letters

A study of the radioactive dispersion by fossil-fueled and nuclear-fueled power plants, expressed in units proportional to the electric power produced, would seem to be a useful task for sponsorship by the APS. The medical questions, mentioned by Philip Morse in his response to Devaney's letter, would be reduced to a minimum.

JAMES H. RAY
Irvington, New York

An important point has been overlooked by Joseph Devaney in his recent letter.

It was not the APS that started the study on reactor safety, but rather the AEC. Hence, his complaint about the narrowness of the study should be addressed to ERDA, not to the APS. The APS Reactor Study Group only checked the conclusions reached in the Rasmussen study (Wash-1400), and found them to be highly optimistic and unrealistic in several aspects. I cannot possibly see how Devaney can object to that effort.

ROBERT O. POHL
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THE AUTHOR COMMENTS: Although I did not detail the various toxicants from coal-fired power plants, James Ray's point about the radioactivity from coal-fired power plants is well taken. It should be added that the coal radioactive elements are also very long-lived, so much so that after 500 years the radioactive toxicity from typical coal ash is greater than that of *all* the fission wastes save plutonium-239, which is recyclable as reactor fuel. In addition, the coal-fired plant, under existing laws and control devices, routinely emits enormous amounts of chemical and physical pollutants into the atmosphere.

I am horrified that Robert O. Pohl could so misinterpret my letter on the dangers of releasing limited studies to the public. Nowhere in my letter did I object to the making of the APS reactor safety study as alleged by Pohl. Rather my purpose was and is to submit for judgment of the physics community the not-so-hypothetical consequences of general release of limited studies, like the APS study. How the APS study got started or why it was limited does not affect my point. As a matter of fact Pohl is in error in the rest of his remarks also, particularly in stating that "The APS Reactor Study Group only checked the conclusions reached in the Rasmussen study (WASH-1400), and found them to be highly optimistic and unrealistic in several aspects." I quote from PHYSICS TODAY, July 1975, page 38: "In particular the group did not review the recently released AEC study WASH-1400 (the Rasmussen study)..." See also *Reviews of Modern Physics*, Vol. 47, Suppl. 1, Summer 1975, page 54, where, with antecedent The American Physical Society "... it was decided to sponsor a study of reactor safety, ..." and again, referring to WASH-1400, the APS study group stated: "We did not undertake a review of that study as such ...."

Such limited study releases may do more harm than good in that many citizens will note only the adverse findings among the total of good and bad and conclude, in the absence of equivalent studies of coal, that our power should not come from fission, thus by default that it come from coal. How if coal be worse? I submit we do not really know which of the two is more hazardous, except I *can* say that my only personally funded, admittedly inadequate studies strongly indicate that the hazards of the air pollution alone from a coal-fired power plant are many orders of magnitude greater than the hazards from an equivalent-power fission plant.

It was the APS reactor study, not WASH-1400, from which I formulated a combination of conclusions (among favorable findings) that out of context appear damning, to wit: reactors are found to be potentially extremely hazardous, accidents have occurred, the safety problem is exceedingly complex, and a completely satisfactory quantitative treatment of the important safety issues does not exist. It is the misuse of such a sequence, a likely possibility in the absence of completeness, that may lead to the otherwise excellent APS reactor study, or any such study, doing more harm than good.

In sum, nationally the dangers of one type of major power source are relatively overstudied, of the other understudied, so inevitably leading to bias and possible error in important public energy decisions. I believe physicists can definitively contribute to completion of power studies and to accurate assessment of alternative power sources and therefore appropriately submitted my worries to PHYSICS TODAY and to the Council of the American Physical Society.

JOSEPH DEVANEY
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Chlorine question

The issue of chlorine injection into the ionosphere via fluorocarbons is made very clear in Gloria Lubkin's article in October (page 34). However, could someone explain to me why the innumerable tons of sodium chloride injected into Earth's atmosphere via salt spray from the oceans does not completely dilute out this effect?

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