

United States Senate

WASHINGTON, D.C. 20510

March 11, 1985

Mr. Nunzio J. Palladino
Chairman
Nuclear Regulatory Commission
1717 H Street, N.W.
Washington, D.C. 20555

Dear Joe,

Since the accident at Three Mile Island, considerable research has been done on predicting the source term -- an estimate of the radiological consequences of a severe accident at a nuclear power plant. Although this work is still tentative and contains enormous uncertainties, the Commission is under pressure to eliminate certain regulatory requirements based on debateable interpretations of the preliminary research results.

I urge the Commission not to lower emergency planning requirements or take any other step resulting in reduced public safety standards based on such early and uncertain research.

Current source term research depends on computer modeling of accident scenarios, the validity of which has been challenged, even by consultants to the Advisory Committee on Reactor Safeguards.

It is difficult to assess in advance how and when reactor containment structures will fail during an accident because of a wide variety of quality assurance problems associated with construction of nuclear power plants. An unknown construction defect could cause a containment structure to fail in unpredictable ways.

Major earthquakes are another potential cause of reactor accidents that are difficult to forecast as to intensity or timing. As you know, the potential for, and consequences of, a large earthquake near a reactor site are of particular concern to the people of California.

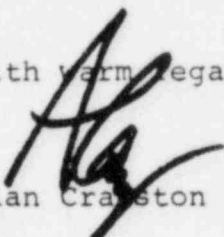
Sabotage or terrorism is another cause of reactor failure that doesn't lend itself well to the probabilistic analyses usually used by NRC to study accident scenarios. Rather, it is a planned, intentionally destructive act, which could produce consequences far greater than an ordinary accident.

More precise source terms, if and when they become more reliable, may ultimately serve a useful purpose in aiding the future design of nuclear reactors. But they should not be the basis for eroding regulatory requirements protecting public safety. Too many uncertainties are present in the current work to justify any relaxation of the standards currently in use, in keeping with the NRC's obligation to protect public safety.

Moreover, the Three Mile Island experience should teach us that firm, well-enforced safety standards enforced in constructing reactor structures are far less costly and time-consuming to the nuclear industry than modifications required after construction, when an unforeseen contingency materializes.

I hope the NRC will maintain its present standards in the interest of everyone.

With warm regards,



Alan Cranston