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Secretary  
Nuclear Regulatory Commission  
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Nuclear Power Plant Offsite Radiation Emergency Planning:

My responses to questions posed in your Press Release No. 79-122 follow:

1. The basic objective of emergency planning should be to limit public exposure to radiation, in excess of normal background, to no more than one tenth of that which is considered permissible for workers in the nuclear industry. This has been advocated by the ICRP. Since the NRC has set limits of 5rem/year and 3 rem/calendar quarter for the industry, the Protective Action Guide (PAG) of 1000 millirems used for the public during the TMI-2 emergency was too high. Federal Regulations, 10 CFR 20, Section 20.105, sets a limit of 500 millirems/year, and may impose further limits of 100 mrem/week and 2 mrem/hour. Since the TMI-2 emergency lasted about a week, a PAG of 100 millirems seems appropriate. To assure that the basic objective is likely to be achieved, both independent (non-utility, preferably local government) monitoring of radiation and a proven capability to evacuate the public are necessary.
2. I think NRC guidance lacks a requirement of independent radiation monitoring. Also, because the State of Alabama Radiation Emergency Plan Annex B was not updated after initial completion Oct. 2, 1972 until the March 22, 1975 fire, there is a need to insure at least annual updating. I suggest local government have the responsibility, but that some means be devised to have the nuclear plant operator reimburse the costs.
3. It has been my understanding from the outset-- and I believe the Cleveland Electric Illuminating Company speakers have led the public to believe-- that this has always been a requirement, I think two years would be a reasonable time to bring all plants into compliance.
4. Yes. Immediately.
5. Yes, primarily to local government, because it must be prepared to act quickly, and it bears the burden of providing most of the people to carryout necessary actions. Costs of Emergency Preparedness were considered by Dennis K. Rathbun, in Supplemental Testimony on Emergencies and Evacuation re TMI, Docket 50-289, with the date 10/26/73, and also incorporated in Dockets 50-440 & 441 before July, 1974. He considered possible evacuation of only a part of a 2 mile LPZ and came up with initial capital and planning costs of \$500,000 plus maintainance costs of \$150,000 per year. Now we know TMI was not adequately prepared, and 7%/year inflation would add 50% to those 1973 costs. Doubling Rathbun's estimate in 1980 dollars might be reasonable. I think the consumers should bear the full cost of all services they demand, and therefore the nuclear utilities should have to reimburse government for these costs.
6. Yes. They should be controlled by local government, after plenty of advance notice to permit state and federal participation. Even the public should be given advance notice that a drill is imminent- within days- and required to participate to the extent of acknowledging that their evacuation could be required in a real emergency.
7. See 6.

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8. The 10 and 50 mile radius Emergency Planning Zones advocated on page 17 should be adopted. I disagree with much of the rest of NUREG-0396: page 15 says there should be no storage of potassium iodide pills (thyroid blocking agent which offers cheap protection against radioiodines), and no public participation in tests. Participation is necessary to help convince the public that radiation they cannot sense could hurt them! Page III-10 PAGs of 1-5 rem are too high, as I noted in 1. Page 19 indicates one-half to several hours will be available to implement protective action prior to the start of a major release. TMI-2 spread no warning until after releases had begun. Page I-37 says 200 rem whole body is where early injuries start, but WASH 1400, Appendix VI, page 9-4 reports 0.01% deaths at 150 rem and 50% deaths at 340 rem.

9. (see 1.) The public might best be notified by the head of local government to help insure that it is taken seriously and with a minimum of panic. The utility should be able to initiate the notification, using a prerecorded notice when speed is essential. Ordinarily all such notifications should be triggered from the nuclear plant, but if excessive radiation is detected by independent official monitoring and attempts to contact the plant are futile, local government should act by itself.

10. The present Ohio government seems to have no concern! The Federal Response Plan for Peacetime Nuclear Emergencies (GSA/FPA, April 1977) is a very good start. Financial aid to local governments (see 5.) is the major need I see.

11. Listen for any suggestions from the President's Commission on the Accident at TMI.

12. Yes, at least training in radiological monitoring. This will help to acquaint people who may have to collaborate in an emergency. The NRC may want to participate in this. The Federal Preparedness Agency/GSA might set up training sessions for other federal agencies having emergency  to get their messages to local emergency personnel. *responsibilities*

13. I prefer minimum reliance on licensees, as individual job tenure may demand optimistic, rather than realistic, estimation of projected doses to the public. Contrary to NUREG-0396, the PAG should include the dose already received during the incident, though it might be acceptable to discount it to a minor extent.

14. Yes. I would favor some sort of voluntary evacuation to learn more about unexpected problems in dealing with the situation while minimizing inconvenience to the public. (It might be desirable to supplement evacuees with students or other extras to get enough people.) It would be desirable to at least be able to check on the completeness and timeliness of notification of those who might have to be evacuated in a real emergency.

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I'm a chemist with twenty plus years of industrial experience, volunteering some help to Lake County in preparing its part of emergency plans for the Perry Nuclear Power Plant, to be operated by my electric utility. I hope this is of some help to the NRC.

Sincerely,

*Russell M. Bimber*

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