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July 6, 1979

Richard Hoefling, Esq.
Staff Counsel
Nuclear Regulatory Commission
Washington, D.C. 20555

Re: Shoreham - Case 50-322

Dear Dick:

Enclosed is a copy of a recent news report which refers to a September 5, 1969 AEC report in which the design of the Three Mile Island plant was reviewed. Would you kindly forward a copy of this report. Please consider this in the nature of an informal discovery request arising under County Contentions 3a, 5b and 11a.

Sincerely,

Richard C. Hand
Richard C. Hand

RCH/jag

CC: To all parties (with enclosure)

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ANDERSON

Why the 'Surprise' At 3 Mile Island's Hydrogen Bubble?

Washington—The "frightening" "hydrogen bubble" that nearly blew the lid off the Three Mile Island power plant—and the nuclear power industry along with it—was explained away by red-faced federal officials as "something that had not been foreseen when the reactor was designed."

This is simply not true.

We have uncovered evidence from the government's own files that makes it clear that atomic safety experts were worried about the possibility of hydrogen gas problems at Three Mile Island Nuclear Station Unit No. 2 a decade ago, even before the first concrete was poured for the foundations of the cooling towers.

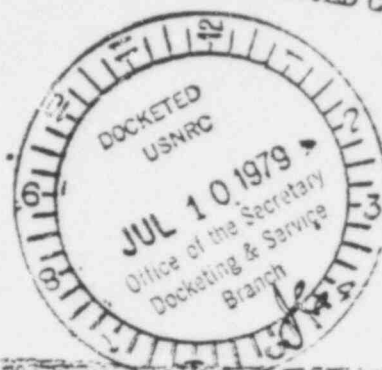
It is also clear from the near-catastrophe last March that the response to the expressed fears of the experts was a bureaucratic solution—one that looked good on paper but proved wholly inadequate when the emergency struck.

Before a construction permit could be issued for the Three Mile Island plant, safety experts of the Atomic Energy Commission (AEC), predecessor to the Nuclear Regulatory Commission (NRC), made a required evaluation of the design plans. Their report, dated Sept. 5, 1969, was both candid and explicit.

"Hydrogen gas would be produced as a consequence of a loss-of-coolant accident," the report warned. "We are currently reviewing the problem of hydrogen production and several methods for control of the hydrogen concentration for all reactors, and have not yet established the methods which will be acceptable."

Having posed the problem—and noted that they didn't have an answer to it—the safety officials incredibly decided it was okay to let things slide.

"We conclude," the experts' safety evaluation report said, "that the (utility companies') commitment to study other means of controlling the hydrogen provides reasonable assurance that an



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acceptable method of controlling the hydrogen concentration can be established for the operation of TMI 2."

Well, a "method" was eventually found, and it was a typical Washington solution: Guidelines were issued setting strict standards for nuclear reactors' emergency core-cooling systems. And in September, 1976, a new safety evaluation of Three Mile Island concluded that everything was fine because the plant's emergency system was "consistent with the guidelines."

The only trouble was, the theoretical guesswork on which the guidelines were based turned out to be cockeyed.

Government and industry experts agreed, for example, that after an accident the concentration of hydrogen gas in the containment vessel would not reach a flammable explosive level until "approximately 25 days" after the loss of coolant. Thus there would be plenty of time to take emergency measures.

In point of fact, unfortunately, there was a hydrogen gas explosion less than 11 hours after the accident at Three Mile Island.

Incredible as it may seem, the NRC's Advisory Committee on Reactor Safeguards assured Congress in January, 1978, that hydrogen control was one of a number of inherent problems that had been "resolved."

But in the peculiar jargon of bureaucracy, "resolved" is in no way the same as "solved."

As a memo accompanying the NRC report explained: "In some cases an item has been resolved in an administrative sense." In other words, the problem had been resolved only on paper, not at the reactors, where it counts.

Though the official explanation that the hydrogen problem popped out of a clear blue sky is demonstrably spurious, federal officials can have no such excuses now after Three Mile Island. The NRC assured us the problem is being re-evaluated.

So the near-disaster may have had some good effect after all—perhaps it will change the maddening "What? Me worry?" attitude of the nuclear power industry and the bureaucrats who are supposed to safeguard the public.

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