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|--|-----------------|-------|------|-----------------|------|------|---|
| SUBJECT: Forwards WCAP=9663, "Metallurgical Investigation of Cracks<br>in Pressurizer Nozzle=to=Safe=End Weld of Robert Emmett<br>Ginna Nuclear Power Generating Station."   |                 |       |      |                 |      |      |   |
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LEON D. WHITE, JR. VICE PRESIDENT TELEPHONE AREA CODE 716 546-2700

May 28, 1980

Director of Nuclear Reactor Regulation Attention: Mr. Dennis M. Crutchfield, Chief Operating Reactors Branch #5 U. S. Nuclear Regulatory Commission Washington, DC 20555

Subject: LER 79-023 Abnormal Degradation of Reactor Coolant Pressure Boundary - Pressurizer PORV Relief Nozzle Indications Metallurgical Investigation R. E. Ginna Nuclear Power Plant #1 Docket No. 50-244

Dear Mr. Crutchfield:

Enclosed are five (5) copies of the final report on the "Metallurgical Investigation of Cracks in the Pressurizer Nozzle-to-Safe-End Weld of the Robert Emmett Ginna Nuclear Power Generating Station", WCAP 9663. This report documents the results of the metallurgical investigation of the cracks which were reported to NRC December 10, 1979 and by LER 79-023 on December 21, 1979.

In summary, these cracks found on the pressurizer nozzleto-safe-end weld were caused by super solidus cracking or "hot cracking" during original fabrication as the molten weld metal cooled to the solid state. Inadequate delta ferrite content of the stainless steel weld metal local to the weld interface and a geometric discontinuity at the nozzle carbon steel/weld metal interface were the main contributors to the cracking process. This cracking is exclusive to the particular local area on the weld and is not considered generic.

Very truly yours,

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L. D. White, Jr.

Enclosures

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