

M891221B
486

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

January 4, 1990

MEMORANDUM FOR: James M. Taylor
Executive Director for Operations

FROM: Samuel J. Chilk, Secretary

SUBJECT: STAFF REQUIREMENTS - AFFIRMATION/DISCUSSION
AND VOTE, 3:30 P.M., THURSDAY, DECEMBER 21,
1989, COMMISSIONERS' CONFERENCE ROOM, ONE
WHITE FLINT NORTH, ROCKVILLE, MARYLAND
(OPEN TO PUBLIC ATTENDANCE)

I. SECY-89-277A Denial of Petitions for Rulemaking that
Relate to Emergency Preparedness at Nuclear Power Plants

The Commission, by a 5-0 vote, approved the publication of a Federal Register Notice denying three petitions for rulemaking concerning emergency preparedness at nuclear power plants, concluding that the Commission's present regulation on emergency preparedness are adequate to protect public health and safety.

The attached edits and corrections should be made and the Federal Register Notice should be reviewed by the Regulatory Publications Branch for consistency with Federal Register requirements and returned for signature.

(EDO)

(SECY Suspense: 1/19/90)

Attachment:
As stated

cc: Chairman Carr
Commissioner Roberts
Commissioner Rogers
Commissioner Curtiss
Commissioner Remick
OGC
GPA
ACRS
PDR - Advance

487

pathway EPZ for all nuclear power plants shall consist of an area to be determined by the NRC on a site-specific basis, after allowing for review of the determination report by interested parties. The report shall list, describe, and reference all input data and methodologies used and all other factors considered. The NRC shall use methodologies and procedures which are generally accepted as reasonably current and appropriate by recognized professional groups in each supporting field (including the American Meteorology Society (AMS) and Environmental Protection Agency (EPA)). Likewise, best available estimates for model input (such as source terms) shall be used. This distance shall be reevaluated at least every five years, using latest techniques and information, unless petitioned earlier by the NRC, another professional group (such as the EPA or AMS), or the general public. Generally, the models shall be at least as complex and realistic as described in NUREG-0654 for Class B models. Meteorological submodels shall consider all factors which can have an effect on the impact of the release of radioactive materials to the environment. The exact size and configuration of the EPZ surrounding a particular nuclear power reactor shall be determined in relation to local emergency response needs and capabilities as they are affected by such conditions as power plant specifics (type, power output, age, etc.), local meteorology (including data from both the power plant site and local national weather service), demography, topography, land characteristics, access routes, jurisdictional boundaries, and proximity of seats of local government."

A notice of filing of the petition, Docket No. PRM-50-45, was published in the Federal Register on October 6, 1986 (51 FR 35518). Public comments were requested by December 5, 1986.

A total of 314 comment letters were received of whom which 278 favored the petition and 14 opposed it. Two hundred thirty-five of the letters were from individuals. Four letters were from environmental, nuclear, or energy oriented citizen activist groups. Of these, three favored the petition and one opposed it. Ten letters were from utilities, their law firms, or other companies associated with the nuclear industry. All ten opposed the petition. Seven letters were received from local government emergency preparedness agencies, of whom four favored the petition and three opposed the petition.

3

488

said that people beyond 10 miles were in danger from such an accident. For example, the Union of Concerned Scientists said:

Although the NRC alleged in NUREG-0396³ that it considered accidents beyond the traditional design basis, the consideration given such accidents was minimal at best.

It is clear that the 10-mile plume EPZ was not directed toward accidents in which the containment fails either concurrently with a core-melt or consequent to a core-melt. It is precisely such accidents which dominate the risk to the public from the operation of nuclear power plants.

Commenters cited large consequences from a severe accident. For example, Pollution and Environmental Problems, Inc., said:

The Reactor Safety Study⁴ estimates that a core-melt could cause 48,

000

fatalities; 285,000 non-fatal illnesses and 5,000 genetic injuries. These consequences--as bad as they are--assume that most people downwind of an accident within a 45 degree sector extending 25 miles from a plant could be evacuated within a few hours. The NRC requires--only a 10-mile evacuation zone--so it must be assumed that NRC is willing to accept a larger number of deaths and injuries than the Reactor Safety Study assumes.

Commission Response to Issue 1:

The Commission dealt extensively with the issue of the adequacy of the 10 mile EPZ in the context of severe accidents; in its decision is in Long Island Lighting Co. (Shoreham Nuclear Power Station, Unit 1) CLI-87-12, 26 NRC 383 (1987). The discussion in that case summarizes the

3^ NUREG-0396, Planning Basis for the Development of State and Local Government Radiological Emergency Response Plans in Support of Light

4^ Water Nuclear Power Plants, December 1978.

WASH-1400 (also numbered NUREG-75/0014), Reactor Safety Study, often called the "Rasmussen Report" or "WASH-1400," October 1975.

6

489

severe accidents could result in any prompt fatalities or injuries. With the existing levels of emergency preparedness it is likely that no one who followed the recommended protective actions would be killed or injured.

Our emergency planning requirements do not require that an adequate plan achieve a preset minimum radiation dose saving or a minimum evacuation time for the plume exposure pathway emergency planning zone in the event of a serious accident. Rather, they attempt to achieve reasonable and feasible dose reduction under the circumstances; what may be reasonable or feasible for one plant site may not be for another.

24 NRC at 30

A fair reading of the Commissions' Shoreham discussion is that implicit in the concept of "adequate protective measures" is the fact that emergency planning will not eliminate, in every conceivable accident, the possibility of serious harm to the public. Emergency planning can, however, be expected to reduce any public harm in the event of a serious but highly unlikely accident. The proper interpretation of the rule would call for adjustment to the exact size of the EPZ on the basis of such straightforward administrative considerations as avoiding EPZ boundaries that run through the middle of schools or hospitals, or that arbitrarily carve out small portions of governmental jurisdictions. The goal is merely planning simplicity and avoidance of ambiguity as to the location of the boundaries.

Given these circumstances, the Commission has concluded that adequate protection can be provided by an EPZ that is about 10 miles in radius.

16