

UNITED STATES OF AMERICA
NUCLEAR REGULATORY COMMISSION

BEFORE THE ATOMIC SAFETY AND LICENSING BOARD

In the Matter of)
)
PENNSYLVANIA POWER & LIGHT COMPANY)
)
and)
)
ALLEGHENY ELECTRIC COOPERATIVE, INC.)
)
(Susquehanna Steam Electric Station,)
Units 1 and 2)

Docket Nos. 50-387
50-388



APPLICANTS' TESTIMONY OF
STEVEN H. CANTONE
ON CONTENTION 6(c)

September 29, 1981

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TESTIMONY OF STEVEN H. CANTONE
ON CONTENTION 6(c)

1. My name is Steven H. Cantone. I am Manager, Nuclear Support, Pennsylvania Power & Light Co. ("PP&L"). The purpose of my testimony is to address the portion of Contention 6(c) which refers to the training and radiation protection that PP&L will provide to off-site personnel who may come on site during an emergency.

2. Under some emergency situations, State and local authorities and/or personnel may be called upon to provide assistance at the Susquehanna Steam Electric Station ("Susquehanna") site. The agencies whose presence on-site might be required in emergency situations would be the fire departments, the Pennsylvania State Police, and the ambulance companies.

3. Recognizing the need to assure rapid and effective response of off-site agencies, PP&L has undertaken a program to provide training, site-specific emergency equipment, and support/interface personnel for the involved off-site agencies. The training programs will be generally tailored to the agency involved and will cover, as appropriate, the topics of emergency plan overview, dose calculation and protection, protective actions, basic radiation theory, plant layout, contaminated injury, and access control.

4. Those agencies whose role is primarily that of emergency management will be given an overview training regarding the Susquehanna emergency plan and the interface points between PP&L and agency personnel. Topics in this training will include emergency classification, reporting and notification procedures, communication networks, dose assessment, protective and corrective actions, and agency organization and responsibilities. The following agencies will receive this training:

Pennsylvania Emergency Management Agency

Pennsylvania Department of Environmental Resources/
Bureau of Radiation Protection

Luzerne County Civil Defense

Columbia County Emergency Management Agency

Ten Mile Emergency Planning Zone Municipal/Township
Emergency Management Coordinators.

This training will also be given to:

Shickshinny Fire Department

Salem Township Fire Company No. 1

East Berwick Hose Company No. 2

Shickshinny Area Volunteer Ambulance Association

Pond Hill - Lily Lake Fire Company (Ambulance Service)

Nescopeck Ambulance Association

Hobby Volunteer Fire Company (Ambulance Service)

5. The Pennsylvania Department of Environmental Resources/Bureau of Radiation Protection will receive additional training on the specifics of the Susquehanna emergency plan relating to dose calculation/projection, dose assessment and protective action recommendations.

6. The three fire companies (Shickshinny Fire Department, Salem Township Fire Company No. 1, and East Berwick Hose Company No. 2) will receive additional training in basic radiation theory, plant layout and access control. The intent of this training is to familiarize fire protection personnel with radiation, its detection, its effects, and methods available for minimizing exposure. Additionally, the training will familiarize fire-fighting personnel with the access requirements at the site so as to minimize the time needed to get them to the location of the fire. The plant layout training is intended to familiarize the fire fighters with the functioning of the plant and with how access is gained to the various plant areas. A plant tour is included in this training. In the event of an emergency, plant personnel will assist the fire fighters in determining the best routes to access a particular area and the potential hazards associated with it. Fire fighting personnel would be accompanied by qualified Health Physics personnel during the performance of their duties. Health Physics personnel would be responsible for assuring the radiological safety of all fire fighters.

7. The training given to the various ambulance companies closely parallels that given to the fire departments. In addition, the ambulance company personnel are given training on the care of contaminated injured personnel. PP&L maintains qualified first aid personnel at Susquehanna at all times. These personnel would assist ambulance company personnel in the handling of the injured party. If a radiation injury is involved, qualified health physics personnel are available on site at all times to assist and maintain the radiological safety of ambulance company personnel.

8. Although not specifically called in to report to the plant, the Berwick Hospital personnel would play a vital role in the event of personnel injury. Training for hospital personnel centers about the care and handling of injured individuals who are contaminated with radioactivity.

9. PP&L engages the services of Radiation Management Corporation ("RMC") to provide the training of ambulance and hospital personnel on the handling and medical care to be given to persons injured and contaminated with radioactivity. RMC also supervises practice drills and provides an evaluation of performance. In addition, every year, PP&L sponsors the attendance by members of the Berwick Hospital organization of a week-long course at Oak Ridge Associated University on handling of radiation accidents. This course covers radiation physics, radiation biology, internal radionuclide contamination, and delayed effects of radiation. The course is taught by experts in the fields of health physics and radiation medicine.

10. This extensive and integrated training program is being conducted to ensure that each support agency is cognizant of its role and is capable of carrying it out during any emergency condition that may arise at Susquehanna. Portions of the training program were initiated five years ago. A complete cycle of the program is scheduled to be completed by the end of 1981. The training program will be repeated periodically to assure a sustained level of proficiency by all agencies involved. About two hundred members of the police, fire and ambulance services have participated so far in the training program. In all, training is expected to be given to several hundreds of members of the various agencies.

11. The effectiveness of the training program is tested periodically. Fire drills, contaminated injury drills, and full scale emergency plan drills involving the activation of all emergency management agencies are scheduled throughout the lifetime of the plant.

12. The State Police, fire companies and ambulance services which provide on-site services have the necessary equipment to perform their functions. In addition, PP&L has available on-site additional equipment which may be utilized by its personnel or by members of the off-site agencies. The equipment is maintained at specified locations throughout the site and is inventoried periodically to assure its availability. The equipment available includes, for example, fire hoses, nozzles, axes, fire extinguishers, stretchers, first aid equipment, decontamination equipment, etc. In addition, radiation protection equipment is provided to personnel, such as fire fighters, who may need to reach contaminated areas. During training, the availability

of the PP&L equipment is discussed with the various off-site agencies, as well as the adaptability of PP&L's equipment to that of the off-site agencies.

13. Every member of a responding agency coming on-site in an emergency will be issued a thermo-luminescent dosimeter "TLD", which is a device capable of recording an individual's radiation exposure for subsequent evaluation. In addition, there will be available, for use as required, protective clothing and respiratory equipment. Health physics personnel will estimate the dose which may potentially be received by responding agency personnel and initiate further protective actions, if necessary. The names and social security numbers of all off-site personnel coming on site in response to an emergency will be obtained as they leave the site, and their TLD's collected. A permanent record of each individual's exposure will be established; this record will be made available to the individual upon request.

14. In the very unlikely event of major damage to the reactor core, there is the potential for release of radioactive iodine. If this were to occur, there would be available on site a supply of potassium iodide that could be used to mitigate the consequences of radioiodine inhalation. The site emergency director, in consultation (to the extent feasible) with PP&L's radiological medicine consultants, will consider administration of potassium iodide to personnel on site when the accumulated dose to an individual's thyroid exceeds 25 rem.

15. To expedite handling of a fire emergency and to minimize radiation exposure at Susquehanna approximately 185 fire pre-plans will be established. A fire pre-plan will be instituted for each room or area within the plant and will include primary and secondary access routes, egress information, potential fire hazards

(types, combustible loading, heat generation rates), fire detection systems available, fire extinguishing systems available, general fire-fighting techniques to be employed at that location, available ventilation, available communications, materials of construction, non-fire related hazards (radiological, electrical) and a map of the specific room or area and those adjacent to it. The on-site fire brigade personnel, who are available at all times, will be thoroughly familiar with these fire pre-plans and will convey as necessary the details of the pre-plans to the off-site fire fighting personnel.

16. In summary, the differences between responding to an emergency as Susquehanna versus one at any other industrial complex lie in the areas of physical access and radiation protection. Members of responding agencies will be given training in both these areas to assure their familiarity with the procedures involved and to ensure that their actions meet the requirements of access control and health physics. However, such off-site personnel will never be expected to act without guidance. Susquehanna personnel will escort them to the point of interest in the minimum time possible and in accordance with access regulations. Similarly, qualified health physics personnel will be provided to assure the radiological safety of off-site personnel.

17. In my opinion, PP&L has established a program designed to assure the rapid response and deployment of off-site support personnel during emergency conditions while at the same time protecting the health and safety of the off-site personnel.