February 8, 1982

Mr. Wallace R. Kornack
Office of Nuclear Reactor Programs
Office of the Assistant Secretary
for Nuclear Energy
U. S. Department of Energy
Washington, D.C. 20545

Dear Mr. Kornack:

Pursuant to your request published in the Federal Register on November 2, 1981, enclosed are comments on DOE's draft supplement to the Environmental Impact Statement on the Liquid Metal Fast Breeder Reactor Programs.

If further comments are received from our reviewers, they will be forwarded to you immediately.

Original Signed by
Paul S. Check

Paul S. Check, Director
CRBR Program Office
Office of Nuclear Reactor Regulation

Enclosure:
As stated

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NRC FORM 318 (10-80) NRCM 0240 OFFICIAL RECORD COPY USGPO: 1981—335-960

NRC COMMENTS ON DOE/EIS-0085-D DRAFT SUPPLEMENT
TO ERDA-1535, THE EIS ON THE LMFRB PROGRAM

3-4 Cost-Benefit Analysis - We suggest that DOE prepare an updated cost benefit analysis for the LMFBR program. Although many of the key parameters in a cost benefit analysis are uncertain, the resulting analysis could rely on a reasonable range of values for key parameters and results could be clearly identified as uncertain. At a minimum, DOE could provide a summary of all costs and benefits with a qualitative/quantitative discussion (when possible) of each item.

22 last line: Please define "lifetime of the radioactive materials." Is this ten half-lives, or the biological half-life, or some combination of the radiological and biological half-lives?

36 first sentence - the text incorrectly states that the lifetime uranium requirements for a LWR varies between 140 and 200 ST U_3O_8. This is the annual uranium requirements for a LWR. The calculations that follow in the Supplement all reflect this latter relationship.

43-44 Risk of Delay - The Supplement uses economic arguments to justify the timing of the LMFBR program. The cost of not having the LMFBR when needed is quantified and indirect benefits foregone are also identified. Alternatively, the cost of bringing it on too early is simply identified as being a function of the direct cost, the cost of money, and time. This side of the equation should also be quantified and indirect costs such as increased gov't deficits and inflationary pressures should be identified. Finally, for the "too early" vs. "too late" scenarios to be comparative, they must be brought to the same point in time via an appropriate discount rate.

192 para. 2: Reasons are given as to why all of the source term is assumed to be released to the atmosphere. It would improve the argument to include an analysis to show that the contribution from the aqueous pathway to human exposure (& health effects) will be significantly less than the atmospheric pathway. With respect to the accident contribution to the source term, a cross reference to p. 134 and the footnote thereon would be useful.

195 para. 2: Terrestrial Dispersal - it is acknowledged that the assumption of uniform distribution of TRU over the U.S. will underestimate the deposition immediately downwind from the source, and may underestimate the TRU reaching man via food chains. It would be appropriate here to make a statement as to the possible magnitude of the underestimate.

196 para. 2: It was assumed that the concentration of TRU in food resulting from LMFBR releases will be 1 percent of the concentration in the top 20 cm of soil. What is the range of uncertainty in this estimate?

200-211 The comparisons of estimated exposures from other sources in Table 8 are very useful as is the discussion of uncertainties in health effects estimates which follow.

207 para. 1: What is the basis for the assumed AMAD of 0.3 μm?

209 first full paragraph: How would the possible 10-fold variation in the quantity of TRU inhaled affect the estimates of doses to the population?

214 The relative environmental impacts of alternative technologies are not supported in the text. For example, there is no basis for the different acreages reported for transmission lines. Water use for OTEC is reportedly very large and yet there is probably little or no actual consumption, as compared to, say, LMFBR cooling towers. The table is misleading.

D-1 para. 4: Evidence, or a reference, should be cited to show the conservatism of the soil-plant-man pathway mentioned here.

D-5 para. 2: What is the basis for the statement that the 50-year exposure period will overestimate actual exposure?

F-6 Second paragraph, third sentence - Apparent typo - Sentence ("In 1980, coal... using oil.") does not make sense in its current form.

F-7 Type - bottom of page "3.3$" should be 3.3%.