

RELATED CORRESPONDENCE
UNITED STATES OF AMERICA
NUCLEAR REGULATORY COMMISSION

DOCKETED
USNR

Before the Atomic Safety and Licensing Board

'84 NOV -5 P2:14

In the Matter of)
)
Philadelphia Electric Company) Docket Nos. 50-352
) 50-353
(Limerick Generating Station,)
Units 1 and 2)

OFFICE OF SECRETARY
DOCKETING & SERVICE
BRANCH

TESTIMONY OF MARGARET A. REILLY
ON LIMERICK ECOLOGY ACTION CONTENTION LEA-12
REGARDING SHELTERING

Q.1. Ms. Reilly, please state your name, address and position with the Commonwealth of Pennsylvania.

A.1. My name is Margaret A. Reilly. My business address is P.O. Box 2063, Harrisburg, PA 17120. I am Chief, Division of Environmental Radiation, Bureau of Radiation Protection, Department of Environmental Resources.

Q.2. Have you prepared a statement of your professional qualifications?

A.2. Yes. My statement is appended to my testimony on City Contentions City-18 and City-19.

Q.3. What is the purpose of the testimony?

A.3. The purpose of this testimony is to discuss the adequacy of buildings for sheltering in a radiological emergency.

Q.4. Why is this issue relevant to LEA-12?

A.4. Contention LEA-12 asserts in part that there has been no determination of which school district buildings are adequate for sheltering, which will bear on teachers/school staff willingness to remain on duty during a radiological emergency.

Q.5. What is your response to this concern?

A.5. Adequate sheltering means a winter worthy house or commercial structure with a basement in the northeastern United States. According to NUREG/1131, "Examination of Offsite Radiological Emergency Protective Measures for Nuclear Reactor Accidents Involving Core Melt," this kind of structure should, on the average, provide a dose reduction factor (DRF) of 0.5 against airborne radioactivity and 0.08 against general shine. These values may be compared with a DRF against airborne radioactivity of 0.75 and against ground shine of 0.33 for houses in the southwest.

In addition, sheltered individuals will inhale roughly 35% less than those outside during cloud passage. With tight construction and reduced ventilation rates, larger reductions are possible.

Q.6. What does the Commonwealth's plan state regarding building adequacy for sheltering?

A.6. The Department of Environmental Resources, Bureau of Radiation Protection Plan for Nuclear Power Generating

Station Incidents, Appendix 12, Annex E, Commonwealth Disaster Operations Plan states in Section 10.2.2.2, p. E-12-49 that a structure for sheltering may be a home, commercial or public building. It goes on to provide that, "*i*n the general climate of the Commonwealth, any building which is reasonably winter worthy will suffice, with windows and doors closed." Such a building is adequate for 2 hours protection from inhalation hazards.