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UNITED STATES OF AMERICA  
NUCLEAR REGULATORY COMMISSION

DOCKETED  
USNRC

Before the Atomic Safety and Licensing Board

'84 MAY -2 AIO:11

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

OBJECTIONS AND REQUEST FOR RECONSIDERATION BY THE  
COMMONWEALTH OF PENNSYLVANIA REGARDING SPECIAL PREHEARING  
CONFERENCE ORDER RULING ON ADMISSIBILITY OF OFFSITE  
EMERGENCY PLANNING CONTENTIONS

Pursuant to 10 C.F.R. § 2751a(d), the Commonwealth of  
Pennsylvania hereby files objections to the Licensing  
Board's special prehearing conference order concerning  
offsite emergency planning contentions. LBP-84-18, 19 NRC \_\_\_\_  
(Apr. 20, 1984). The Commonwealth requests that the Board  
reconsider its ruling that denied admission of that part of  
Commonwealth-1 concerning arrangements for procurement and  
distribution of permanent record (thermoluminescent)  
dosimeters.

The Commonwealth believes the Board incorrectly  
applied ALAB-698 to preclude litigation of an otherwise  
admissible issue of concern. The Board should admit  
Commonwealth-1 in its original form so that a complete  
record may be developed on the issue of whether there is  
reasonable assurance that adequate protective measures for  
offsite emergency workers at Limerick can and will be  
taken.

DS03

The standard by which the admissibility of the Commonwealth's issues of concern should be judged is that set forth in 10 C.F.R. § 2.714(b)--that is, the basis for the issue must be set forth with reasonable specificity. See Houston Lighting & Power Co. (Allens Creek Nuclear Generating Station, Unit 1), ALAB-590, 11 NRC 542 (1980). The Board, on the other hand, applies a standard that is more akin to summary disposition--that is, based on the TMI record, there is no genuine issue of material fact regarding permanent record dosimeters as means for protecting emergency workers at Limerick. In light of the standard for admissibility prescribed by NRC regulations and the inadequacy of the TMI record on this issue, the Board should reconsider its ruling on Commonwealth 1.

Commonwealth - 1 states:

- I. No operating license for the Limerick Generating Station, Units 1 and 2, should be authorized until arrangements are in place for procurement, and distribution to all offsite emergency workers identified in the state, county and municipal emergency plans as requiring dosimetry, of adequate numbers of self-reading (0-20R and 0-200R) and permanent record (thermoluminescent) dosimeters. 10 C.F.R. 50.47(b)(10), (11); NUREG-0654, Rev. 1, "Criteria for Preparation and Evaluation of Radiological Emergency Response Plans and Preparedness in Support of Nuclear Power Plants" (November 1980), Criterion K.3; FEMA-REP-2, "Guidance on Offsite Emergency Radiation Measurement Systems, Phase 1 - Airborne Release" (September 1980).

The Licensing Board admitted Commonwealth-1 as it applies to self-reading dosimeters. The Board ruled that the Limerick emergency plans "must show either that the

necessary supplies [of self-reading dosimeters] are in place, or that the mechanism for acquiring and placing them exists." LBP-84-18, 19 NRC at \_\_\_\_ (slip opinion at 23-24). The Board went on to rule that the offsite emergency plans "need not include arrangements for the procurement and distribution of permanent record dosimeters." Id. at (slip opinion at 22). In support of its ruling the Board cited the Appeal Board's decision in Metropolitan Edison Co. (Three Mile Island, Unit 1), ALAB-698, 16 NRC 1290 (1982). In its view, that decision "compels" this Licensing Board to rule, as a matter of law, that offsite emergency planning need not include permanent record devices for emergency workers and that an issue of concern asking that an adequate supply of such devices be assured is not litigable.

The Commonwealth's emergency plan provides with regard to dosimetry (in pertinent part):

Each emergency worker will be provided two self-reading dosimeters (one CD V-730 or one DCA-622 and one CD V-742) and one thermoluminescent dosimeter (TLD). The self-reading dosimeters enable the worker to monitor himself at the time of the emergency for total radiation dose received; the TLD is an independently read (by the TLD service contractor) device that is generally considered to be more dependable, accurate and precise than the self-reading dosimeters. Each emergency worker is responsible for following the dosimetry procedures, including recordkeeping.

Appendix 16, Annex E. It should be noted that the relevant language in the state's plan has been revised since ALAB-698; however the thrust of that section regarding need for and proper use of each type of

dosimeter is not materially different.

The Commonwealth's plan regarding dosimeters is based on well-established federal guidance. NUREG-0654 contemplates that emergency plans shall provide for distribution of dosimeters to offsite emergency workers, "both self-reading and permanent record devices." Criterion K.3a. FEMA-REP-2, which is still effective guidance, also recommends use of both self-reading and permanent record dosimeters. FEMA-REP-2 at 5-8 through 5-9, 7-5. Adherence to such regulatory guidance, absent other evidence, "may be sufficient to demonstrate compliance with regulatory requirements." ALAB-698, 16 NRC at 1299. While alternative means for controlling emergency workers' exposure may be available, it is the applicant's burden to demonstrate the adequacy of such alternatives and whether they can be implemented. See 10 C.F.R. § 2.732.

In ALAB-698, all parties agreed that adequate supplies of two types of self-reading dosimeters--low-range CDV-730s (0-20R) and high-range CDV-742s (0-200R)--were available for TMI. Id. at 1295. That assumption was essential to the Appeal Board's determination regarding protection for emergency workers. The Appeal Board stated its belief that "the distribution of the two self-reading dosimeters, under the specific instructions given to emergency workers in the emergency plans, is sufficient to assure reasonable

protection for emergency workers." Id. at 1299. Thus in TMI, it was possible to determine that an alternative means of protecting emergency workers existed. In the instant proceeding, there is no record as to what dosimetry exists for workers at Limerick. The Board's ruling on Commonwealth-1 relieves the Applicant of its burden to establish adequate means for protecting emergency workers.

The Board also fails to recognize fully the context in which the issue of provision for permanent record dosimetry was considered in ALAB-698. The issue of dosimetry for emergency workers arose late in the TMI-Restart proceeding, and was not the subject of an individual contention. As the Appeal Board noted, "the issue therefore was not subject to the normal process of discovery, nor was it dealt with in prefiled direct testimony." 16 NRC at 1300 n. 22. The virtues of permanent record dosimeters were therefore not fully explored on the record of the TMI Restart proceeding. Further, the little record evidence that was presented in the TMI proceeding was dealt with primarily in the context of a request by PEMA to FEMA for additional dosimeters. See Attachments 1, 2. Only in August 1982 did FEMA notify the Commonwealth that it would not be making additional TLDs available to the state. See Attachment 3. The Board should also be aware that the Commonwealth filed a petition for review of ALAB-698 with the Commission, but decided to withdraw the petition in

view of the settlement reached with the TMI utility, whereby that utility, inter alia, will supply TLDs for offsite emergency workers for the life of that facility.

Permanent record dosimeters are, in the Commonwealth's view, extremely important in ensuring an emergency worker has an accurate and reliable, and legally defensible, measurement of the actual radiological dose received by that individual over the course of a nuclear incident. Unlike self-reading dosimeters, TLDs are read by the instrument vendor, not by the individual worker, the utility or the state. The professional training and detachment of the TLD reader assures an accurate dose measurement for each worker. Self-reading dosimeters are also easily tampered with and accidental discharges from impact are possible. Therefore inaccurate readouts are quite likely. TLDs are not nearly as susceptible to such faulty measurements. In FEMA's view, it is "highly desirable that [a TLD reading for each emergency worker] be incorporated as part of the exposure record documentation." FEMA-REP-2 at 7-5. See also Attachment 3 at p. 2. It is therefore in the Applicant's interest as well as the State's that TLDs be provided for emergency workers. Further, as the Appeal Board noted, the two self-reading dosimeters cannot measure doses less than 0.4R or greater than 200R. 16 NRC at 1295. The Appeal Board accordingly recognized the value of permanent record dosimeters. It



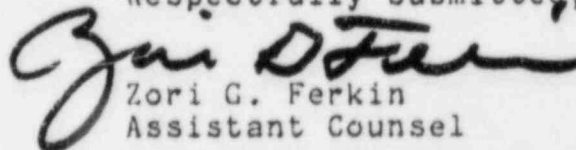
stated that permanent record dosimeters "represent a useful added measure of protection for emergency workers," and "clearly would facilitate more accurate permanent recordkeeping, as well as diagnosis in special cases." Id. at 1301. The Appeal Board urged the TMI parties to "work together to make reasonable provision for distribution of TLDs for all offsite emergency workers in the event of an emergency." Ibid. Should the Board reconsider and admit this issue, the Commonwealth proposes to proffer evidence concerning the need for permanent record dosimeters, an issue that was not squarely addressed in the TMI proceeding.

The Commonwealth did not raise dosimetry as an issue of concern in this proceeding merely to have the Board determine who will pay for these devices, as the Board apparently believes. See 19 NRC at — (slip opinion at 21). Offsite emergency workers who agree to respond in a nuclear incident are taking a calculated personal risk for the benefit of their community. These workers have a right to a definitive measurement of their actual radiological exposure during an emergency. In the case of Limerick, where we have no knowledge (and indeed, are being allowed to litigate) whether there are adequate supplies of self-reading dosimeters for offsite workers, TLDs may well be necessary to provide reasonable assurance that emergency workers will be protected. See ALAB-698, 16 NRC at 1299.

It is the Commonwealth's position that it is Applicant's burden to demonstrate an alternative to NRC and FEMA guidance is available for Limerick offsite workers.<sup>1</sup>

As this Board recognized in admitting Commonwealth-1 as to self-reading dosimeters, planning alone is not enough; rather, the issue is whether dosimeter supplies are in place, or the necessary arrangements have been made for their acquisition and distribution. The Commonwealth has demonstrated the requisite basis for its issue of concern regarding dosimetry for emergency workers at Limerick. The Commonwealth therefore urges the Board to reconsider its ruling denying admission of Commonwealth-1 as it concerns permanent record dosimeters, and admit Commonwealth-1 in its original form.

Respectfully submitted,

  
Zori G. Ferkin  
Assistant Counsel

Commonwealth of Pennsylvania  
P. O. Box 8010  
1625 North Front  
Harrisburg, Pa. 17105

Date: April 30, 1984

<sup>1</sup> Indeed, by noting the Commonwealth's participation in the litigation underlying ALAB-698 (19 NRC at \_\_\_\_ (slip opinion at 21), the Board seems to imply that that decision is binding for these purposes under res judicata principles. Res judicata necessitates identity of parties as well as of identity of issues between two proceedings. See Montana v. United States, 440 U.S. 147(1979); Alabama Power Co. (Joseph M. Farley Nuclear Plant, Units 1 and 2), ALAB-182, 7 AEC 210, remanded on other grounds, CLI-74-12, 7 AEC 203(1974). Neither of these prerequisites is present in this case.





PENNSYLVANIA EMERGENCY MANAGEMENT AGENCY  
P.O. BOX 3321  
HARRISBURG, PENNSYLVANIA 17105

DOCKETED  
USNRC

January 7, 1982

'84 MAY -2 A10:11

OFFICE OF SECRETARY  
DOCKETING & SERVICE  
BRANCH

Mr. Robert Adamcik  
Acting Regional Director  
Federal Emergency  
Management Agency  
Region III, Curtis Building  
6th and Walnut Streets  
Philadelphia, Pennsylvania 19106

Dear Mr. Adamcik:

During the final development of the Commonwealth of Pennsylvania Radiological Emergency Response Plan for Fixed Nuclear Facility Incidents, we identified in our August 31, 1981 letter to Mr. Adler two major shortfalls in requisite dosimetry for emergency workers pursuant to Federal planning standards and evaluation criteria. At that time we requested FEMA to provide, or arrange for the provision of, the following dosimetry requirements for emergency workers concerned with the Three Mile Island Nuclear Station, Susquehanna Steam Electric Station, Peach Bottom Atomic Power Station and the Beaver Valley Power Station.

<u>QUANTITY</u>	<u>DESCRIPTION</u>
5,054	CD V 730 Dosimeter (0-20r)
11,184	TLD (Thermoluminescent Dosimeter)

The following important considerations relative to the request were also cited:

- a. During the initial planning effort we opted for distribution of dosimetry at the time of emergency since fewer total resources would be required and NUREG-0654 does not specify the type of distribution.
- b. The current plan was changed to predistribution of dosimetry before the emergency on the basis of Federal observations and recommendations cited in (1) Review and (2) Exercise of Pennsylvania REP Site-Specific to Three Mile Island Fixed Nuclear Facility

- c. The rationale for FEMA to identify the CD V 730 as a possible national resource to meet State RERP dosimetry needs.
- d. The rationale for Federal procurement of all TLD RERP dosimetry needs.

In the State Plan we have specified that a sufficient supply of personal dosimetry will be issued to each risk county to permit pre-distribution of two self-reading and one permanent-record dosimeter each emergency worker. While we have enough CD V 742 Dosimeters (0-200r), there is the shortage of CD V 730s and TLDs indicated also. Our decision to opt for three dosimeters for each emergency worker is based on paragraph 7.3b, page 7-5 of the FEMA document entitled "Guidance on Offsite Emergency Radiation Measurement Systems, Phase I, Airborne Release," dated September 1980, short title, FEMA-REP-2. While it is indicated in the abstract that the document "provides interim guidance to State and local agencies," we have received no official notification that the guidance has been cancelled, modified or superseded.

During the October 1981 ASLB Hearings for the Susquehanna Steam Electric Plant, FEMA testified that it would not supply the unmet dosimetry needs of the State. It was further indicated that either the State or the utility should finance the purchase of this dosimetry. In view of FEMA's strong recommendation for predistribution of dosimetry, this dogmatic position was surprising since an answer to our August 31 letter has never been received. In response to another question, FEMA testified there was no requirement in NUREG-0654 for two self-reading dosimeters as called for in the State Plan. During subsequent cross-examination, however, FEMA was questioned regarding FEMA-REP-2 and testified that this document was not being continued, though in fact it had not been cancelled.

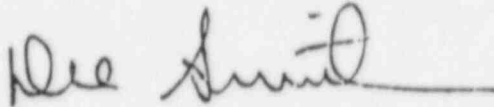
While the sworn statements made by FEMA at the referenced ASLB Hearings may not be conclusive, they are a matter of public record and in the absence of any other statements from FEMA are of concern to us. To clarify these matters I ask that the following be provided by your office or FEMA National:

- a. A formal reply to our letter of August 31, 1981 to Vernon Adler, then Region III, Director, Plans and Preparedness Division.
- b. A definitive written statement as to whether the guidance in FEMA-REP-2 relative to the self-reading and permanent-record dosimeters is still valid.

Mr. Robert Adamcik  
January 7, 1982  
Page Three

- c. If the FEMA-REP-2 guidance is no longer to be followed, then what specifically is the FEMA requirement for predistributed dosimetry to offsite emergency workers.

Sincerely,

A handwritten signature in dark ink, appearing to read "De Witt Smith", with a long horizontal flourish extending to the right.

DeWitt C. Smith, Jr.  
Director

DCS:sam (Tel: 717-783-8150)



# Federal Emergency Management Agency

Region III 6th & Walnut Streets Philadelphia, Pennsylvania 19106

DOCKETED  
USNRC

JAN 18 1982

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OFFICE OF SECRETARY  
DOCKETING & SERVICE  
BRANCH

Lt. Gen. DeWitt C. Smith, Jr.  
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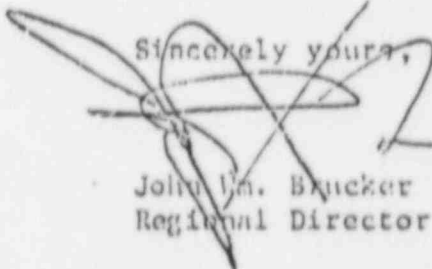
Dear General Smith:

We have received your letter of January 7, 1982 in which you requested FEMA assistance in the provision of dosimetry for emergency workers located around four (4) nuclear power plant sites in Pennsylvania. In the same letter you also inquired as to whether the guidance on dosimetry contained in the publication entitled "Guidance on Offsite Emergency Radiation Measurement Systems, Phase 1 - Airborne Release," also known as FEMA-REP-2 still is valid or if it has been superseded by some other guidance.

Your questions reflect issues which are of national interest and policy. Therefore, as your letter suggests, and as we did with your letter of August 31, 1981, we are forwarding your letter to our central office with the request that they reply directly to you. You should receive their reply shortly. Please let us know if you do not.

We look forward to continuing our mutual efforts in improving our radiological emergency preparedness capabilities. Please contact me if we can be of additional assistance.

Sincerely yours,

  
John W. Brucker  
Regional Director

0544251



# Federal Emergency Management Agency

Washington, D.C. 20472

AUG 21 1982

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USNRC

84 MAY -2 AIO:11

OFFICE OF SECRETARY  
DOCKETING & SERVICE  
BRANCH

MEMORANDUM FOR: Walter P. Pierson  
Chief  
Natural and Technological Hazards Division  
Region III (Philadelphia)

FROM: *Richard W. Kriss*  
Richard W. Kriss  
Assistant Associate Director  
Office of Natural and Technological  
Hazards

SUBJECT: Request by the Commonwealth of Pennsylvania for Radiological  
Emergency Preparedness (REP) Dosimetry Equipment Assistance  
and Guidance on FEMA-REP-2.

This is in reply to your memorandum, subject as above.

Federal Emergency Management Agency (FEMA) Headquarters recognizes the acute shortage of CDV-730 dosimeters in a number of the States for use in supporting the REP program. Based upon a recent survey of all States by the Emergency Management Programs Office, there are no known surplus CDV-730's in any State. Also, FEMA has no plans to procure additional quantities for either Civil Defense or REP.

It is important to note that the CDV-742 dosimeter is recommended for use in conjunction with the CDV-730 dosimeters in order to provide a redundant self-reading capability and an adequate read-out range extending above the emergency worker PAG's for whole body gamma radiation exposure. The CDV-742 dosimeter can be substituted for the CDV-730 dosimeter where there are shortages. The primary advantage of the CDV-730 dosimeter is that a more accurate reading can be made for low exposures. However, if the dosimeter is assigned to an individual and remains with him throughout the duration of the emergency, then the CDV-742 is adequate for a self-reading dosimetric device. We note that the State of Pennsylvania has an inventory of 112,872 CDV-742 dosimeters. The quantity in the State appears to be more than sufficient so that the number required to meet the REP requirements should be available within the State.

In developing radiation measurement and dosimetry systems, FEMA-REP-2 guidance encouraged States to use existing instrumentation and resources wherever possible. This document also indicated that the higher radiation levels are of more concern. Therefore, the use of two CDV-742's, if necessary, is a very logical choice to provide instrumentation for the potentially higher exposures that emergency workers could possibly accrue. However, the CDV-742 can be accurate read in the dose range far below the maximum emergency worker PAG. FEMA Headquarters concurs with the Regional position that self reading dosimetry devices should be distributed, at least to county and or local levels. This is considered essential so that rapid final distribution to individual emergency workers can be made in a timely manner.

Thermoluminescent dosimeters (TLD) have not and will not be made available by FEMA for State and local use. The Interagency Taskforce on Offsite Emergency Instrumentation for Nuclear Incidents, in examining the requirements for dosimetry, recommend a TLD system over other measurement systems such as film badges, for administrative documentation of each individual's exposure to radiation. Film badge dosimeters may serve as a substitute for thermoluminescent dosimeters, assuming film badge services including calibration and reading can be satisfactorily provided. The self-reading dosimeters were recommended so that individuals could keep track, on a current basis, of their radiation exposure as being received. The discussion regarding the need for non-self-reading devices for documentation is found on pages 5-3 and 5-9 of FEMA-REP-2. The TLD permanent record devices were recommended on page 7-5 as the preferable means for exposure record documentation for all emergency workers. FEMA still considers this a highly desirable procedure and will continue to recommend it.

Although the FEMA-REP-2 document dated September 1980 entitled, "Guidance on Offsite Emergency Radiation Measurement Systems, Phase I, Airborne Release" is being considered for revision, primarily in terms of updating available information regarding plume airborne radioiodine monitoring methods, this document is considered to be FEMA guidance in the area of personnel dosimetry.

In summary we wish to emphasize that it is not FEMA policy to procure and grant emergency instrumentation to the States for use in REP. However, where instrumentation exists for civil defense purposes, it may be used also for REP providing its availability for Civil Defense is not adversely affected.



UNITED STATES OF AMERICA  
NUCLEAR REGULATORY COMMISSION

BEFORE THE ATOMIC SAFETY AND LICENSING BOARD

DOCKETED  
USNRC

'84 MAY -2 AIO:11

In the Matter of )  
 )  
PHILADELPHIA ELECTRIC COMPANY )  
 )  
 )  
(Limerick Generating Station, )  
Units 1 and 2) )

Docket Nos. 70-352 SECRETARY  
DOCKET & SERVICE  
50-BRANCH

CERTIFICATE OF SERVICE

I hereby certify that copies of "Objections and Request for Reconsideration by the Commonwealth of Pennsylvania" in the above-captioned proceeding have been served on the following by deposit in the United States mail, first class, or, as indicated by an asterisk through deposit in the Commonwealth of Pennsylvania's internal mail system, this 30th day of April 1984:

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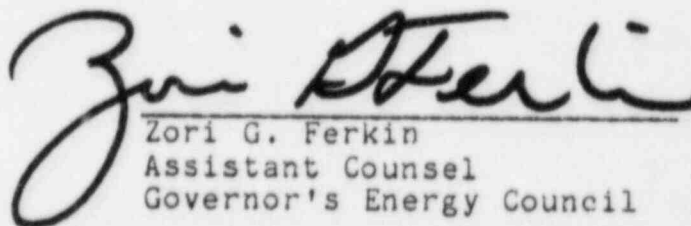
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Governor's Energy Council

Date: April 30, 1984