CATEGORY 1

REGULATORY INFORMATION DISTRIBUTION SYSTEM (RIDS)

ACCESSION NBR:9805150069 DOC.DATE: 98/05/08 NOTARIZED: YES DOCKET #
FACIL:50-244 Robert Emmet Ginna Nuclear Plant, Unit 1, Rochester G 05000244
AUTH.NAME AUTHOR AFFILIATION
MECREDY,R.C. Rochester Gas & Electric Corp.
RECIP.NAME RECIPIENT AFFILIATION
VISSING,G.S.

SUBJECT: Provides response to request for addl info on cooling aspects of spent fuel pool storage rack mod at plant.

DISTRIBUTION CODE: A001D COPIES RECEIVED:LTR 1 ENCL 1 SIZE: 5
TITLE: OR Submittal: General Distribution

NOTES:License Exp date in accordance with 10CFR2,2.109(9/19/72). 05000244

	RECIPIENT ID CODE/NAME	COPIES LTTR	COPIES ENCL	RECIPIENT ID CODE/NAME	COPIES LTTR	COPIES ENCL
	PD1-1 LA	1	1	PD1-1 PD	1	1
	VISSING,G.	1	1			
INTERNAL:	FILE CENTER 01	1	1	NRR/DE/ECGB/A	1	1
	NRR/DE/EMCB	1	1	NRR/DRCH/HICB	1	1
	NRR/DSSA/SPLB	1	1	NRR/DSSA/SRXB	1	1
	NUDOCS-ABSTRACT	1	1	OGC/HDS3	1	0
EXTERNAL:	NOAC	1	1	NRC PDR	1	1

CATEGORY 1 DOCUMENT

NOTE TO ALL "RIDS" RECIPIENTS:
PLEASE HELP US TO REDUCE WASTE. TO HAVE YOUR NAME OR ORGANIZATION REMOVED FROM DISTRIBUTION LISTS OR REDUCE THE NUMBER OF COPIES RECEIVED BY YOU OR YOUR ORGANIZATION, CONTACT THE DOCUMENT CONTROL DESK (DCD) ON EXTENSION 415-2083

TOTAL NUMBER OF COPIES REQUIRED: LTTR 13 ENCL 12

ROCHESTER GAS AND ELECTRIC CORPORATION • 89 EAST AVENUE, ROCHESTER, N.Y. 14649-0001 AREA CODE 716 546-2700

ROBERT C. MECREDY
Vice President
Nuclear Operations

May 8, 1998

U.S. Nuclear Regulatory Commission
Document Control desk
Attn: Guy S. Vissing
Project Directorate I-1
Washington, D.C. 20555

Subject: Response to Request for Additional Information (RAI) on the Cooling Aspects of the Spent Fuel Pool Storage Rack Modification (TAC No. M95759)
R. E. Ginna Nuclear Power Plant
Docket No. 50-244

Ref. (1): Letter from Guy S. Vissing (NRC) to Robert C. Mecredy (RG&E), SUBJECT: REQUEST FOR ADDITIONAL INFORMATION ON THE COOLING ASPECTS OF THE SPENT FUEL POOL STORAGE RACK MODIFICATION AT R. E. GINNA NUCLEAR POWER PLANT (TAC NO. M95759), dated February, 3, 1998

Dear Mr. Vissing:

By Reference 1, the NRC staff requested additional information regarding the Cooling Aspects of the Spent Fuel Pool Storage Rack Modification at the R. E. Ginna Nuclear Power Plant. Attachment 1 of this letter provides the requested information.

Very truly yours,

Robert C. Mecredy

Attachment

Subscribed and sworn to before me
on this 8th day of May, 1998

Marie C. Villeneuve

Notary Public

140106

MARIE C. VILLENEUVE
Notary Public, State of New York
Monroe County
Commission Expires October 31, 1998

A001 1/1

xc: Mr. Guy S. Vissing (Mail Stop 14B2)
Project Directorate I-1
Division of Reactor Projects – I/II
Office of Nuclear Reactor Regulation
U.S. Nuclear Regulatory Commission
Washington, D.C. 20555

Regional Administrator, Region I
U.S. Nuclear Regulatory Commission
475 Allendale Road
King of Prussia, PA 19406

U.S. NRC Ginna Senior Resident Inspector

Mr. Paul D. Eddy
State of New York
Department of Public Service
3 Empire State Plaza, Tenth Floor
Albany, NY 12223-1350

Mr. F. William Valentino, President
New York State Energy, Research, and
Development Authority
Corporate Plaza West
286 Washington Ave. Extension
Albany, NY 12203-6399

Attachment 1

Response to Request for Additional Information on the Cooling Aspects of the Spent Fuel Pool Storage Rack Modification at R. E. Ginna Nuclear Power Plant

NRC Question:

1.0 What are the design Seismic Categories for the spent fuel pool (SFP) cooling system Loops 1 and 2?

Response:

As discussed in the resolution of SEP Topic IX-1, "Spent Fuel Pool Cooling", letter dated June 9, 1981, the seismic classification of the spent fuel pool cooling systems is as follows:

Spent Fuel Pool Cooling system loop 1 at Ginna Station (original plant design) is not designed to be a seismic system on the spent fuel pool cooling side (it is Seismic Category 1 in terms of Service Water System pressure boundary). It is designed such that any potential failures would not result in decreasing the SFP level below the top of stored fuel assemblies. The Spent Fuel Pool Cooling system loop 2 is a complete 100% capacity system, which is Seismic Category 1. This system utilizes portions of the existing system piping, which were evaluated and re-supported as necessary to upgrade them to Seismic Category 1.

The Seismic Category 1 spent fuel pool cooling system is a one train system, i.e., one pump and one heat exchanger. The original (non-seismic) system serves as an installed backup for all situations except a full-core discharge. In addition to the original system there is a skid mounted heat exchanger capable of removing the decay heat associated with a normal refueling discharge and portable pump capable of replacing the existing spent fuel pool cooling system pump. The portable system is connected with flexible hoses. This system (loop 3) is also not Seismic Category 1. Together, loops 1 and 3 are a fully redundant system in terms of heat removal capacity to loop 2.

NRC Question:

2.0 *The SFP cooling system Loop 2 is designed to operate at Lake Ontario temperature of 80°F to maintain the SFP water temperature at or below 150°F with a SFP heat load of 16.0×10^6 BTU/hr during a planned or unplanned full core off-load. Loops 1 and 3 are each designed to remove 7.93×10^6 BTU/hr with a pool temperature of 150°F and Lake Ontario water temperature of 80°F. Discuss how Loops 1 and 3 can provide 100% backup cooling to Loop 2 during a planned or unplanned full core off-load.*

Response:

Reference: Letter, Maier (RG&E) to Crutchfield (NRC), dated June 9, 1981, re: Spent Fuel Pool Cooling System; SEP Topic IX-1.

The quoted Loop 1 and 3 heat removal capability of 7.93 MBTU/hr is based on an environmental criterion that the intake to discharge temperature increase not exceed 20°F. This is an artificial limit since it incorrectly assumes no other service water is available to reduce the overall intake to discharge temperature rise by dilution. Ultimately, any concern regarding the ability to cool the SFP would take precedence over this environmental limit.

According to information in Enclosure 2 of the reference above, the true capability of Loops 1 and 3 is 9.3 MBTU/hr each when the SFP cooling water temperature is 150°F, the service water temperature is 80°F, and no limit is placed on the service water discharge temperature. In this case, the combined heat removal of Loop 1 and Loop 3 exceeds the requirement of 16.0 MBTU/hr.

A thermal performance test of the Loop 1 heat exchanger has been performed. Results of the test have been used to verify that Loop 1 would be capable of removing 9.3 MBTU/hr at the design spent fuel pool temperature of 150°F with 80°F service water.

NRC Question:

3.0 *In the event of a full core off-load, Loop 2 will be operated alone with Loop 1 and 3 available for backup cooling. GINNA stated that to ensure 100% cooling system backup prior to a full core off-load, the skid-mounted loop is placed in position, hoses connected, and leak checked, to operate in parallel with Loop 1. Have these requirements been included in the plant operating procedures or TRM?*

Response:

As stated in the November 11, 1997 letter, the requirements for 100% backup will be placed into the TRM and the plant operating procedures. This change will occur prior to the next full core off-load with the new racks installed.

NRC Question:

4.0 In the November 11, 1997 submittal, GINNA stated that the TRM will be modified to ensure 100% backup for all SFP cooling scenarios along with the Lake Ontario water temperature, in-reactor decay time, and associated SFP heat loads. However, GINNA only performed analyses to demonstrate the SFP heat loads with various core shutdown times and their corresponding SFP cooling system Loop 2 (primary loop) heat removal capability for three lake temperature, 40 °F, 60°F, and 80 °F. If the lake temperature is in between the above temperatures (i.e. 55 °F), discuss the provisions established in the TRM to require which core decay time, the one corresponding to the higher lake temperature (i.e. 60 °F) or a core decay time based on a new calculation for the lake temperature of 55 °F.

Response:

The expected interpretation for this section of the TRM would be to chose the most conservative lake temperature (i.e. the next higher one) for the applicable scenario. Since the TRM can be enhanced under 10CFR50.59 RG&E reserves the right to modify the table (i.e. to run a new case) should the need arise.