UNITED STATES OF AMERICA
NUCLEAR REGULATORY COMMISSION

BEFORE THE ATOMIC SAFETY AND LICENSING APPEAL BOARD

In the Matter of:

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PENNSYLVANIA POWER & LIGHT CO.	:	
and	:	
ALLEGHENY ELECTRIC COOPERATIVE,	:	Docket Nos. 50-387
INC. (Susquehanna Steam Electric	:	50-388
Station, Units 1 and 2)	:	

BRIEF OF THE COMMONWEALTH OF PENNSYLVANIA IN SUPPORT OF ITS EXCEPTIONS TO THE ASLB INITIAL DECISION DATED APRIL 12, 1982

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QUESTIONS PRESENTED

1. Whether the Licensing Board improperly refused to address the adequacy of dosimetry for emergency workers?

2. Whether federal guidance regarding dosimetry requirements for emergency workers is clear and unambiguous?

3. Whether the record supports a finding of a deficiency in the supply of dosimeters for offsite emergency workers?

4. Whether alternative methods of protecting offsite emergency workers, absent adequate supplies of dosimeters, were proven based on reliable and probative record evidence?

5. Whether adequate supplies of dosimeters are required to be available for distribution to offsite emergency workers for compliance with the emergency planning rule and applicable federal guidance?

STATEMENT OF RELEVANT FACTS

The action appealed from is the Initial Decision[1] of the Atomic Safety and Licensing Board (ASLB) in Pennsylvania Power and Light Co. and Allegheny Electric Cooperative, Inc. (Susquehanna Steam Electric Station, Units 1 and 2), LBP-81-___ (April 12, 1982). The Initial Decision and accompanying Order authorized the Director of Nuclear Reactor Regulation to issue operating licenses for Susquehanna Steam Electric Station (SSES), Units 1 and 2, upon making certain findings and subject to certain conditions prescribed by the ASLB. I.D. ¶¶222-23.

The Commonwealth of Pennsylvania (Commonwealth) filed the following exceptions to the Initial Decision:

> (1) The Board erred as a matter of law in failing to consider and to rule upon the Commonwealth's proposed findings of fact and conclusions of law regarding the availability of dosimetry for off-site emergency workers (Commonwealth's Proposed Findings 20-29). Initial Decision at 39-40.
>
> (2) The Board erred in finding that there is no substantive disagreement regarding the recommended number of dosimeters for each off-site emergency worker, according to federal guidance. Initial Decision at 39.
>
> (3) The record supports a finding that there is a deficiency in the supply of dosimeters for distribution to off-site emergency workers in the plume exposure pathway emergency planning zone for the Susquehanna Steam Electric Station. The Board erred in failing to make this finding. (¶92).
>
> (4) The Board erred in finding that dosimetry requirements for off-site emergency workers can be met on a "loan basis" or by allocating the "existing limited state supply to provide an approximate amount of coverage." (¶93).

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1. The Initial Decision hereafter will be cited as I.D. at ___ or I.D. ¶ ___. (The decision is divided into two portions, an opinion in narrative text and the specific findings of fact and conclusions of law in numbered paragraphs.)

(5) The Board erred as a matter of law in failing to conclude that adequate supplies of dosimeters are required to be available for distribution to all off-site emergency workers identified in the state and county emergency plans as requiring dosimetry, prior to the issuance of a full power license for the Susquehanna Steam Electric Station.

While the Commonwealth does not object to the basic thrust of the ASLB Order, its exceptions constitute a request that the following additional condition be included in the SSES operating licenses:

> Adequate numbers of self-reading and permanent record (thermoluminescent) dosimeters, consistent with applicable federal guidance, are available for distribution to all offsite emergency workers identified in the state and county emergency plans as requiring dosimetry.

This condition is necessary to provide reasonable assurance that the health and safety of emergency workers in the plume exposure pathway emergency planning zone[2] for SSES will be protected in the event of a radiological incident. See 10 C.F.R. §50.47(b)(8), (10), (11).

Two subsections of Contention 20 in the proceeding allege deficiencies regarding dosimetry for emergency workers. Contention 20[5][b] states:

> NUREG REV. 1 (H 10, page 54) recommends that "each organization shall make provisions to inspect, inventory and operationally check emergency equipment/instruments at least once each calendar quarter and after each use. There shall be sufficient reserves of instrument/equipment to replace those that are removed from emergency kits for calibration or repair." The state plan

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2. The plume exposure EPZ is defined by regulation as an area approximately 10 miles in radius, depending on particular local conditions. 10 C.F.R. §50.47(c)(2). For the theory of the plume exposure EPZ, see Staff Ex. 7, at 8-9. Staff Exhibit 7 is NUREG-0654, "Criteria for Preparation and Evaluation of Radiological Emergency Response Plans and Preparedness in Support of Nuclear Power Plants," a joint regulatory guidance document of the NRC and the Federal Emergency Management Agency (FEMA) [hereafter "NUREG-0654"]. NUREG-0654 is referenced by footnote in the Commission's emergency planning regulation as representing the standards and criteria by which both onsite and offsite emergency plans are to be judged. 10 C.F.R. §50.47 n.1.

> does not meet this requirement since it does not mention inspection, inventory, or checking of such equipment, nor does it mention reserves ...

As explained further below, dosimeters for emergency workers are included in this category. Contention 20[8][a] alleges that there are inadequate procedures to ensure that dosimeters are read at appropriate frequencies and that dose records are maintained for emergency workers. NUREG-0654, at 67 (Planning Standard K, Criterion 3.b).[3] Obviously, this contention cannot be met unless there are adequate supplies of dosimeters to distribute to emergency workers at the time of an emergency.

The Commonwealth interpreted these contentions throughout the proceeding as challenging the ability to implement emergency plans consistent with the requirements of the emergency planning rule and applicable regulatory guidance. This view is supported by the fundamental requirement of the emergency planning rule, which requires "reasonable assurance that adequate protective measures can and will be taken in the event of a radiological emergency." 10 C.F.R. §50.47(a)(1) (emphasis added). Implementation, of course, requires the availability of necessary equipment as well as appropriate plans, procedures, and trained personnel. Consequently, the Commonwealth's prefiled written direct testimony addressed shortfalls in available dosimetry as a bar to complete compliance with the emergency planning rule, as addressed by Contentions 20[5][b] and 20[8][a]. In particular, the Commonwealth's witnesses testified:

> Dosimetry for use by emergency workers and equipment for decontamination monitoring of evacuees at mass care centers will be predistributed, as available, by the State to the counties that would be involved in the event of an incident. The predistribution will include adequate reserves of

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3. Planning standards A - P in NUREG-0654 correspond verbatim to the specific requirements in the emergency planning rule. 10 C.F.R. §50.47(b)(1)-(16). For each such standard, there is a list of criteria by which compliance with the standard is judged. See NUREG-0654, at 31-79.

> these items. While sufficient decontamination monitoring equipment is available for predistribution to the risk and support counties concerned with the Susquehanna Steam Electric Station there is a shortage of dosimetry for emergency workers. As indicated in the State and County Plans each emergency worker is to receive three dosimeters, a CD V-730 (with a range of 0-20 roentgens), a CD V-742 (with a range of 0-200 roentgens) and a thermoluminescent dosimeter (TLD). The 730 and 742 are self-reading dosimeters while the TLDs will be read by BRP or the TLD vendor. Sufficient CD V-742s for all emergency workers will be predistributed by PEMA to Luzerne and Columbia Counties. Although a partial predistribution of the CD V-730s will be made, the Commonwealth does not have a supply of TLDs that can be predistributed to the counties at this time. A request has been made by PEMA to the Federal Emergency Management Agency in Washington to provide the 730s and TLDs needed for predistribution (including a reserve supply) to affected counties around all nuclear facilities within Pennsylvania.

Belser, et al., ff. Tr. 2586, at 19.[4]

This testimony was admitted into the record, without objection from any party. Despite extensive additional oral testimony and cross-examination on this issue (discussed infra), at no time during the hearing did any party assert that the evidence and views proffered by the Commonwealth were beyond the scope of Contention 20 or otherwise irrelevant to the proceeding. (Parenthetically, the Commonwealth notes that the ASLB itself did not question the propriety of this issue during the hearing, when testimony on this issue was admitted.) In fact, the Applicant's initial Proposed Findings of Fact and Conclusions of Law [hereafter App. PF ¶___] addressed the issue of adequacy of dosimeter supply as if it were an issue in the proceeding, without qualification.[5]

4. Testifying on behalf of the Commonwealth were Adolph L. Belser, Director, Plans and Preparedness, Pennsylvania Emergency Management Agency (PEMA); Ralph J. Hippert, Deputy Director, Plans and Preparedness, PEMA; Kenneth R. Lamison, Operations Officer, PEMA; and John J. Coney, Press Secretary, PEMA. The professional qualifications of these individuals are attached to their testimony.

5. Having the burden of proof on all issues in the proceeding, the Applicant filed proposed findings and conclusions first, pursuant to 10 C.F.R. §2.754.

App. PF ¶104. Similarly, the Applicant's Reply Findings [hereafter App. Reply PF ¶___] did not allege that the dosimetry issue was outside the scope of the proceeding. App. Reply PF ¶¶18-20.[6]

Despite this extensive litigation and the apparent agreement by the parties that the availability of dosimeters for predistribution to emergency workers was a proper issue for resolution by the ASLB, the Board mysteriously refused to rule on the matter because it viewed the issue as outside the scope of Contention 20, and because the Commonwealth did not raise the issue as a separate matter.[7] I.D. at 39. The Commonwealth asserts below that the issue of the adequacy of supplies of dosimeters for emergency workers in the SSES plume exposure pathway EPZ was properly within the ASLB's jurisdiction and should have been ruled upon by the Board. Moreover, the record supports a finding that supplies of such dosimeters are deficient, and a conclusion of law that adequate supplies of dosimeters are necessary to provide reasonable assurance that the health and safety of emergency workers in the plume exposure pathway EPZ will be protected.

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6. Notably, the Applicant did make such an allegation with respect to the Commonwealth's Findings on public information. See App. Reply PF ¶22. Apparently, the Applicant viewed the dosimetry issue as within the scope of the proceeding, while objecting to the public information issue.

7. The ASLB erroneously states: "The dispute centers ... on the question of whether the federal government has the responsibility to furnish the necessary equipment." Nowhere in its proposed findings did the Commonwealth raise arguments regarding who should provide the necessary equipment. Rather, the dispute centers on the question of whether the necessary equipment is currently available, and whether such equipment must be available to meet the requirements of the NRC's emergency planning rule. Thus, the Board may have refused to rule on this issue due to a misunderstanding of the focus of the controversy.

ARGUMENT

I. THE ASLB IMPROPERLY REFUSED TO RULE ON THE ADEQUACY OF DOSIMETRY FOR EMERGENCY WORKERS (Exception 1).

As noted above, the ASLB refused to rule on the issue of dosimetry for emergency workers, ostensibly because it lacks jurisdiction to decide who has the responsibility to supply dosimeters. The issue presented for resolution, however, was simply whether adequate supplies of dosimeters for emergency workers in the SSES plume exposure pathway EPZ are available from any source,[8] and whether such availability is required as a matter of law for compliance with the NRC emergency planning rule. Once these issues are resolved, the various implementing entities (local, state, federal, utility) can determine the appropriate source of funding.

A. The Adequacy Of Supplies Of Dosimeters Is Encompassed By Contention 20.

The two provisions of Contention 20 discussed above clearly encompass the question of whether adequate supplies of dosimeters exist and are necessary to implement state and local emergency plans. As noted above, the key to the emergency planning rule is whether adequate protective measures can and will be implemented, a principle founded both in logic and in law. 10 C.F.R. §50.47(a)(1).

Contention 20[5][b] challenges compliance with NUREG-0654 Criterion H.10 (p. 54), which requires, inter alia, adequate reserves of emergency equipment. Planning Standard H and 10 C.F.R. §50.47(b)(8) require that

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8. The ASLB's confusion may result from Commonwealth Proposed Findings [hereafter Cwlth. PF ¶ ___] paragraph 28, which demonstrates that dosimeters are not available from FEMA (based on direct testimony by Commonwealth witnesses and cross-examination of FEMA witnesses). The purpose of this testimony was simply to prove as a question of fact that dosimeters are not currently available from any source. Availability from FEMA constituted one element of this proof.

"Adequate emergency facilities and equipment to support the emergency response are provided and maintained." The criteria in NUREG-0654 indicate that this is intended to include radiological monitoring equipment. NUREG-0654, at 54 (Criterion H.11).[9] Obviously, the availability of adequate supplies of dosimeters is necessary to implement this requirement.

Contention 20[8][a] challenges compliance with NUREG-0654 Criterion K.3.b. Planning Standard K and 10 C.F.R. §50.47(b)(11) require that "means for controlling radiological exposures, in an emergency, are established for emergency workers." In order to implement this requirement, NUREG-0654 mandates provisions for both self-reading and permanent record dosimeters. NUREG-0654, at 67 (Evaluation Criterion K.3.a). Criterion 3.b. requires that "dosimeters are read at appropriate frequencies and provide for maintaining dose records for emergency workers involved in any nuclear accident." Id. Again, availability of dosimeters in necessary to implement this requirement. Indeed, even the Applicant's testimony recognizes that this contention cannot be met absent adequate supplies of dosimeters.

> Standard K.3.b NUREG-0654 recommends that plans provide for the reading of dosimeters at appropriate times and that dose records be maintained. Appendix 16 "Radiological Exposure Control," to the State RERP provides guidance for emergency forces. It provides that each emergency worker will be provided two self-reading dosimeters and that they will be read once each 30 minutes (see paragraph V, App. 16). It also prescribed procedures for individual dose records (see page 16-7).
>
> The Luzerne County RERP provides that each emergency worker will be issued a CD V 730, CD V 742 and TLD dosimeters and states that the CD V 730 and CD V 742 are to be read every 30 minutes (see paragraph V. C. 5 page M-4 of Annex M

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9. Criterion H.11 is referenced in Contention 20[5][c].

"Radiological Exposure Control.") Appendix 4 to Annex M is a sample dosimetry report form designed to record pertinent data.

Henderson, ff. Tr. 2546, at 40.[10]

The issue of the adequacy of dosimetry for emergency workers in the SSES plume exposure pathway EPZ thus was squarely presented to the ASLB in Contention 20, and should have been resolved.

B. The Commonwealth's Failure To Raise An Issue Already Raised By Another Party Is Not A Bar To Commonwealth Participation In That Issue.

The ASLB refused to rule on the dosimetry issue for the additional reason that the Commonwealth did not specifically delineate its concerns with respect to dosimetry in its August 10 and October 5, 1981 position papers. I.D. at 40. The Commonwealth interprets this ruling to mean that the issue is not judiciable since the Commonwealth did not raise the issue on its own and because it was not the subject of a contention. The Board did not object to the Commonwealth's participation in other valid contentions which were not specifically mentioned in the Commonwealth's position papers. Since, as demonstrated above, the Commonwealth's concerns were indeed encompassed by Contention 20, the Board's second objection appears to dissolve.

The ASLB was correct in noting that interested state participants are bound to the same procedural necessities as other participants, in the context of providing reasonable advance notice of the issues to be litigated. Gulf State Utilities Co. (River Bend Station, Units 1 and 2) ALAB-444, 6 NRC 760, 768 (1977). This is founded in fundamental notions of due process. However, where a party is already on notice of an issue to be litigated, there is no additional need for an interested state to

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10. Mr. Henderson was formerly the Director of PEMA.

raise the issue on its own. The fact that the Applicant at no time objected to the Commonwealth's litigation of this issue, and in fact addressed the issue in its own prefiled direct testimony evidences that the goal of adequate notice was served. Contrary to the ASLB's statement, the Commonwealth did not address the issue first during cross-examination, but rather addressed the issue in its own prefiled testimony. Belser, et al., ff. Tr. 2586, at 19.

Requiring an interested state participant to raise with specificity each issue it seeks to address, regardless of whether that issue has already been raised by another party, would render 10 C.F.R. §2.715(c) meaningless, and would place interested states on the same footing as all other intervening parties. This result obviously was not intended by the Commission. Since the Applicant and other parties received adequate notice that dosimetry for emergency workers was a controverted issue, and in fact did not object to the litigation of the issue, the matter should have been resolved by the Licensing Board.

II. FEDERAL GUIDANCE ON THE NUMBER OF DOSIMETERS FOR EMERGENCY WORKERS IS AMBIGUOUS, AND PRESENTS A ROADBLOCK TO RESOLUTION OF THE ISSUE.

The Licensing Board erroneously states in its decision that there is no "substantive disagreement that federal guidance only recommends a requirement for emergency workers to have two dosimeters--one self-reading and the other a TLD." I.D. at 39. In fact, the status of federal guidance on this point was unresolved at the time of the hearing, and remains unresolved at present. Resolution of the dosimetry requirements would greatly facilitate efforts to procure adequate dosimetry since responsible agencies would be presented with a clear definition of needs.

The function of dosimetry is to determine the radiological dose received by an individual. In the case of emergency workers, dosimetry is the method used to determine the amount of exposure the worker is receiving, specifically for purposes of advising the worker to leave the plume exposure pathway emergency planning zone ("plume exposure EPZ") once a predetermined level of exposure has been reached. Commonwealth Ex. 8; Appendix 16, Section V.B.[11]

NUREG-0654 specifically requires provisions for both self-reading and permanent record dosimeters for emergency workers, including volunteers. NUREG-0654 at 67 (Planning Standard K. Criterion 3.a.). This criterion, however, does not indicate how many dosimeters of each type are to be provided.

The state plan, as reflected in Commonwealth Exhibit 8, presently calls for distribution of dosimetry to the emergency workers at the time of an incident. Commonwealth Ex. 8, Appendix 16, Section V.B. When available, dosimetry for emergency workers responding to an accident at

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11. Commonwealth Ex. 8 is the state emergency plan (Disaster Operations Plan, Annex E) for fixed nuclear facility incidents.

SSES will be predistributed by the state to the counties so that adequate supplies will be readily available at the time of an incident. The current state and county plans call for each emergency worker to receive three dosimeters: (1) a CD V-730 (self-reading with a range of 0-20 roentgens); (2) a CD V-742 (self reading with a range of 0-200 roentgens); and a thermoluminescent dosimeter (TLD) for permanent record dosimetry. Belser, et al., ff. Tr. 2586, at 19; see also Henderson, ff. Tr. 2546, at 40. These plans are consistent with current federal guidance for required dosimetry. Tr. 2700 (Swiren) (FEMA witness).

Based on Mr. Swiren's testimony (Tr. 2678, 2698-2700), the Applicant argues that "Federal Guidance, while calling for each emergency worker to have self-reading dosimetry, does not require two self-reading dosimeters for each emergency worker." Applicant's P.F. ¶104. FEMA's position on this point, however, is inconsistent. The State plan to provide two self-reading dosimeters is based on FEMA's "Guidance on Offsite Emergency Radiation Measurement Systems, Phase 1 - Airborne Release" (FEMA-REP-2, September 1980). See Commonwealth Ex. 8, at 1. On cross-examination, the FEMA witness confirmed that this publication has not been cancelled, and the State plan is currently consistent with FEMA guidance. Tr. 2700 (Swiren).

Based on this dispute, PEMA requested additional guidance from FEMA officials in a letter dated January 7, 1982, from DeWitt C. Smith, Jr., Director of PEMA, to Robert Adamcik, Action Region III Director of FEMA. Attachment 1, at 2-3. The FEMA response letter provided no answer to PEMA's questions. Attachment 2.[12] Moreover, PEMA has yet to receive a

12. Although in general documents may not be appended to an appellate brief in an effort to supplement the record, new evidence may be brought to the attention of the Appeal Board. Toledo Edison Co. and Cleveland Electric Illuminating Co. (Davis-Besse Nuclear Power Station, Units 1, 2, and 3; Perry Nuclear Plant, Units 1 and 2), ALAB-430, 6 NRC 451 (1977). Obviously, Attachments 1 and 2 did not exist at the time of the hearing.

response from FEMA headquarters.

In sum, the ASLB suggestion that current FEMA dosimetry guidance is clear and undisputed is in error. The existing FEMA guidance document requires two self-reading dosimeters, although PEMA has been unable to obtain a definitive statement from FEMA as to whether this guidance is still in effect.

III. A DEFICIENCY EXISTS IN SUPPLIES OF DOSIMETERS FOR DISTRIBUTION TO OFFSITE EMERGENCY WORKERS (Exception 3).

The shortage of dosimeters for distribution to emergency workers in the SSES plume exposure pathway EPZ is undisputed. The Commonwealth currently does not have a sufficient supply of CD V-730s to predistribute to emergency workers within the plume exposure pathway EPZ. The CD V-730 is the smaller range, and hence more sensitive instrument. More importantly, the Commonwealth has no available TLDs to predistribute to the counties. Belser, et al., ff. Tr. 2586, at 19.

PEMA has forwarded a request to FEMA in Washington to provide the necessary TLDs and CD V-730s to complete predistribution of adequate supplies of dosimeters. Belser, et al., ff. Tr. 2586, at 19. At the time of the hearing, the Commonwealth had not received a response to this request. Tr. 2607 (Belser). The FEMA witness, however, indicated in oral testimony that this request will not be met by FEMA. Tr. 2672-73 (Swiren). Essentially, Mr. Swiren testified that, unless dosimeters are supplied by the state or the utility, they will not be available. Id. No such arrangement has been made to date. Tr. 2677 (Swiren). The Commonwealth repeated its request for dosimeters in Attachment 1. No response from FEMA has been forthcoming. See Attachment 2.

The Licensing Board found merely that the state "identified a shortage of dosimeters statewide." I.D. ¶92. The ASLB neglected to add, of course, that no party disputed the shortage, and that no party provided direct evidence of how emergency workers can be protected without procurement of necessary dosimeters. While the Applicant suggests that a single self-reading dosimeter may be adequate, this assertion is completely unsupported by record evidence regarding the nature of the two dosimeters, the range of exposure determined by the two dosimeters,

and thus, which of the instruments provides an adequate degree of protection. See App. Reply P.F. ¶19. As discussed above, no guidance has been received from FEMA on this point. It is logical to assume, however, that a lower range dosimeter than the CD V-742 would be required for the range of expected exposures to emergency workers.

The Commonwealth is at a loss to understand the ASLB's lackadaisical treatment of this issue. Emergency workers in county emergency plans are largely volunteers. Means to control radiological exposures to such workers during a nuclear emergency warrants consideration based on more than speculation, unsupported assumptions, and ambiguous and incomplete federal guidance.

IV. DOSIMETRY REQUIREMENTS FOR EMERGENCY WORKERS CANNOT BE MET ON A "LOAN" OR "ALLOCATION" BASIS (Exception 4).

The ASLB suggests that shortages of dosimeters for emergency workers can be remedied by obtaining dosimeters on a "loan basis" or by allocating "the existing limited State supply to provide an approximate amount of coverage." I.D. ¶71. The Board's unsupported reasoning on these points is exemplary of its off-hand treatment of this significant issue.

The two options suggested by the Board stemmed from completely unsupported testimony by the FEMA witness during supplemental questioning by Staff counsel. Tr. 2672 (Swiren). These suggested "options" were not supported by a single fact or document to demonstrate that the options could be implemented during an emergency. For example, Mr. Swiren did not state where dosimeters were available on a "loan" basis, or whether the dosimeters could be transported in sufficient time during an emergency to be of value. Obviously, Mr. Swiren's speculative testimony is insufficient to demonstrate that adequate protective measures can and will be taken.[13]

Mr. Swiren's opinion regarding the "allocation" of dosimeters is similarly speculative. First, the applicable emergency plans require that each emergency worker receive adequate dosimetry. Commonwealth Ex. 8, Appendix 16, Section V. This is inconsistent with the requirement that the radiological dose to the individual be controlled. In assessing his alternative method, Mr. Swiren did not consider the numbers of dosimeters available for allocation; nor did he explain the logistics of such an allocation. In fact, on cross-examination, Mr. Swiren testified that only approximately 300 TLDs were available for the entire state of

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13. Mr. Swiren did suggest that self-reading dosimeters were available at a storage site in Virginia. Tr. 2678. On further examination, however, it was determined that these dosimeters were of the type already possessed by PEMA in adequate quantities. Tr. 2678-79.

Pennsylvania. Tr. 2676. Based on this figure, Mr. Swiren testifed that adequate supplies of TLDs could not be allocated among emergency workers. Id. at 2676-77. Obviously, there is little analysis and factual support underlying the allocation "option". Again, the sparse testimony on this point is insufficient to demonstrate that adequate protective measures can and will be taken.

It should be noted that the Commonwealth's plan for compliance with the emergency planning rule is consistent with the requirements of applicable regulatory guidance, as demonstrated above. While alternative means of compliance are permissible, such compliance must be demonstrated on the record on the basis of reliable and probative evidence. Gulf States Utilities Co. (River Bend Station, Units 1 & 2), ALAB-444, 6 NRC 760, 772 (1977).

In applying this standard, the Appeal Board should take note that regulatory guides are entitled to "considerable prima facie weight." Vermont Yankee Nuclear Power Corp. (Vermont Yankee Nuclear Power Station), CLI-74-40, 8 AEC 809, 811 (1974). This concept was recently applied by the Commission with respect to NUREG-0654. In re Final Rule on Emergency Planning, CLI-80-40 (December 5, 1980), 2 NUC. REG. REP. (CCH) ¶30,558 (Commission stated its intent to be guided by FEMA's judgment in NUREG-0654 as to how to comply with the emergency planning rule). Moreover, as a general proposition, the burden of proof is on the Licensee to demonstrate reasonable assurance that the health and safety of the public (including emergency workers) will be protected. 10 C.F.R. §2.732. Tennessee Valley Authority (Hartsville Nuclear Plant), ALAB-463, 7 NRC 341, 356, 360 (1978). The magnitude of this burden depends on the gravity of the matters in controversy. Virginia Electric & Power Co. (North Anna Power Station, Units 1, 2, 3 & 4), ALAB-256, 1 NRC 10, 17 n.18 (1975).

The ASLB violated these fundamental principles by relying on sparse, speculative oral testimony which identified potential but unproven alternative methods of protecting emergency workers. The Applicant clearly did not meet its burden of proof with respect to the viability of these "options".

V. ADEQUATE SUPPLIES OF DOSIMETERS ARE NECESSARY TO PROTECT THE HEALTH AND SAFETY OF EMERGENCY WORKERS (Exception 5).

The Commonwealth's emergency plan provides for compliance with 10 C.F.R. §50.47(b)(10) and (11) by requiring the following with respect to dosimetry:

> Each emergency worker is to be provided two self-reading dosimeters (one CD V 730 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 vendor) device that is generally considered to be more dependable, accurate and precise than the self-reading. Each emergency worker is responsible for following the dosimetry procedures, including record keeping. Attachment B to this Appendix sets forth guidance and procedures related to dosimetry for emergency workers.

Commonwealth Ex. 8; Appendix 16, Section V.B (emphasis added). As discussed above, this is the means of compliance suggested by NUREG-0654, Criterion K.3.a. No party to the proceeding questioned the appropriateness or adequacy of this planning. In support of Appendix 16, the plan also references "FEMA-REP-2, 'Guidance on Offsite Emergency Radiation Measurement Systems, Phase 1 - Airborne Release', September 1980." Id. Section I.C. Thus, the official state emergency plan, which is consistent with NUREG-0654 and other applicable FEMA guidance, requires the distribution of TLDs and self-reading dosimeters to emergency workers. Obviously, since the plan has been distributed to all appropriate emergency planning organizations and officials at the county and municipal level, and since emergency workers must be trained in the proper procedures for the use of dosimeters (see Commonwealth Ex. 8; Appendix 16; Attachment B), the dosimeter requirement is well known to the emergency workers (including

volunteers) responsible for responding to an incident at SSES. Even more obviously, this plan cannot be implemented absent adequate supplies of dosimeters.

Absent a demonstrated alternative to the Commonwealth's plan, based on reliable and probative evidence on the record of the proceeding and supported by appropriate procedures and revisions to existing emergency plans, the Commonwealth's method of compliance must be accepted as the only viable means of compliance with the emergency planning rule. Alternative compliance options, while potentially viable, cannot be relied on to protect public health and safety until implementability is demonstrated. No such demonstration has been made here, particularly in view of the fact that the burden of proof is on the Applicant.

In summary, the Commission's emergency planning regulation, as interpreted by NUREG-0654, other FEMA regulatory guidance, and most importantly the Commonwealth's emergency plan, requires that each emergency worker be provided with a TLD and two self-reading dosimeters. This concept is based on sound principles of health physics--that reliable means be established for recording the accumulated radiological doses received by individual workers. There is no reliable and probative evidence on the record of this proceeding that demonstrates that an alternative means of radiological exposure control for emergency workers can and will be implemented. Therefore, the record supports a finding that adequate supplies of dosimeters must be provided to protect the health and safety of these workers.

VI. CONCLUSION

The general duty of a Licensing Board is to "confront the facts" presented to it and to articulate the basis for its decision. Public Service Co. of New Hampshire (Seabrook Station, Units 1 & 2), ALAB-422, 6 NRC 33, 42 (1977), citing SEC v. Chenery Corp., 318 U.S. 80, 94 (1943); Wingo v. Washington, 395 F.2d 633, 636 (D.C. Cir. 1968); Northern States Power Co. (Prarie Island Nuclear Generating Plant, Units 1 & 2), ALAB-104, 6 AEC 179 (1973). By failing to address adequately the issue of dosimetry for emergency workers in its Initial Decision, the Licensing Board violated these standards.

It is not necessary, however, to remand this issue to the Licensing Board for further determinations. The factual record demonstrating a shortage in the supply of dosimeters for emergency workers is clear and uncontroverted. The legal requirement that adequate supplies of dosimeters (or some demonstrated and effective alternative) be available is equally clear. The Appeal Board has the authority to make the necessary supplemental findings of fact and conclusions of law to grant the Commonwealth's requested relief. Public Service Co. of New Hampshire (Seabrook Station, Units 1 & 2), CLI-78-1, 7 NRC 1, 29 (1978); 10 C.F.R. §2.785.

Consequently, the Commonwealth respectfully requests the Appeal Board to amend the Licensing Board's Order by adding the following supplemental condition:

> Adequate numbers of self-reading and permanent record (thermoluminescent) dosimeters, consistent with applicable federal guidance are available for distribution to all offsite emergency workers identified in state and county emergency plans as requiring dosimetry.

This condition is necessary to ensure compliance with the Commission's emergency planning rule. 10 C.F.R. §50.47(b)(10), (11).

Respectfully submitted,

Robert W. Adler

ROBERT W. ADLER
Assistant Counsel
Commonwealth of Pennsylvania

May 28, 1982

ATTACHMENT 1

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

January 7, 1982

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.

QUANTITY	DESCRIPTION
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.

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,

DeWitt C. Smith, Jr.
Director

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

Federal Emergency Management Agency
Region III 6th & Walnut Streets Philadelphia, Pennsylvania 19106

JAN 18 1982

Lt. Gen. DeWitt C. Smith, Jr.
Director
Pennsylvania Emergency Management
Agency
P.O. Box 3321
Harrisburg, PA 17105

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

UNITED STATES OF AMERICA
NUCLEAR REGULATORY COMMISSION

BEFORE THE ATOMIC SAFETY AND LICENSING APPEAL BOARD

In the Matter of:

PENNSYLVANIA POWER & LIGHT CO.	:	
and	:	
ALLEGHENY ELECTRIC COOPERATIVE,	:	Docket Nos. 50-387
INC. (Susquehanna Steam Electric	:	50-388
Station, Units 1 and 2)	:	

CERTIFICATE OF SERVICE

I hereby certify that the foregoing "Brief of the Commonwealth of Pennsylvania in Support of its Exceptions to the ASLB Initial Decision Dated April 12, 1982" was mailed this 28th day of May, 1982, to the persons on the attached service list by deposit in the U.S. mail, first class postage prepaid.

Robert W. Adler

ROBERT W. ADLER
Assistant Counsel
Commonwealth of Pennsylvania

UNITED STATES OF AMERICA
NUCLEAR REGULATORY COMMISSION

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Station, Units 1 and 2)	:	

WEH

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