EXXON NUCLEAR COMPANY, Inc.

2101 Horn Rapids Road
P. O. Box 130, Richland, Washington 99352
Phone: (509) 943-8100 Telex: 32-6353

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August 10, 1977

Dr. Denwood F. Ross, Assistant Director
for Reactor Safety
Division of Systems Safety
Office of Nuclear Reactor Regulation
U. S. Nuclear Regulatory Commission
Washington, D. C. 20555

Dear Dr. Ross:

This letter is in response to your letter to our Dr. R. Nilson dated May 24, 1977, regarding additional reporting of physics measurement and prediction deviations. In your letter you requested that we arrange for a meeting to discuss criteria for reporting and explaining deviations between measured and physics parameters. Specifically, you were concerned about situations which would not normally be reported because Technical Specifications were not exceeded. Since receiving your letter, we have had informal discussions regarding this with your Mr. Dunenfeld. At his request, we are summarizing in this letter Exxon Nuclear Company's views in this matter.

As you are aware, there are always differences between predicted and measured physics values. These differences result both from uncertainties in measurements and in predictions. We believe that the Technical Specifications and Regulatory Guide 1.16 do provide adequate reporting requirements in the area of physics measurements and predictions. Thus, it is our opinion that compliance with these requirements and guidance provide appropriate assurance that items of safety significance are reported.

When Exxon Nuclear has supporting responsibility involving physics predictions and safety analysis, we work closely with the reactor operator to assure that the reactor is meeting Technical Specification safety limits and is operating within the bounds defined by the safety analyses. Specifically, we assure that the shutdown margin, rod worths, reactivity coefficients and power peaking meet the applicable requirements. If they don't, we take action to assure that the NRC is advised in conformance with the specified reporting requirements. We would be pleased to explain and give examples of how we do this evaluation.

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We conclude that it would not be useful to you in your assessment of reactor safety to include more restrictive reporting requirements for differences between measured and predicted values than are presently provided in Technical Specifications and Regulatory Guide 1.16. However, we believe that it would be useful for members of your staff who are assigned review responsibility in this area to gain a more detailed understanding of how physics measurements are performed, compared to predictions, and evaluated in regards to safety requirements. Perhaps we could be helpful to you in this effort by explaining procedures Exxon Nuclear uses in assisting the reactor operator in his assessments of safety margins, particularly during the startup and power ascension period.

If you have questions or comments regarding this issue or would like to arrange for a meeting, please contact me directly (509-943-8241).

Sincerely,

G. F. Owsley, Manager
Reload Licensing

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CC: Mr. M. Dunenfeld