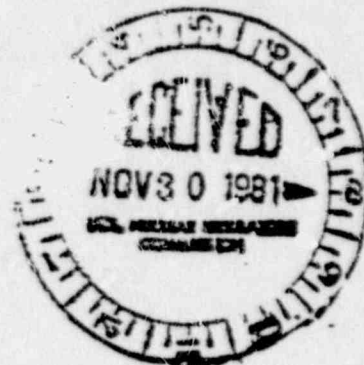


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DEPARTMENT OF PHYSICS

November 24, 1981

Nuclear Regulatory Commission
Office of Nuclear Reactor Regulations
1717 H Street, N.W.
Washington, D.C. 20555



Gentlemen/Ladies:

I submit below several comments relative to

Draft Environmental Statement
(NUREG-0813)
related to the operation of
Caldaway Plant,
Unit No. 1
Docket No. 50-483

#1

Page 5-34, Paragraph beginning, "Radioactive forms of iodine". The implications are that rainfall during an iodine release, or the presence of water (e.g. dew), decreases the hazards to humans and animals. (Note the misuse of the word "also" in the following sentence). The converse may in fact be true; concentration of radioactive iodine on nearby pastures or built-up areas may expose humans and animals to much higher concentrations than if the iodine had been dispersed over larger areas.

#2

Page 5-35, Paragraph beginning, "All of these radioactive materials...". It is misleading to characterize the half-lives of the radionuclides in Table 5.5 as "ranging from fractions of a second to many days or years." An accurate statement would read "ranging from less than an hour (I-134, 0.0366 days) to over 2000 years (Pu-239; 8,900,000 days)." The impression is left with the reader, further, that it is the $\frac{1}{2}$ life which is a correct measure of time during which the radionuclide is dangerous, whereas in practice one uses approximately ten $\frac{1}{2}$ lives.

#3

Page 5-37, Paragraph under "Health-Effects Avoidance." This paragraph is grossly misleading and the last two sentences should be completely rewritten. The "possible (!) consequential environmental societal impact of severe accidents" is indeed the resulting health hazard and not, as the authors tortuously write, "the avoidance of the health hazard" or the "potential (!) economic impacts". The emphasis on "economic" effects rather than on actual health effects indeed permeates — and distorts — this entire document. [See, for another example, the sentence on page 5-54, third paragraph: "Therefore, the consequences would be largely economic or social rather than radiological." This is gratuitous nonsense, and the sentence should be eliminated or reworded to make sense..].

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page 9-62, Section 5.11 Decommissioning.

Every sentence in this paragraph, with possible exception of the last, is fallacious. Taking these misleading sentences one at a time:

(i) This is a non-sentence, since it avoids the main point, which is that decommissioning involves substantial and extensive environmental impact, affecting (potentially) large numbers of people. These are listed in any number of well-known references, a rather recent one being the article by J. A. Sefcik in Technology Review, June/July 1979. Especially noteworthy — and unique to this specific activity — is the generation, during dismantling, of radioactive dust, as well as the intensive exposure of workers, and the high public exposure to radioactivity during transportation.

4 (ii) "The technology for decommissioning nuclear facilities is NOT "well in hand ..", since no large commercial nuclear reactor has ever been decommissioned, and the current experience with TMI indicates that the task is much more complex and difficult than heretofore suspected. "... can be performed ... at reasonable cost" is entirely misleading, since in several instances the cost of cleanup/decommissioning has equaled or exceeded the cost of building the facility — e.g. Elk River, Dresden, TMI, West Valley (projected).

(iii) "Radiation doses ... should be very small ..." Actually, they should be very large compared to the radiation release during normal operation of the plant. The sources of radiation are listed in many sources; I list only three in Paragraph (4i) above.

5 (iv) "Radiation doses to decommissioning workers" Both portions of this sentence are incorrect. From the experiences at TMI, West Valley, etc. we know (a) that the hazards to workers are so extreme that only a few minutes exposure are enough to give a yearly allowed dose, and (b) that in many instances the regulatory guidelines have been exceeded.

Sincerely yours,

Dan I. Bolef
Professor of Physics

DIB/jmh