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FERGUSON,R.L. ***PLANT SYSTEMS BRANCH

SUBJECT: Proposed fire protection as presented in SER,adequately assures health & safety of public.Exception re valve Supervision & cable protection must be evaluated by NRC.Fire protection milestones & documents are discussed.

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Department of Nuclear Energy
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December 19, 1978

Division of Operating Reactors
U.S. Nuclear Regulatory Commission
Washington, D.C. 20555

Attention: Mr. Robert L. Ferguson
Plant Systems Branch

Dear Bob:

Subject: Fire Protection in Operating Nuclear Power Stations
Robert E. Ginna Unit 1 Safety Evaluation Report Review

The Safety Evaluation Report, as developed jointly by the NRC staff and Brookhaven National Laboratory, (BNL), adequately reflects the concerns and recommendations of the consultants. Throughout the reevaluation of Ginna - 1, there has been general agreement between the NRC staff and the BNL consultants. Based on present data, the proposed fire protection, as set forth in the SER, will give reasonable assurance that the health and safety of the public is not endangered. The following exception represents a differing engineering point of view that should be evaluated by the NRC staff.

Valve Supervision

SER item 4.3.1.3 indicates that electrical supervision is provided for valves controlling waterflow into sprinkler systems, but that sectional valves on the interior loop fire main and valves controlling fire pump discharge are only locked open. Electrical valve supervision should be provided on all valves controlling fire water systems and sectionalizing valves. The present proposal of incorporating administrative controls and locks is unacceptable. See letter dated July 13, 1977 to Mr. R.L. Ferguson from Mr. R.E. Hall.

Cable Protection

SER item 5.5.6 indicates that the licensee will install manually actuated water spray systems to protect grouped cables in the northern part of elevation 253' of the intermediate building. By providing several water spray systems, the licensee apparently intends to provide the capability to suppress a fire in a section of the grouped cables here without discharging an excessive amount of water in the room.

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Unless there is a detection system arranged to indicate the portion of the cables at which the fire is located, a person will have to enter the area to determine which suppression system to actuate. An established fire in this area is likely to be very smoky, which will make it difficult to visually find the seat of the fire. Having then to choose at random from several systems, each protecting a different portion of the cables, the wrong system might be turned on. Quite possibly all systems would be turned on, since this would be a sure way of actuating the correct system. Manually actuated systems might not be turned on soon enough to be of value. Automatically actuated systems would discharge water as soon as needed and only where necessary.

In addition, the SER should make it clear that the grouped cables referred to in this section include those in conduit as well as in tray. The reason for this is to make sure that the conduits containing the two main steam pressure transmitters (where separation is now inadequate) are covered in the water spray system.

The preceding statements are based on a detailed reevaluation of the fire protection program as implemented by the Rochester Gas and Electric Corporation at the Ginna-1 Nuclear Power Station. The analysis covered a review of the fire prevention, detection and suppression capabilities of the Ginna-1 unit as interfaced with the nuclear systems requirements. This was accomplished by utilizing a review team concept with members from Brookhaven National Laboratory (BNL) and the Nuclear Regulatory Commission Division of Operating Reactors staff.

The fire protection evaluation for the Ginna-1 Plant is based on an analysis of documents submitted by the Rochester Gas and Electric Corporation to the Nuclear Regulatory Commission and a site visit. The site visit was conducted by Mr. T. Lee and Mr. M. Virgillio of the NRC; Mr. E. MacDougall of BNL; Mr. J. Klevan of Rolf Jensen and Associates, Inc., under contract to Brookhaven National Laboratory; and Mr. J. Townley consultant to BNL. Mr. Townley was under contract to BNL to review the manual fire fighting capabilities of the station along with administrative controls.

Milestone Dates

1. On February 24, 1977, Rochester Gas and Electric Corporation provided a fire hazards analysis submittal responding to NRC requests of May 11 and September 28, 1976. This was received at NRC on March 2, 1977.

2. By letter of May 3, 1978, Rochester Gas and Electric Corporation was provided with NRC requests for additional information and staff positions pertaining to fire protection at the Robert E. Ginna, Unit 1 facility.

3. On June 9, 1978, Rochester Gas and Electric Corporation provided a submittal responding to NRC requests for additional information and staff positions of May 3, 1978.

4. On June 27-30, 1978, the DOR fire protection review team visited the Robert E. Ginna, Unit 1 facility.

5. On June 30, 1978 during the meeting at the plant, the review team identified additional staff positions and requested Rochester Gas and Electric Corporation to indicate their commitment to these positions.

6. By letter of September 1, 1978, Rochester Gas and Electric Corporation agreed to adopt a number of the staff positions.

7. By letter of September 1, 1978, Rochester Gas and Electric Corporation agreed to adopt many more staff positions and provided a detailed information pertaining to the pressure wall protecting the control room from the hazards in the turbine building.

8. On October 18, 1978, Rochester Gas and Electric Corporation submitted the design details of the fire doors separating the control room and the relay room from the turbine building.

9. On December 6, 1978, the draft Safety Evaluation Report was transmitted from Plant Systems Branch to the Acting Assistant Director for Systems and Projects.

Review Documents

The following documents were used in the Robert E. Ginna Nuclear Power Plant, Unit 1 Fire Protection Reevaluation:

1. NRC Branch Technical Position APCSB 9.5-1, Appendix A, dated August 23, 1976.

2. Robert E. Ginna Nuclear Power Plant, Unit 1, Fire Protection Evaluation, dated February 24, 1977.

3. Rochester Gas and Electric Corporation responses of June 9, September 1, September 22, and October 18, 1978, to NRC positions and requests for additional information.

4. Various engineering drawings provided by Rochester Gas and Electric Corporation.

5. December 6, 1978 draft Safety Evaluation Report.

The Ginna Unit 1 review has been conducted under the direction of Mr. E.A. MacDougall and myself of Reactor Engineering Analysis Group at BNL.

We have reviewed the analyses submitted by the licensee and have visited the facility to examine the relationship of safety-related components, systems and structures with both combustibles and the associated fire detection and suppression systems. Our review has been limited to the aspects of fire protection related to the protection of the public from the standpoint of radiological health and safety. We have not considered aspects of fire protection associated with life safety of onsite personnel and with property

protection, unless they impact the health and safety of the public due to the release of radioactive material. The proposed modifications represent a significant increase in the level of protection against serious fire associated hazards.

Respectfully yours,

Robert E. Hall

Robert E. Hall, Group Leader
Reactor Engineering Analysis

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