REGULATORY FORMATION DISTRIBUTION SYSTEM (RIDS)

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

SUBJECT: Forwards addl info re containment purging/venting,per NRC 811215 request,No vital equipment located in exhaust portion of purge sys in intermediate bldg upper level east end.

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NOTES:NRR/DL/SEP 1cy. 05000244

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JOHN E. MAIER
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February 4, 1983

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: Containment Purging/Venting During Normal Plant Operation
R. E. Ginna Nuclear Power Plant
Docket No. 50-244

Dear Mr. Crutchfield:

In your letter dated December 15, 1981 you identified additional information which was necessary to complete the long-term review of the containment purging/venting issue. The attachment to this letter contains the requested information.

Very truly yours,

John E. Maier

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Additional Information
for
Containment Purge/Venting Review

Request: Provide a discussion of the acceptability of the provisions made to protect structures and related equipment (e.g., fan, filters, ductwork, etc.) located beyond the purge system isolation valves against loss of function from the environment created by escaping air and steam.

Response: The exhaust portion of the purge system is located in the Intermediate Building upper level east end (centerline of valve is at elevation 310'). An evaluation of the area shows that there is no vital equipment in this area. Therefore, if the ductwork should separate at the elbow immediately downstream of the valve due to the escaping air and steam, no equipment would be damaged that is necessary to place the plant in hot shutdown or cold shutdown.

The supply portion of the purge system is located in the Intermediate Building basement, south end. The floor elevation is 253'6". The only vital equipment in this area is electrical cable associated with steam generator blowdown. If the ductwork should separate at the elbow immediately upstream of the purge valve, this is the only vital equipment that could possibly be affected. Since the system contains manual isolation valves and these are not in the vicinity of the purge supply valves, the plant can be placed in hot or cold shutdown without the cable to these valves.

The environment in the Intermediate Building created by the escaping air and steam would not be severe enough to cause equipment in the building to fail. If an adverse condition did develop inside containment while the purge valves were open, an isolation signal would be generated and BTP CSB 6-4 requires the purge system isolation valve closure time, including instrumentation delays, should not exceed five seconds. Since the purge valves are specified to close in 2 seconds with no flow, and close faster with flow, this requirement can be met. Therefore, the escaping air and steam would only last for a few seconds, not long enough to create a severe environment in the Intermediate Building.

Request: Provide information concerning provisions made to ensure that isolation valve closure will not be prevented by debris which could potentially become entrained in the escaping air and steam.

Response: Both purge valve inlets inside containment are located approximately 17 feet above the nearest floor elevation. This would require any large debris to be lifted vertically a significant distance to enter the valve inlet. Small debris would be retained by a 1/2" mesh screen across the inlet ductwork for the supply valve. The exhaust valve inside containment is covered by an exhaust hood which is connected to the ductwork and open at the bottom. Across the ductwork to the hood connection is a 1/2" mesh screen. The bottom portion of the hood is a few feet above an open grating walkway. The screen and open grating give a high degree of confidence that no debris would reach the valves.

Request: RG&E valve operability analysis report is scheduled to be to the NRC by December 31, 1981.

Response: The valve operability report which was previously scheduled for submittal by December 31, 1981 was based on a plan to qualify the existing valves and install new qualified operators. It is now our intent to install new, seismically and environmentally qualified, valve/operator assemblies with an improved disc sealing design. The installation of these valves is currently scheduled for the Spring 1985 refueling outage. This schedule will be contingent upon final selection of a supplier and resultant delivery lead times.

We believe that this schedule is acceptable for the following reasons. First, the actual time that the purge valves are open while the plant is critical or in operation, as defined in the Ginna Technical Specifications, is very small. For example, during calendar year 1982, the valves were never open while the plant was critical or in operation. Second, even if the valves were open when a postulated loss of coolant accident were to occur, analysis has shown that the valves will close to isolate containment, based on the limited opening permitted by the travel stops. Third, the solenoid valves for the purge valve operators are fully environmentally qualified for the post accident environment. Thus, there is no chance of valve reopening due to lack of environmental qualification. Finally, the presence of internal hydrogen recombiners precludes the necessity of purge system operation following a postulated accident. Thus, the Spring 1985 replacement schedule is acceptable.

Request: We request that you propose Technical Specification changes incorporating the test requirements set forth in Enclosure 1 together with the details of your proposed test program. If the results of current and past surveillance and operating experience are believed to demonstrate leak tightness of those valves, provide this information as justification for not modifying the surveillance requirements.

Response: Current Technical Specifications at Ginna require leak testing of the containment purge valves. This requirement is contained in specification 4.4.2.4.d. It appears that this specification meets the intent of the request.

Request: The Technical Specifications necessary to complete the purge and vent part of Item II.E.4.2 of NUREG-0737 are not finalized, a recently-developed sample Technical Specification is provided for your consideration as Enclosure 4. We request that you review existing Technical Specifications (TS) against the sample provided herein. For any areas in which your existing TS needs expansion, you are requested to provide a TS change request.

Response: The sample TS address the required plant response to an inoperable purge valve where a valve is defined as inoperable if it fails the leak criterion or time response. The sample TS also present frequencies for demonstrating operability and seal replacement.

The Ginna Technical Specifications address the required plant response to an unacceptable leakage in specifications 4.4.2.2, 4.4.2.3.a, 4.4.2.3.b, and 4.4.2.4.d. TS 4.4.5.1 addresses time response testing based on the frequency specified in 4.4.2.4.d. The testing frequency is based upon valve use versus calendar time as stated in the sample TS. Since seal leakage is most likely to occur after valve operation and since Ginna operates for long durations at power without frequent shutdown, the current testing frequency is acceptable.

The Ginna Technical Specifications do not require periodic seal replacement. Requirements already exist for seal leakage. Seal deterioration would result in seal leakage which is already adequately addressed.

A review of the sample Technical Specifications and Ginna Technical Specifications indicate that the intent of the sample Technical Specification has already been incorporated into the Ginna Technical Specifications. Therefore, no Technical Specification changes will be proposed.

Request: The licensee should commit to limiting the use of the Purge/Vent System to a specified annual time commensurate with plant operational safety needs.

Response: The NRC letter dated November 28, 1978 requested a commitment to limit purging to 90 hours per year. RG&E letter dated January 2, 1979 committed to limit purging to 90 hours per year while the reactor is critical or operating as defined in the R. E. Ginna Technical Specification. Your letter dated October 23, 1979 requested purging be limited to an absolute minimum, not to exceed 90 hours per year. RG&E letter dated December 14, 1979 reconfirmed our commitment of January 2, 1979 to limit purging to 90 hours per year. On May 28, 1980, a telephone conversation was held between RG&E and members of the Staff. RG&E was told to commit to limit purging to as low as reasonably achievable and only for safety-related purposes or a show cause order would be issued. If RG&E agreed to this position, RG&E need not abide by the 90 hour per year criteria. However, the new position would apply when the reactor is above 200°F and purging must be justified such that it can be inspected by I&E. As a result of this conversation, RG&E letter dated May 28, 1980 was issued. This letter states the current commitment on containment purging and removes the 90 hour per year limit.

Initially, the NRC required purging to be limited to a specified annual time. RG&E committed to this. The Staff then decided the limit should be based on as low as reasonably achievable. RG&E committed to this. Now it appears the Staff would like RG&E to commit again to a specified annual time. To resolve this issue, we restate and revise our commitment as follows: Purging will be limited while the reactor is critical or operating as defined in the Ginna Technical Specifications to as low as reasonably achievable and only for safety-related reasons. Should the total time of purging while the reactor is critical or operational as defined in the Ginna Technical Specifications during a calendar year exceed 90 hours, then the NRC will be informed of this fact along with the actions planned to minimize purging.

As part of the response to TMI item II.E.4.2, RG&E issued a letter dated December 30, 1980 which addressed the 6" containment depressurization valves. These valves are not used for containment purge and vent operations but are used periodically to equalize pressure between inside and outside of containment. This letter stated that all practical efforts would be made to limit depressurization times to 90 hours per year while critical. Should this goal be exceeded, the Staff would be informed and provided with a summary of the reasons for exceeding the 90 hour goal.