



UNITED STATES
NUCLEAR REGULATORY COMMISSION
WASHINGTON, D. C. 20555

JUN 21 1979

MEMORANDUM FOR: Harold E. Collins, Assistant Director
Office of State Programs

FROM: James A. Martin, Jr.
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Office of Nuclear Reactor Regulation

SUBJECT: COMMENTS ON DRAFT REPORT NUREG-0553 - "BEYOND DEFENSE-
IN-DEPTH"

The following is in response to your recent request of the Task Force:

GENERAL

1. Even considering the tendency of bureaucracies to inflate costs, the costs of planning compiled by Salomon, based on State and local estimates, are low, amounting to about \$52,500 per year per plant (ca 1978 dollars). This is about what Aubrey Godwin has been saying for years now. Since this includes costs of implementation of NUREG-0396, the NRC/EPA Task Force's judgment that its suggestions should not result in major additional expenditures appears to be correct.
2. Salomon makes no attempt to rank the various elements of planning as to their worth in (i) protecting the public if ever need be and (ii) everything else (e.g. keeping bureaucrats informed, environmental monitoring for post-accident analysis). Such a ranking needs to be done for us to see various aspects in their proper perspective.
3. Even Salomon slips occasionally and confuses costs of planning and costs of response. For example, he states on p. II-77 that the costs of blocking of roads "seems to be proportional to the perimeter". This may be true if one were to actually block roads, but the costs of deciding to do so some day, if necessary, are not at all proportional to perimeters. By and large Salomon does maintain the distinction, however.

SPECIFICS

1. On page II-64 Salomon hits on the key to a successful emergency response by the public - means for the early warning of people - and shows how little it costs - both capital costs and operating costs. I don't agree that sirens are no good. People in cities don't pay much attention to sirens that stay on for only a minute or so. But

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- people in the boonies do pay attention to sirens. I can put 70 to 120 db of dissonance all over a radius of 5 miles for \$50 K to \$100 K (capital costs, 1978 dollars). Once I can warn people in a hurry, I'm home free for all but the most major and abrupt releases - from the standpoint of helping people protect themselves. Once I've done that, I'm not at all sure what else is necessary for me to provide to protect people, or the relative worth of anything else.
2. Salomon notes the fetish in some State and local agencies for the "ring of detectors" concept (nb p. II-61). He does treat it fairly, tho', by pointing out various pros and cons. However, in the latter discussion he missed the key point in his regard, which is that the key variables for protective action decisions in the early time frame should be the plant instrumentation - and the non-radiological parameters predominantly. As we saw at TMI, evacuation and shelter decisions were planned to be based on in-plant observables. Radiological monitoring off-site was counter-indicative of protective actions at all times. Those who want a ring of detectors seem to be the ones who want to plan to await an actual major release before they would initiate protective actions - this is 180 degrees opposed to Uniform Federal Guidance and we should not support it. On the other hand, if they want it, we shouldn't object very strenuously, and merely point out that licensees can very easily see a big release coming and couldn't miss a big one. Statements such as: "The core is (or is not) uncovered", "The containment is (or is not) intact", "ECCS worked (or did not)", carry far more import than "the dose rate on hill 23 at 3:10 p.m. was 1R/hr". We must also note that a dose rate measurement at any place and time bears only a tenuous relationship to the dose rate at another place and time, or to dose commitment.
 3. Nevertheless, we should point out that rings of detectors already exist. DCPA has 300,000 boxes of instruments across the U.S. and supports a calibration and repair facility in each state. DCPA has said that they would negotiate with states regarding the placement of a dozen or so instrument sets in the vicinity of nuclear power plants and establish an annual maintenance schedule for them. So, locales can have a ring of detectors for practically nothing! It would simply mean a reallocation of presently existing resources. (But I'd bet that States wouldn't buy this, especially where the Dept. of RAD. Health is in charge. They want their own; they don't trust CD; and they'd say that the Sheriff or Fire Dept. can't read a meter properly.) Or they could use my "cheapie-peeper" idea (as Ed Williams calls it) - put a telephone next to an on-site GM counter that goes click; you've now got a signal that you can transmit anywhere - and it costs only \$15 per month, or so.
 4. I don't understand why the protective response of shelter (staying home, shutting windows and doors, go in a closet, cover your nose and mouth, listen to the radio or TV for further instructions) is given such short shrift. It would be the easiest protective action for people to take and would be much better than taking a KI tablet (KI tablets have their uses, especially where institutional controls are in place, but they protect the thyroid only and they must be

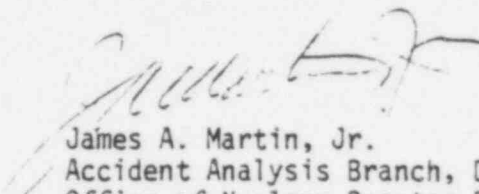
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taken within two hours after inhalation - a difficult accomplishment for the general public in an emergency).



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