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Dr. Nunzio Palladino, Chairman
Nuclear Regulatory Commissioner
1717 H Street NW
Washington, DC 20555

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Dear Commissioner Palladino,

Enclosed please find a critique of the training program presented to the Rockland County Health Department by the New York State Office of Disaster Preparedness on Nov. 23, 1982. I send this critique to you for your information.

Please note that I have four (4) copies for your fellow commissioners.

Sincerely,

James L. Murphy, MPH
Public Health Specialist,
Indian Point Project



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December 7, 1982

Frank P. Petrone, Director, Region II
Federal Emergency Management Agency
26 Federal Plaza
New York, NY 10278

Dear Mr. Petrone,

Please consider the following as a critical analysis of the training program presented to the Rockland County Health Department on Nov. 23, 1982, by the New York State Office of Disaster Preparedness. The program was to acquaint members of the Environmental Health staff with radiological emergency procedures as put forth in the New York State Radiological Emergency Response Plan. I was generously allowed to attend as an observer, for which I am most appreciative.

I submit this critique not as criticism of the program presenters, but to make known to you the inadequacies of the approach of New York State agencies toward radiological emergency response planning for reactor accidents.

Daniel Hyman, MD, Rockland County Commissioner of Health began with a statement to the effect that it was his understanding that New York State intends to manage the entire emergency response in Rockland County. The State representatives, however, believed that county personnel would have some role in any response and stated that they would relay this confusion to their superiors. This breakdown in communication has serious implications for any future emergency responses.

The training session was essentially an overview of the State response plan and an introduction to ionizing radiation and basic decontamination procedures. Participants did not practice the use of any radiation survey instruments. The presentation was sadly lacking in several technical aspects which I shall outline.

First, in giving a perspective on radiation dose-response, it was stated that the LD_{50/30} (lethal dose to 50% of irradiated population within 30 days) was 450 rads. While not factually incorrect, it is more accurate in presenting the LD_{50/30} as a range from 350 to 450 rads. In a reactor accident response, it is important to realize that exposed victims will seldom conform to textbook dose-response levels because of individual variations within populations.

Secondly, an entirely inappropriate casualness is promoted by statements from the presenters to the effect that emergency workers can still staff their positions even after receiving 100 rads, due to lack of immediate effects. Doses causing little or no immediate symptoms may well have long-term repercussions. All emergency workers with a role in radiation accidents have a right to be made acutely aware of the health risks involved in the performance of their duties.

Equally misleading was the part of the presentation which compared health risks from everyday experiences to those involving radiation exposure. Let me say most emphatically that when talking about health risk associated with radiological accidents, any frame of reference which uses spoonful of peanut butter and numbers of charcoal-broiled steaks is sadly lacking a solid basis for comparison, and merely engenders a nonchalance that is most inappropriate to the situation.

It was stated at the training session that emergency workers would be pulled from duty after receiving 3 rads. Yet there is no planning for losing a significant percentage of the emergency workforce due to exposures exceeding 3 rads. In responding to reactor accidents far less than "worst case," emergency workers would reach this limit rather quickly.

What the planners ignore is the need of emergency workers to have the best protection available when responding to radiological accidents. This includes the presentation of valid information.

Perhaps the most errant part of the presentation came when the presenters were discussing the operation of the decontamination centers. Participants of this training session were told to instruct contaminated individuals to brush their clothing off before entering the building. This is wrong; at all costs, radioactive particles must not become airborne once they have settled. The health cost from inhaling radioactive particles far exceeds the benefit of getting the particles off the body a few minutes sooner. Internal radioactive contamination is more biologically hazardous and infinitely more difficult to treat than external contamination. I found it most disconcerting to have one of the most basic concepts in radiation protection so soundly disregarded.

It appears that emergency planning stops with a protocol requiring that all victims monitored at least 0.1 mR/hr above background after decontamination be transported to medical facilities. From personal research I know that hospitals within the four counties surrounding Indian Point are able to provide adequate care for only a few victims in the most limited accidents.

This leads me to a very fundamental criticism, i.e., the entire approach to the Indian Point Radiological Emergency Response Plan is based on the assumption of a very limited accident. Inherent in the planning is that

only a few score people will be contaminated or exposed and that most will receive doses far less than 100 rads. If such were really the case, then the counties may already have the requisite disaster planning. But very plausible accident scenarios are shown to result in public health demands which are far beyond the capacity of the present system to respond, and present planning is not taking this into account.

Estimates of minimal consequences are certainly to be called into question in light of the latest figures on reactor accident consequences. Any planning which does not consider the full range of accident scenarios, from the least serious to the most serious, is sorely deficient.

Planning and training for radiological accidents should include a recognition of the health rights of radiation victims. Specifically, people exposed to radiation as the result of radiologic accident have the right to:

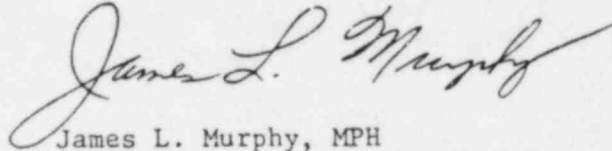
1. receive the best possible measurement of their contamination, both external and internal (present emergency planning does not address the issue of internal contamination);
2. receive the best possible estimate of their total exposure (also requires internal monitoring);
3. receive the best possible medical intervention indicated throughout sequellae (conditions following and resulting from exposure).

The medical intervention that victims have a right to receive includes, but is not limited to the following:

- for those receiving 100+ rads whole-body, an immediate blood test to determine a baseline absolute leukocyte count and daily blood counts for 10 days to monitor presence and extent of radiation damage; also
- immediate cultures from skin, mucous membranes, all bodily excretions, male sperm counts, with continuous monitoring for at least 10 days.
- for those with significant internal contamination, chelation therapy, with management of side effects, should be made available
- for those with hemopoietic (blood-forming) dysfunction, necessary care may include:
 - a. reverse isolation
 - b. transfusions (whole blood, leukocytes, platelets)
 - c. antibiotic therapy
- for persons receiving 250+ rads whole-body, intensive medical intervention will be required including, albeit to a much greater degree, that indicated for hemopoietic dysfunction. Hemorrhage control will be a crucial part of this treatment.

Present radiological emergency response planning does not provide for the necessary medical intervention as outlined above. Insofar as it does not, it is a disservice to the citizens whose welfare is threatened by reactor accidents.

Sincerely,

A handwritten signature in cursive script, reading "James L. Murphy". The signature is written in dark ink and is positioned above the typed name.

James L. Murphy, MPH
Public Health Specialist,
Indian Point Project

cc: NRC Commissioners