

UNITED STATES OF AMERICA
NUCLEAR REGULATORY COMMISSION
ATOMIC SAFETY AND LICENSING BOARD
BEFORE ADMINISTRATIVE JUDGES

Lawrence Brenner, Chairman
Dr. Richard F. Cole
Dr. Peter A. Morris

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In the Matter of : Docket Nos. 50-352-OL
PHILADELPHIA ELECTRIC COMPANY : 50-353-OL
(Limerick Generating Station, :
Units 1 and 2)

REVISED ISSUES OF CONCERN
OF THE CITY OF PHILADELPHIA
IN THE AREA OF EMERGENCY PLANNING

CITY - 1 This issue of concern combines previously filed City - 1, City - 2 and City - 6 insofar as they relate to the sampling, prevention and control of the distribution of contaminated foods, foodstuffs and agricultural products into the City of Philadelphia.

More specifically, the State Plan fails to designate the Access Control Points at which food and agricultural products moving from and through the Plume Exposure Pathway EPZ toward and into the City of Philadelphia Ingestion Exposure Pathway will be stopped and the food and agricultural products sampled and tested.

In this regard, the State had previously represented that at the Access Control Points, State police will perform the function of stopping the movement and thereafter, appropriate State officials would test, sample and take

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appropriate protective actions, such as impoundment destruction, etc. However, the City has been informed that, as of the date of this filing, the Access Control Points have not yet been designated; that such designation will be made by the Counties in the Plume Exposure EPZ; that only main evacuation routes will be manned by State police to perform the required functions; and that at non-evacuation routes, municipal authorities of the Counties within the Plume EPZ will be requested to perform the required functions.

Thus, the State Plan fails to provide adequate protection for the public in the Ingestion Exposure EPZ since it presently lacks any planning to prevent the distribution of contaminated foods, foodstuffs and agricultural products from entering Philadelphia from the Plume EPZ. Without such a plan, there can be no reasonable assurance that adequate protective measures can and will be taken in the event of a radiological emergency as required by 10 CFR §§50.47(a), (b) and (c)(2), and NUREG-0654, §II.J.9 and 11.

The standard set forth in 10 CFR §50.47 (a) (2) requires that State and local emergency plans be adequate and that there be reasonable assurance that they can be implemented. 10 CFR §50.47 (b) (10) specifically imposes the requirement that

...protection actions for the ingestion exposure pathway EPZ appropriate to the locale have been developed.

In 10 CFR §50.47 (c) (2), it is stated that

The plans for the ingestion pathway shall focus on such actions as are appropriate to protect the food ingestion pathway.

The planning standards set forth in NUREG-0654, §II.A. at pp. 31 et seq. require, inter alia, that each plan provide for the assignment of responsibilities for emergency response by the nuclear facility licensee and by

the State and local organizations within the Emergency Planning Zones, and further, that the emergency responsibilities of the various supporting organizations are established and that each principal response organization has staff to respond and to augment its initial response on a continuing basis.

NUREG-0654, §III.J.11 at p. 64 provides that

Each State shall specify the protective measures to be used for the ingestion pathway, including the methods for protecting the public from consumption of contaminated foodstuffs...The plan shall identify procedures for detecting contamination, for estimating the dose commitment consequences of uncontrolled ingestion, and for imposing protection procedures such as impoundment, decontamination, processing, decay, product diversion and preservation.

The State Plan, in its present form, fails to specify Access Control Points where foods, foodstuffs and agricultural products moving from and through the Plume EPZ toward and into Philadelphia will be stopped, sampled, tested and, if necessary, impounded and destroyed. Instead, the State intends to rely on the Plume Counties to designate those points sometime in the future. As to manning these points, the State will only man the main evacuation routes, and will rely on the Plume Counties for manning the non-evacuation routes. This is totally inadequate since there is no assurance that Access Control Points will ever be designated; that they will be adequate; and that the Counties will be willing to, and have the resources to man the non-evacuation routes and perform the required functions. Thus, there is no assurance that adequate protection measures can and will be taken to protect the public.

CITY - 3 The State Plan provides for sampling and notification associated with water contamination (Appendix 17, §§III, 2; IV, B and C), but does not provide sufficient and adequate guidance for:

- (a) protecting existing supplies from contamination
- (b) preventing the use of contaminated water
- (c) alternative sources of water for the City of Philadelphia.

The thrust of the City's concern here is that the State Plan does not contain a proper and adequate water transport model. Moreover, the Plan contemplates measurement of Schuylkill River water contamination at too late a stage; does not provide for an alternative source of water for Philadelphia; and does not contain a decontamination plan. All of these items are hereinafter more fully discussed. Thus, there is no reasonable assurance that adequate protective actions can and will be taken in the event of a radiological emergency as required under 10 CFR § 50.47 (a), (b) and (c)(2).

NUREG-0654, §I.D., Planning Basis, b, Ingestion Exposure Pathway, page 10, specifically provides, inter alia, that "(f)or the ingestion exposure pathway, the planning effort involves the identification of major exposure pathways from contaminated food and water and the associated control and interdiction points and methods."

Moreover, NUREG-0654, Section II. J at page 59 requires, inter alia, that "(g)uidelines for the choice of protective actions during an emergency, consistent with Federal guidance, are developed and in place and protective actions for the ingestion exposure pathway EPZ appropriate to the locale have been developed."

Further, NUREG-0654, Section II, J. 11 at page 64 provides, inter alia, that "(t)he Plan shall identify procedures for detecting contamination, for estimating dose commitment consequences of uncontrolled ingestion, and for imposing protection procedures such as impoundment, decontamination, processing, decay, product diversion and preservation."

A water transport model of the Schuylkill River from the Limerick site to the City of Philadelphia's water system intakes is necessary to fulfill this mandate. The State and County response organizations must be able to accurately

predict the impact and consequences on Philadelphia's water supply of any "non-routine" liquid discharge and/or contaminants from precipitation or run-off after an accident. This model is required in order for appropriate emergency measures to be implemented.

Although the State recognizes the importance of such a model and has requested PECO to supply same, a proper and sufficient model has not yet been supplied, nor incorporated or provided for in the State Plan. Without a proper water transport model, the State Plan fails to demonstrate the capability and means of implementing reasonable protective measures. Thus, there is no reasonable assurance that prompt effective action can and will be taken to protect the public. 10 CFR § 50.47 (a), (b) and (c)(2).

Under date of May 15, 1984, PECO did submit to the City an analysis of the effect of a liquid release from the Limerick Generating Station. This analysis, however, does not and cannot be a substitute for a proper and sufficient water transport model. The PECO analysis, inter alia, does not provide a model by which the City can predict the concentration of radioactive contaminants at the City's water intakes under various hydrologic and climatic conditions under a variety of radiological discharges at Limerick. In addition, the PECO submission fails to deal with precipitation or run-off of radiological contaminants released into the air. Further, inasmuch as the PECO analysis is a highly technical document, it requires additional time to have it reviewed, studied and analyzed. Other serious deficiencies may be discovered upon further technical analysis, and the City respectfully requests and reserves the right to raise those deficiencies in this proceeding.

Moreover, the State Plan is inadequate in the area of monitoring, sampling and testing Schuylkill River water. More particularly, the State has preliminarily defined an "abnormal discharge" into the Schuylkill at Limerick as one where the Maximum Permissible Concentration of radiological

contaminants could occur at the outfall of the Limerick Plant. It is only at this stage that the State contemplates commencement of monitoring, sampling, testing and reporting, despite the fact that the State recognizes and has stated that such an "abnormal discharge" could result in a concentration at the City Water Department's intakes of approximately the U.S. EPA Safe Drinking Water Interim Standards. This means that the City of Philadelphia could be in violation of the Safe Drinking Water Act, 42 U.S.C. § 300 f et seq., should the concentration of radiological contaminants exceed the above-mentioned standards. Clearly, analysis by the state should be initiated at a significantly lower discharge concentration. That is to say, measurement and analysis of a discharge should commence whenever the potential impact on the City's water intakes could result in a significantly lower percentage of the maximum permissible concentration. Therefore, the State Plan is inadequate because it calls for measurement to commence when the maximum permissible concentration could be reached. Thus, there is no reasonable assurance that adequate protective actions can and will be taken in the event of a radiological emergency.

Moreover, to be legally adequate, the State Plan must be based upon the protective action guides (PAGs) and other criteria referred to in NUREG-0654 at Section 11, J. 9 at page 61 and at page 6, footnote 3. The PAG guides are set forth with specificity at page 1.30 of the Manual of Protective Action Guides and Protective Actions for Nuclear Incidents, T.D. -12 September 1981, FEMA ("PAG Manual") and recommend action in the Ingestion Exposure Pathway, as follows:

| <u>APPROXIMATE INITIATION TIME</u> | <u>EXPOSURE PATHWAY</u> | <u>ACTION TO BE INITIATED</u> |
|------------------------------------|-------------------------|---|
| 4-48 hours | Drinking Water | Cut off contaminated supplies, <u>substitute from other sources</u> |
| 12-14 days | Drinking Water | Filter, <u>demineralize</u> |

As to water control, the PAG Manual (pp. 1.47, 1.48) provides that the planner consider protective actions to :

1. Prevent contamination - In this regard, a water transport model is crucial.

2. Decontaminate water - Although on May 14, 1984 the State supplied some written references on this subject, the State Plan makes no provision for water supply and water system decontamination, nor has it been demonstrated that the State has the capability or resources to perform said functions. This issue is discussed in more detail in City-7.

3. Condemn use of water for consumption - No alternative supply or prediction of the period of contamination is in place to date.

4. Provide alternative sources - In this regard, the State Plan does not provide alternative sources of water for Philadelphia. The State has correctly recognized this as a problem and did arrange a conference on May 14, 1984 of officials from the City Water Department and two (2) suburban water companies, together with representatives of the State Department of Environmental Resources, Bureau of Water Management and Radiation Protection, At that time various options were discussed, i.e., interconnections, water trucks, preliminary studies, resources, etc.

The State is considering development of a plan as to how Philadelphia could be provided with an alternative water supply, the costs thereof, the resources available. The State will request PECO to participate in the effort. Nevertheless, at the present time, no provision or plan exists for an alternate water supply for Philadelphia.

5. Ration Supplies - In this regard, the State Plan does not provide a plan for rationing water.

6. Substitution of other beverages - The State Plan does not consider or to make provision for such substitution.

7. Importing water from other uncontaminated area - See discussion under (4) above. (Provide alternative sources)

8. Designation of critical users - In this regard, the State Plan is likewise silent.

Thus, the City has a continuing concern regarding these issues since the Plan does not provide reasonable assurance that adequate protective measures can and will be taken as required by 10 CFR §50.47 and NUREG-0654.

CITY - 4 Withdrawn

CITY - 5 Withdrawn

CITY - 6 Withdrawn

CITY - 7 The State Plan does not provide adequate guidance for recovery actions. More specifically, the State Plan does not provide guidance or information and makes no provision for decontamination of the City's water supply and water distribution system. This is discussed under City-3 above.

Appendix 18 of the State Plan, entitled Re-entry and Recovery, is silent on this point. Appendix 12, Section 12.3, Recovery, discusses reinstatement of milk, produce and water, but does not provide for decontamination of water supplies and water distribution system, nor does it provide assurance that resources are available to implement such a recovery action. Thus, the State Plan fails to comply with the planning standard of NUREG-0654, Section II, M. (p. 70) which requires planning for recovery be developed.

Nothing contained in 10 CFR § 50.47 (b) (13) relieves the State of recovery planning responsibility in the Ingestion Exposure Pathway. That Section provides as follow:

(b) The onsite and, except as provided in paragraph (d) of this section, offsite emergency response plans for nuclear power reactors must meet the following standards:

* * *

(13) General plans for recovery and reentry are developed.

Moreover, NUREG-0654, Section II.J.11 at p. 64 specifically provides, inter alia, that the plan shall identify procedures for decontamination and processing. As aforesaid, the PAG Manual at page 1.30 refers to demineralization of drinking water as a protective action. In addition, at pp. 1.49 and 1.50 of the PAG Manual, decontamination of water, milk and food is a recommended restorative action (PAG Manual, Section 1.6.3.9, c., pp. 1.48, 1.49 and 1.50). The PAG Manual further states that

The movement of radionuclides along several pathways involving milk, food and water may result in prolonged contamination. Each of these elements may require processing to remove radiocative contaminants prior to consumption. In each case, the radionuclide concentrations would be reduced to levels 'as low as practicable' commensurate with treatment costs. (p. 1.49, 1.50 PAGs)

The State Plan does not provide for decontamination and gives no consideration to costs of treatment and the availability and willingness of the State to provide and/or obtain the financial resources for this function. While funding and technical assistance are not directly addressed in NUREG-0654, nevertheless, it is recognized in the document. Thus, at p. 25 it is stated, inter alia, that funding and technical assistance

... is a subject which must be discussed between the individual nuclear facilities and the involved State and local governments who must prepare emergency plans to support the nuclear facilities. The nuclear utility may have an incentive based on its own self-interest as well as its responsibility to provide electric power, to assist in providing manpower, items of equipment, or other resources that the State and local governments may need but are unable to provide.

...

CITY - 8 Withdrawn.

CITY - 9 There is presently no agreement, as required, between PECO and the Commonwealth of Pennsylvania identifying "the emergency measures to be mutually acceptable criteria for their implementation" and specifying "the arrangement for exchange of information."

This Agreement is required under NUREG-0654, § II.A.3. (p. 32) which provides, with respect to both the Plume and Ingestion Exposure Pathways, as follows:

Each Plan shall include written agreements referring to the concept of operations developed between Federal, State and local agencies and other support organizations having an emergency response role within the Emergency Planning Zones. The agreement shall identify the emergency measures to be provided and the mutually acceptable criteria for their implementation, and specify the arrangements for exchange of information. [Emphasis supplied]

The City is concerned, since without an emergency measures and implementation agreement, there is no assurance that the protective measures can be implemented by the Commonwealth and the local agencies and other support organizations in an emergency. Thus, there is no assurance that the Plan can and will be implemented as required by 10 CFR 50.47 (a) and (b)(3). See also NUREG-0654 § II.B.9. (p. 39) and § II.L.1. (p. 69).

CITY - 10 Withdrawn.

CITY - 11 Withdrawn.

CITY - 12 Withdrawn.

WHEREFORE, The City of Philadelphia requests the following:

1. That the aforesaid issues and concerns be included within the scope of the instant proceeding ; and

2. That this Honorable Board require that the emergency plans encompassing the City of Philadelphia be amended and revised in a manner consistent with the aforesaid concerns.

3. That this Honorable Board find that the Commonwealth of Pennsylvania Disaster Operations Plan-Annex E, in its present form, is inadequate in those areas hereinabove mentioned, as relates to the City of Philadelphia, and that there is no reasonable assurance that adequate protective measures can and will be taken in the event of a radiological emergency;

4. Such other action as this Honorable Board deems necessary and just to ensure the safety of the citizens of Philadelphia.

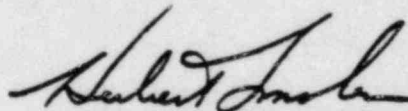
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HERBERT SMOLEN

Date: May 18, 1984

UNITED STATES OF AMERICA
NUCLEAR REGULATORY COMMISSION
ATOMIC SAFETY AND LICENSING BOARD
BEFORE THE ADMINISTRATIVE JUDGES

Lawrence Brenner, Chairman
Dr. Richard F. Cole
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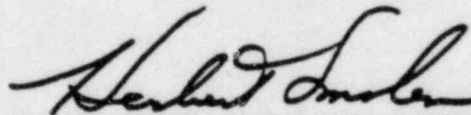
In the Matter of:

PHILADELPHIA ELECTRIC COMPANY : DOCKET NOS. 50-352-OL
: 50-353-OL
:
(Limerick Generating Station, :
Units 1 & 2) : .

CERTIFICATE OF SERVICE

I hereby certify that a true and correct copy of the Revised Issues of Concern of the City of Philadelphia in the Area of Emergency Planning in the above-captioned proceeding have been served on the following persons named on the attached service list by hand delivery or by Federal Express Mail, or by causing the same to be deposited in envelopes addressed to said persons, first class, postage prepaid, and deposited with the United States Postal Service at Philadelphia, Pennsylvania 19107.

Respectfully submitted,



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Dated: May 18, 1984

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