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CRUTCHFIELD,D. Operating Reactors Branch 5

SUBJECT: Forwards comments on SEP Topics XV-2,XV-12,XV-16,XV-17 & XV-20 re radiological consequences of accidents,in response to 810924 ltr.Topic assessments should be revised to include addl details concerning calculations.

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November 4, 1981

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: SEP Topics XV-2, XV-12, XV-16, XV-17, XV-20; Radiological Consequences of Accidents R.E. Ginna Nuclear Power Plant Docket No. 50-244

Dear Mr. Crutchfield:

This letter is in response to the NRC draft assessment of the radiological consequences of accidents, transmitted by your letter dated September 24, 1981. The NRC assessment concluded that doses from all accidents met the criteria of 10 CFR Part 100 and the additional guidance of the NRC Standard Review Plan. Iodine spiking was assumed in the analyses and your letter requested that we modify our plant Technical Specifications to incorporate provisions to ensure that these iodine spike assumptions would not be exceeded. We agree to propose such limits and suggest that the Technical Specification changes be included with other changes resulting from the SEP Integrated Assessments. We believe this schedule to be acceptable for several reasons. First, the Integrated Assessment will be beginning soon for Ginna. Also, Ginna coolant activity has in general, remained well below Technical Specification limits. For example, coolant activity during the current fuel cycle has been less than 10% of the Technical Specification limits.

We believe that the Topic Assessments should be revised to include additional details concerning the calculations. General comments concerning all Assessments and specific comments concerning each assessment are provided in the Attachment to this letter.

Very truly yours,

John E Maier

J. E. Maier

attachment

A035
s/1

Attachment

Radiological Consequences of Accidents

General

1. Although assumptions used in the analyses are presented, no details concerning the methods of calculation of release rates or doses are not presented. Details regarding computer codes, etc. should be provided.

2. Thyroid and whole body doses for both the exclusion area boundary and the low population should be explicitly stated in every case. This has not been done.

3. In each topic list of assumptions, the statement is made that there is "no additional fuel melting". Since there is no fuel melting prior to the postulated accidents, the assumption should more properly be stated as "no fuel melting."

4. Details concerning fuel rod fission product activity should be provided. A listing of isotopic activities plus a basis for the listing would be adequate.

5. The impact of assuming the actual plant limit for primary to secondary leakage of 0.1 gpm per generator should be stated quantitatively for each case.

6. Initial isotopic concentrations of the primary and secondary side should be provided including any assumptions regarding elemental or organic iodine.

7. The minimum X/Q occurs at 503m, not 450m.

8. References to previous dose analyses should be provided in each case (for example, the FSAR or the recent fuel handling accident analyses).

Topic XV-2

1. Although the topic addresses steam line breaks both inside and outside containment, the assessment only presents results for breaks outside containment. Doses from a break inside containment should be presented or it should be stated that breaks outside containment are limiting.

2. The basis for limiting releases to two hours should be stated.

3. We assume that the first set of results is to be compared against the criterion that doses be well below 10 CFR 100 limits [with no iodine spiking].

4. It is stated that "optimum" operation is permitted above the Technical Specification limit. The phrase should be deleted.

5. We assume that the second set of results is to be compared directly against 10 CFR 100 limits.

6. It should be recognized in this evaluation that a criterion for all Ginna steam break analyses has been that the minimum DNBR not be less than 1.3, thus precluding DNB conditions. Further, all analyses assumed one control rod held out of the core.

7. Is iodine spiking assumed to occur as an initial condition for the analyses assuming 1% fuel failure?

8. What is the secondary side noble gas activity prior to each accident?

Topic XV-12

1. Is there any release via containment leakage or are all releases via the secondary side relief?

Topic XV-16

1. No comments other than those included under "General".

Topic XV-17

1. The discussion concerning the current Ginna Technical Specifications does not reflect actual plant operation and should be revised. Coolant activity of the primary and secondary systems have been maintained at low levels. Even during the period of significant fuel failures in early 1972, coolant activity was maintained as low as possible. The statement that there is effectively no limit on coolant activity is, therefore, misleading and should be deleted.

2. It is not clear what primary coolant iodine concentrations are used in the analysis. The evaluation discusses an iodine spike to 60 μCi/gm iodine dose equivalent, an iodine spike used on undefined level of fuel failure, and, in Table XV-17-1, an iodine spike of 500. It is not clear whether the factor of 500 is applied to 3 μCi/gm or to the preexisting iodine spike. These coolant activity levels should be clarified.

3. Assumption 20 in Table XV-17-1 should be expanded to provide the basis for using 100,000 gallons of primary fluid leakage and for selecting 60 minutes as the duration.

Topic XV-20

1. There are 121 assemblies in the reactor.

2. The NRC should clarify why presence of filtration with an efficiency of 90% only reduces doses by a factor of 2.8.