(50-6000 ppm) with PASS
-Chloride Content	0-20 ppm		5 ppb - 100 ppm lab analysis
-Dissolved Hydrogen	0-2000 cc(STP)/Kg		(10-2000 cc/Kg) with PASS
-Dissolved Oxygen	0-20 ppm		(0.1 - 20 ppm) with PASS
-pH	1-13		1-13 with PASS
Containment Air:	Grab Sample	3	Available with PASS
-Hydrogen Content	0-10%		Available with H ₂ monitors and PASS
-Oxygen Content	0-30%		0-30% with PASS
-Gamma Spectrum	Isotopic Analysis		Existing

