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AUTH.NAME AUTHOR AFFILIATION
WHITE,L.D. Rochester Gas & Electric Corp.
RECIP.NAME RECIPIENT AFFILIATION
DENTON,H.R. Office of Nuclear Reactor Regulation
ZIEMANN,D.L. Operating Reactors Branch 2

SUBJECT: Responds to NRC 791109 request for confirmation of vendor info,supplied at 791101 meeting.Peak clad temps for Westinghouse & Exxon Fuel remain below 2200 F,meeting regulatory limits.

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LEON D. WHITE, JR.
VICE PRESIDENT

TELEPHONE
AREA CODE 716 546-2700

January 10, 1980

Director of Nuclear Reactor Regulation
ATTN: Mr. Dennis L. Ziemann, Chief
Operating Reactors Branch No. 2
U. S. Nuclear Regulatory Commission
Washington, D. C. 20555

Subject: ECCS Model
R. E. Ginna Nuclear Power Plant, Unit No. 1
Docket No. 50-244

Dear Mr. Ziemann:

On November 1, 1979 the NRC met with representatives of the NSSS vendors and fuel suppliers to discuss those portions of their ECCS evaluation models dealing with fuel clad swelling and the incidence of rupture. By letter dated November 9, 1979, Mr. Darrell Eisenhut, Acting Director, Division of Operating Reactors, sent letters to all operating reactors requesting that each confirm, within 60 days of the date of the letter, the information supplied by the vendors indicating that there is no significant safety concern for their reactors.

Despite the fact that we did not receive your letter until December 7, 1979, we have reviewed our analyses with our fuel suppliers, Westinghouse Electric Corporation and Exxon Nuclear Company, and are able to confirm at this time that the peak clad temperatures for both the Westinghouse and Exxon fuel remain below the limits of 10 CFR Section 50.46, 2200°F for the Ginna Nuclear Power Plant.

Our current fuel supplier, Exxon Nuclear Company, has recalculated the peak clad temperature for the limiting break, a double ended cold leg guillotine break with CD = 0.4 while employing the NRC model for clad swelling and rupture. The result is a peak clad temperature of 1968°F. This may be compared with the previous value of 1967°F as reported by Exxon in their report XN-NF-78-30. Thus, fuel clad swelling and the incidence of rupture has only a very small impact on peak clad temperatures for the Exxon fuel.

We now have 49 Westinghouse fuel assemblies in the Ginna reactor. The burning of these fuel assemblies is at least 21000 MWD/MTU. Following our spring refueling outage we will have 13 partially depleted Westinghouse

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assemblies. If our application which was submitted on December 20, 1979 to the NRC is approved, four fresh Westinghouse fuel assemblies will be loaded in the reactor. Despite the fact that a limited number of Westinghouse fuel assemblies are and will be in the reactor, Westinghouse has evaluated the impact of clad swelling and fuel rod rupture on the peak clad temperature. Their sensitivity analysis was based on the most recent evaluation for Westinghouse fuel which was submitted to the NRC by our letter dated February 2, 1979. That analysis yielded a peak clad temperature, at a non-ruptured node, of 2057°F. The peak temperature in the burst region was 1937°F. The evaluation also included the interim penalty of 15°F for explicitly modeling upper plenum injection. By taking credit for the margin that currently exists to the 2200°F limit and for the benefits accruing from improved analytical and modeling techniques in the reactor coolant system blowdown calculation (SATAN computer code), it was shown that margin still exists to the 2200°F limit at the licensed F_q of 2.32 following application of penalties appropriate for Ginna from clad swelling and fuel rod rupture. The margin, in terms of F_q, is approximately 0.08, or about 80°F. Thus, regulatory limits continue to be met.

Very truly yours,

L D White, Jr.

L. D. White, Jr.