

UNITED STATES OF AMERICA  
NUCLEAR REGULATORY COMMISSION



BEFORE THE COMMISSION

In the Matter of )  
METROPOLITAN EDISON COMPANY ) Docket No. 50-289  
(Three Mile Island Nuclear ) (Restart)  
Station, Unit No. 1) (Emergency Planning)

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Dated: May 23, 1983

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LICENSEE'S REPLY OPPOSING NRC STAFF BRIEF  
ON REVIEW OF ALAB-698

I. Preliminary Statement

On March 21, 1983, the Commission granted a petition for review filed by the NRC Staff. See CLI-83-7.1/ In that review petition the NRC Staff brought before the Commission the appropriateness of Licensee's considered decision that responsibility for radiological assessment and making protective action recommendations reside in the Emergency Director in the

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1/ Licensee did not oppose the NRC Staff review petition because it previously had informed the Commission that Licensee would abide by the Licensing Board's ruling pending disposition of the Appeal Board decision by the Commission. See Licensee's Response to NRC Staff's Petition for Review of ALAB-698 (November 29, 1982). Based on a full review of the evidentiary record compiled before the Licensing Board on this issue, Licensee is confident that the Commission will affirm the Appeal Board decision below and endorse Licensee's proposal that the Emergency Director stationed in the control room retain responsibility for protective action recommendations during the early hours of an emergency.

control room during the first four hours after declaration of a site area emergency.<sup>2/</sup> See CLI-83-7, at 1-2. The issue before the Commission is simply stated: Does Licensee's strong desire to station its Senior Manager in the control room during the early hours of an accident, and to charge that Senior Manager with responsibility for radiological assessment and making protective action recommendations, provide reasonable assurance that appropriate protective measures can and will be taken in the event of a radiological emergency at the Three Mile Island Nuclear Station ("TMI")? Compare 10 C.F.R. § 50.54(s)(2)(ii).

The evidentiary record compiled before the Licensing Board below -- which essentially is undisputed on this issue --

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<sup>2/</sup> In its brief before the Commission, the NRC Staff consistently frames the issue in terms of Licensee's staffing of the Emergency Operations Facility ("EOF"). See, e.g., NRC Staff's Brief on Staffing of the Licensee's Emergency Operations Facility at 1-3 (April 21, 1983). While it is true that Licensee's decision on where to best place responsibility for radiological assessment and protective action recommendations does affect whether that Emergency Director stations himself in the control room or the EOF, the issue before the Commission has nothing to do with the adequacy of Licensee's staffing of the EOF. As the Appeal Board found below (ALAB-698, at 62 (separate opinion of Mr. Edles)):

[T]he licensee has sufficient qualified personnel at the site to cope with an emergency from the outset. \* \* \* [T]he record makes clear that the licensee has available at the site an adequate number of qualified people, including individuals who can serve as Emergency Director and Emergency Support Director immediately. See 14 NRC at 1469-1471, 1477-1478.

The sole issue before the Commission is how Licensee should best deploy its available personnel.

demonstrates that Licensee's organizational plan for emergency response adequately defines the necessary emergency response positions and properly designates qualified and well-trained individuals to fill those positions. Moreover, Licensee's plan fully considers the available management and technical resources, both on- and off-site, and makes optimal use of those resources. Indeed, as recognized by the Appeal Board below, "licensee's proposal, given the staffing situation at TMI,<sup>3/</sup> presents a more logical approach to the management of protective action recommendations than does that ordered by the Licensing Board. It also has the advantage of being an integral part of the licensee's overall management philosophy." ALAB-698, at 24.

For these reasons, the Commission should affirm the decision of its Appeal Board in ALAB-698 and authorize Licensee to organize and staff its emergency response in the manner which Licensee believes best protects the public health and safety.

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<sup>3/</sup> The "staffing situation at TMI" referred to by the Appeal Board is not a paucity of well-trained engineers and senior management personnel, but quite the opposite. See, e.g., n.2, supra. As explained below, it is precisely because this Licensee has available to it at the site large numbers of engineers and senior managers that the particular organizational plan proposed by Licensee is the best means for responding to an emergency at TMI. See pp. 8-9, 18-22, infra.

## II. Concept of Operations

Licensee's preferred approach for making protective action recommendations to the State is that, prior to the time the Company's senior officials -- i.e., President or Executive Vice President, GPU Nuclear (Messrs. Arnold or Clark, respectively) -- arrive at the site, the most senior on-site Company representative -- i.e., Vice President TMI-1 or Operations and Maintenance Director TMI-1 (Messrs. Hukill or Toole, respectively) -- make those recommendations. Given Licensee's commitment to station senior and experienced personnel full-time at the site, the NRC Staff has no quarrel with the qualifications of Messrs. Hukill or Toole to make protective action recommendations to the State. Rather, the dispute is over where these gentlemen should station themselves during the early hours of an accident.

Because Messrs. Hukill and Toole are at the site full-time, they are familiar with the TMI-1 control room and believe they can best assist in any emergency response by stationing themselves in the control room. The NRC Staff would prefer, however, that, if Messrs. Hukill or Toole are to be assigned responsibility for making protective action recommendations, they be stationed at the EOF within one hour after declaration of a site area emergency. In the alternative, the NRC Staff suggests that Licensee designate someone other than Messrs. Arnold, Clark, Hukill or Toole to make protective action recommendations from the EOF.



Licensee's belief that protective action recommendations should be made by the most senior available Company representative is so strong that the second NRC Staff suggestion of stationing a more junior employee at the EOF is totally unacceptable to Licensee. Thus, if the Commission reverses the Appeal Board and directs that protective action recommendations be made from the EOF during the early hours of an emergency, Licensee will comply by moving its most senior on-site representative out of the control room and into the EOF. Licensee will take this action even though it believes its senior on-site representatives can be more useful in the control room than at the EOF.

During the pendency of this appeal, Licensee has committed to comply with the Licensing Board decision. Therefore, current procedures now specify that Mr. Hukill report to the EOF until relieved by Messrs. Arnold or Clark. If Messrs. Hukill, Arnold or Clark are unavailable, Mr. Toole also would report to the EOF.

### III. Statement of the Case

#### A. THE HEARING RECORD

In its prefiled written direct testimony on the adequacy of on-site emergency preparedness, the NRC Staff identified eight open items which it believed should be resolved satisfactorily prior to restart of TMI-1. See Chesnut, ff. Tr. 15007, at 83-84. Seven of the eight items

were easily resolved between Licensee and the NRC Staff during the course of the hearing. The remaining open item is the subject of the present review petition. The entirety of the NRC Staff's written direct testimony in support of its position that responsibility for protective action recommendations should be moved out of the control room during the early hours of an accident is set forth in a single paragraph. The NRC Staff testified (Chesnut, ff. Tr. 15007, at 24):

The TMI-1 Emergency Plan calls for the stationing of the EOF Director (called the Emergency Support Director in the Plan), a senior manager, within six hours of declaration of an emergency,<sup>4/</sup> not within one hour, the time recommended by NUREG-0654 for stationing the EOF Director. The TMI-1 Plan does describe procedures for performing the Radiological Accident Assessment function, however. These functions are supervised by the Emergency Director and Radiological Assessment Coordinator, not the EOF Director. When an emergency occurs, the shift supervisor assumes the functions of the Emergency Director. He will be assisted by the Shift Foreman and on-shift Health Physics technicians in performing radiological assessments of the accident until the emergency duty section support organization is activated at which time the Shift Supervisor and Shift Foreman are relieved by the assigned duty section Emergency Director, Radiological Assessment Coordinator, and the Operations Coordinator. These provisions indicate

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<sup>4/</sup> Subsequent to this testimony, Licensee's plan was amended to provide for activation and staffing of the EOF within one hour after declaration of a site area emergency, and for stationing the Emergency Support Director at the EOF within four hours. See Lic. Exb. 58.

that the licensee's plan has not neglected the Radiological Assessment function; however, it does not fully comply with Table B-1 of NUREG-0654 in that a senior manager who can speak with authority to other emergency organizations on radiological or operational matters should be stationed at the EOF within one hour of notification. Thus, the Staff position is that the licensee's plan must be modified to provide for the arrival of such an individual within the time called for in NUREG-0654.

It is clear from this brief passage that the NRC Staff's sole basis for opposing Licensee's organizational plan was its facial difference from the scheme contemplated in NUREG-0654 (Staff Exb. 7). There is no indication that the NRC Staff considered in any manner whether Licensee's proposal was functionally equivalent, or maybe even better, than the NRC Staff recommendation, given staffing considerations at TMI.

As was the practice at the TMI-1 restart hearing, Licensee presented limited oral rebuttal to the NRC Staff prefiled testimony when its emergency planning witnesses were on the stand -- that is, even prior to the NRC Staff testimony being offered into evidence. In this rebuttal testimony, Licensee explained how its organizational concept provided an alternative means for carrying out the functions of the EOF director during the early hours of an emergency in a manner that is at least as good as, and in Licensee's view better than, stationing its senior manager at the EOF. See Tr. at 13763-66 (Giangi). As described by Licensee's witness, Table

B-1 of NUREG-0654 -- which is the only document that even attempts to articulate the NRC Staff rationale for requiring an EOF director during the early hours of an accident -- identifies the areas of radiological accident assessment and support of operational accident assessment as the functional responsibilities of the EOF director.<sup>5/</sup> Tr. at 13763 (Giangi).

With respect to radiological accident assessment, Licensee's plan provides 24-hour per day, on-shift coverage of this function with four health physics technicians, while Table B-1 only requires one person. Tr. at 15436 (Chesnut). Licensee will supplement these resources within one hour by a senior radiological engineer and two additional engineers. Tr. at 13763 (Giangi). As the Appeal Board below noted, the NRC Staff conceded that this extensive radiological assessment staffing provides Licensee with capabilities beyond those required by the NRC Staff. See ALAB-698, at 28-29; see also Tr. at 15435-36 (Chesnut).

With respect to support of operational accident assessment, Licensee's plan identifies an Operations

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<sup>5/</sup> Interestingly, while Table B-1 assigns these responsibilities to the EOF director, it does not require that any other personnel report to the EOF to support the EOF director in fulfilling these duties. We note this point because it is not clear to Licensee that the organizational scheme as literally set out in Table B-1 would work. This raises substantial questions with respect to the care and thought brought to bear in drafting Table B-1.

Coordinator -- who is a senior manager holding an SRO license -- as the on-site person responsible for assessing, managing and mitigating the accident. See Tr. at 13763-64 (Giangi). This too is a position not required by the NRC Staff and provides Licensee with increased capabilities. Moreover, additional personnel reporting to the on-site technical support center provide further support in the area of operational accident assessment. Id.

And, while not even listed in Table B-1 as a function of the EOF director, Licensee's rebuttal testimony identified the Vice President TMI-1 or the Operations and Maintenance Director TMI-1 as the on-site Senior Manager responsible for making protective action recommendations and otherwise participating in significant accident decision-making. Tr. at 13764 (Giangi). In Licensee's view, by staffing the on-site Emergency Director position with such high-level managers, who also were technically competent to function in the control room itself, Licensee provided an alternative means for satisfying the NUREG-0654 guidance. Id.

In response to this testimony, when the NRC Staff witnesses appeared to present their prefiled direct testimony, they too gave limited oral rebuttal to Licensee's position. See Tr. at 15013-14 (Chesnut). That testimony is particularly significant because the NRC Staff witness conceded that the functions of radiological assessment and support of operational

assessment were adequately "accounted for by [Licensee's] shift staffing, either that presently onsite at all times or that which will be arriving onsite within one hour." Tr. at 15013 (Chesnut).<sup>6/</sup> However, the NRC Staff witness went on to identify some new functions, never previously identified to Licensee by the NRC Staff (either in writing or orally), as responsibilities which should be performed in the EOF. These were: "interface in coordination with other off-site agencies," "some of the coordination of the overall emergency off-site response," and that, when corporate management personnel arrive at the EOF, they should "arrive to a functioning facility and not have to establish a chain of command." Tr. at 15013 (Chesnut). In order to perform these functions at the EOF, the NRC Staff opined that "there should be a senior management official present who can act as a spokesman-coordinator function early on in the accident." Id. Significantly, no mention was made of a need to make protective action recommendations to the State.

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<sup>6/</sup> For some reason the NRC Staff witness referred to the two functions of radiological assessment and support of operational assessment as "some" of the functions called for by NUREG-0654, Table B-1. Tr. at 15013 (Chesnut). While there are a whole range of functions listed in Table B-1, the referenced two are the only functions identified in Table B-1 as the responsibility of the EOF director. Thus, there should be no doubt that, according to the NRC Staff testimony, Licensee's organizational concept adequately covers the two functions identified in Table B-1 as the EOF director's responsibility.

The new functions identified in this NRC Staff testimony caused Licensee to rethink its position with respect to the EOF. In contrast to the initial NRC Staff position, which appeared to require the stationing of a lone senior manager at a distance from Company-related emergency response activities, the new functions identified by the NRC Staff appeared to argue for a functioning EOF, manned early in the accident with an appropriate cadre of middle-level engineers and communications personnel who could set up the EOF, make all communications and data links operational, and coordinate on-site and off-site response activities with their State and County counterparts.

In Licensee's view these functions did not require the presence of the Company's Senior Manager, who preferred to station himself on-site in the control room during the early hours of an emergency. Therefore, Licensee proposed to alter its plan to meet what were perceived to be the NRC Staff concerns. See Lic. Exb. 58. In particular, Licensee committed to activate the EOF within one hour after declaration of a site area emergency and, within that timeframe, to make operational all communications and data links. Licensee also would staff the EOF within one hour with six key individuals: representatives from the Emergency Support Staff, the Emergency Preparedness Department, the Environmental Assessment Command Center, the Technical Functions Group, the Communications

Department, and a primary communicator. Id. at 2. The Emergency Support Director would arrive no later than four hours after declaration of the site area emergency. Id. As noted by Licensee (id.):

This concept for the activation of the off-site emergency response facilities is consistent with [Licensee's] existing concept of emergency management during the early hours of an event and the longer term concept of management and recovery. In addition, it provides a functional facility to which Federal and Local emergency response representatives may report to perform liaison and emergency management tasks.

The Licensing Board apparently discounted Licensee's revised staffing of the EOF because it appeared to the Licensing Board that Licensee had not designated a single individual who was responsible for all EOF activities. See 14 N.R.C. at 1479 ("we agree with the Commonwealth that a large and complex off-site response organization argues in favor of the need for a single coordinator in the EOF").<sup>7/</sup> This was not Licensee's intention, and the Rogan Affidavit filed with the Appeal Board makes clear that, in the absence of the Emergency

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<sup>7/</sup> In view of this Licensing Board language, Licensee is at a loss to understand the NRC Staff's claim that "[t]he Staff has been unable to identify any explicit concern expressed by the Licensing Board in its initial decision on emergency planning over the lack of supervision and coordination in the EOF in the absence of the Emergency Support Director" (Staff Br. at 17 n.23). Thus, the NRC Staff is simply wrong when it claims that "[t]he Licensing Board did not base its ruling on EOF staffing on any such concern" (id.).



Support Director, the Emergency Support Staff representative is responsible for coordinating all EOF activities. See Rogan Affidavit at ¶¶ 6 & 10 (June 16, 1982).<sup>8/</sup>

This then is the state of the evidentiary record on which the Commission must resolve this continuing dispute between Licensee and the NRC Staff. As indicated below (see pp. 30-32, infra), cross-examination of NRC Staff witnesses confirmed that the NRC Staff recommendations on this issue are based on little more than a "gut feeling." The NRC Staff has performed no evaluation of the matter, issued no written study on the issue, or even considered Licensee's particular organizational concept (or increased staffing capabilities). Even the written guidance in NUREG-0654 and -0696 provides little, if any, explanation or justification for the NRC Staff position. At rock bottom, the NRC Staff position is premised on little more than "do it this way because we say so."

#### B. THE LICENSING BOARD DECISION

On December 14, 1981, the Atomic Safety and Licensing Board ("Licensing Board") issued its Partial Initial Decision on Plant Design and Procedures, Unit Separation, and Emergency Planning Issues, LBP-81-59, 14 N.R.C. 1211 (1981). The issue raised by the NRC Staff review petition is addressed by the

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<sup>8/</sup> The Appeal Board granted Licensee's unopposed request for leave to file the affidavit. See ALAB-698, at 26 n.32.

Licensing Board at paragraphs 1374 through 1396. See 14 N.R.C. at 1472-79. Much of the Licensing Board decision on this issue consists of a restatement of the parties' various positions. See 14 N.R.C. at 1474-77. To the extent present, the Licensing Board's ratio decidendi for deciding this issue against Licensee is as follows (14 N.R.C. at 1478):

We believe that NUREG-0654, NUREG-0696, Rev. 1, and the emergency planning rule, taken together, support a finding that the EOF should be fully staffed and operable within about one hour of declaration of a site emergency. \* \* \* In light of the Staff and Commonwealth having come forward with this evidence [i.e., the two NUREG's and the rule], including the guidance of NUREG-0654, and the fact that Licensee has the burden of proof, the Board finds that Licensee has not demonstrated an alternative regarding functions performed by the Emergency Support Director.

As Licensee argued to the Appeal Board,<sup>9/</sup> the Commission's emergency planning regulations do not address the need for an Emergency Support Director and certainly do not require that he report to the EOF within one hour after declaration of a site area emergency. See Tr. at 22930 (Chesnut); compare 10 C.F.R. §§ 50.47(b)(2), 50.47(b)(3), 50.47(b)(8) and Part 50, Appendix E, § IV.E.8. The Appeal Board agreed (see ALAB-698, at 24-25) and the NRC Staff no longer contests the point (Staff Br. at 7-8 & n.11).

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<sup>9/</sup> See Licensee's Brief in Support of its Exceptions to the Atomic Safety and Licensing Board's Partial Initial Decision on Plant Design and Procedures, Separation, and Emergency Planning Issues, at 47 & 52 (March 10, 1982).

With respect to the two NUREG documents cited by the Licensing Board, the reliance placed upon them by the Licensing Board was totally unwarranted, and Licensee so argued to the Appeal Board.<sup>10/</sup> The Licensing Board erred in failing to resolve the evidentiary dispute between Licensee and the NRC Staff, but rather merely endorsing the guidance documents without any consideration of whether the documents presented a reasoned basis for the recommendations set forth or whether the documents considered and addressed the site specific situation at TMI. Here too, the Appeal Board apparently agreed that Licensee's complaints about the Licensing Board decision were valid. See ALAB-698, at 13-15 & 25.

The NRC Staff, however, appears to continue to argue that the regulatory guidance, although not having the force and effect of a regulation, is sufficient in this context to "require" Licensee to transfer responsibility for making protective action recommendations to someone located in the EOF within one hour after declaration of a site area emergency (Staff Br. at 11). As described below (see pp. 28-33, infra), this conclusion is wrong both because it unjustifiably assumes that the guidance documents clearly direct that protective action recommendations must be made from the EOF and because it erroneously asserts that the guidance documents are based on a

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<sup>10/</sup> Id. at 52-54.

Careful balancing of competing factors when the evidence shows this not to be the case.

In short, the limited reasoning presented by the Licensing Board to support its resolution of this dispute was properly rejected by the Appeal Board.

C. THE APPEAL BOARD DECISION

On October 22, 1982, the Atomic Safety and Licensing Appeal Board ("Appeal Board") issued its decision on this subject. See ALAB-698, 16 N.R.C. \_\_\_\_\_. In its decision the Appeal Board carefully reviewed the conclusions reached by the Licensing Board below and fully considered the arguments advanced by the NRC Staff and the Commonwealth for sustaining the Licensing Board decision; the Appeal Board reversed the decision. The crux of the Appeal Board reasoning is as follows (ALAB-698, at 34):

We do believe, however, that placing the responsibility for making protective action recommendations in the hands of a senior licensee official, and placing that official in the control room during the early hours of an emergency in order to minimize the potential for inaccurate information, is eminently sensible.

In support of this conclusion the Appeal Board reached a number of subsidiary findings which the NRC Staff has correctly summarized and listed at page 4 of its appeal brief.<sup>11/</sup> Significantly, the NRC Staff brief does not go on to

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<sup>11/</sup> In addition to the four Appeal Board findings listed by the NRC Staff, Licensee only would add that the Appeal Board

(Continued Next Page)

refute these Appeal Board findings by reference to the evidentiary record. Rather, the NRC Staff attempts to create a number of logical arguments for why the Appeal Board findings need not necessarily be correct. The fact remains, however, as we describe below, that the evidence of record supports the Appeal Board findings and not the logical constructs offered by the NRC Staff.

#### IV. Argument

##### A. THE NRC STAFF POSITION IS UNSUPPORTED BY THE EVIDENCE OF RECORD

Set forth below are responses to each of the factual conclusions on which the NRC Staff relies in support of its argument that the Appeal Board wrongly decided the issue below. As to each factual conclusion, a review of the record shows no evidentiary support for the NRC Staff position.

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(Continued)

also found that the presence of the Emergency Support Staff representative at the EOF would adequately satisfy the Commonwealth's concern that it have face-to-face communications with a high GPU Nuclear official (albeit not the Emergency Director). See ALAB-698, at 29-33.

1. Licensee's Emergency Response Organization Does Properly Relieve the Burdens on the Emergency Director by Delegating Substantial Responsibility to his Assistants

Central to Licensee's onsite emergency response organization is the concept of an Emergency Director (in the control room) with three primary assistants in the areas of plant operations (Operations Coordinator), technical and engineering support (Technical Support Center Coordinator), and radiological assessment (Radiological Assessment Coordinator), along with the Emergency Support Staff representative (in the EOF) responsible for supervising the EOF. See ALAB-698, at 28. All of these positions, but for the Technical Support Center Coordinator, are in addition to personnel recommended by the NRC Staff in NUREG-0654 and -0696. The evidence of record is that this staffing concept permits the Emergency Director, as the senior corporate manager, to exercise oversight in all important emergency response areas (including making protective action recommendations) without being drawn into the minute-by-minute response in any single area. See Tr. at 23077-78, 23091-92 (Rogan); Lic. Exb. 30, at § 4.5.1.3.2, pp. 5-9 to 5-16 and Figure 12.

In response, the NRC Staff crafts an extended argument that, in essence, disputes the concept of delegation of authority. See Staff Br. at 13-18. What the NRC Staff argues is that the functions to be performed by the Emergency

Director are constant (id. at 13-14); that the Emergency Director either must devote his time to formulating protective action recommendations, and thus ignore his other responsibilities, or he must properly discharge his other functions and ignore the obligation to formulate protective action recommendations (id. at 15-16); that under the NRC Staff proposal there would be two senior Licensee managers who could divide these responsibilities (id. at 16-17); and therefore transfer of responsibility for making protective action recommendations off-site to someone located in the EOF will provide needed relief to the Emergency Director (id. at 17-18). This argument has two crucial defects.

First, not one bit of evidence is cited to support any of the NRC Staff's propositions. This is particularly significant since numerous drills and exercises conducted at TMI in the last three years confirm that Licensee's concept of delegation does work. See pp. 34-36, infra.

Second, the NRC Staff argument ignores or misconstrues the entire delegation process. Whereas the NRC Staff approach would have two senior managers responsible for dividing responsibilities, Licensee's concept has five. The Emergency Director's three primary assistants in the control room are senior site managers, as is the Emergency Support Staff representative in the EOF. Each of these managers is responsible for his functional area; one of his obligations is

to keep the Emergency Director informed of significant activities in his areas of responsibility. The Emergency Director exercises an oversight responsibility with respect to all of these managers. Indeed, the only difference between Licensee's concept and the NRC Staff proposal is that all the necessary threads of information come together on-site in the control room during the early hours of an accident, whereas under the NRC Staff proposal this information would come together off-site in the EOF within one hour after declaration of a site area emergency.12/

Moreover, the NRC Staff argument now being presented to the Commission flies in the face of the testimony presented by the NRC Staff witnesses during the hearing. Those witnesses readily recognized that Licensee's on-shift emergency organization included more people with better training and experience than that of other licensees.13/ This Licensee's level of

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12/ It is undisputed that if Licensee moved its Emergency Director out of the control room and into the EOF, and renamed the Operations Coordinator the Emergency Director, every aspect of Licensee's organization would comply literally with all NRC Staff guidance and the NRC Staff would find that organizational scheme acceptable. Thus, the issue is not whether a single individual is too burdened with responsibility, but where that individual is located.

13/ In at least five places in its brief the NRC Staff perjoratively refers to Licensee's "allegedly" unique emergency response organization. See Staff Br. at 4, 11, 12 & 26. Yet not once does the NRC Staff cite any evidence which casts any doubt on the conclusion that Licensee's organization is in fact unique for the large numbers of highly qualified personnel promptly available to respond to an accident. The NRC Staff

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on-shift staffing is one of the largest, if not the largest, encountered by the NRC Staff at any nuclear power plant. See Tr. at 15434 (Chesnut). As the NRC Staff's emergency plan reviewer observed, Licensee's on-shift emergency organization is the "best I have seen. I have not seen any plan which has the level of expertise that the Licensee is planning on using." Tr. at 22291-92 (Chesnut).<sup>14/</sup>

As a result of this high level of staffing, Licensee's organization has special emergency response capabilities beyond those specified by the NRC Staff. This includes additional personnel to make the necessary notifications to off-site agencies, to monitor radiation releases and calculate off-site doses, and to conduct prompt off-site radiological surveys. See Tr. at 15436 (Chesnut). In addition, since Licensee maintains a three-section duty roster for all emergency response organization positions, there is an increased likelihood that Licensee will have available at the time of any emergency a complete complement of fully trained personnel to fill all positions. See Tr. at 15436-39

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(Continued)

witnesses who testified at the hearing clearly were of that view.

<sup>14/</sup> Despite this relatively large staffing, it was the NRC Staff's view that Licensee's plan did not station too many people in the control room. See Tr. at 15472-73 (Chesnut).

(Chesnut). Moreover, precisely because of this increased staffing, and Licensee's approach to delegating responsibility, Licensee's Emergency Director is able to concentrate more of his time on those particular matters that may arise which require the highest level of consideration, for example, making protective action recommendations. See Tr. at 22291 (Chesnut). As the Appeal Board observed, the NRC Staff witness characterized this delegation of responsibility among on-site staff as "one of the strong points of the emergency plan." Id.

2. By Stationing the Emergency Director in the Control Room During the Early Hours of an Accident, Licensee has Minimized the Likelihood of Confusion About Plant Operations or Radioactive Releases

The Appeal Board correctly found that, by stationing its Emergency Director in the control room, Licensee was minimizing the likelihood of misinformation passing among those persons responsible for formulating protective action recommendations. See ALAB-698, at 33-34.<sup>15/</sup> The NRC Staff challenges this conclusion by asserting that Licensee has installed sufficient data links and communication lines to assure that accurate and timely information is transmitted from the control room to the EOF. See Staff Br. at 10 & 19-20.

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<sup>15/</sup> During both the accident at TMI-2 and a subsequent incident at Crystal River there was confusion and misunderstanding about important information transmitted offsite during the early hours following the emergency. See Tr. at 15481 (Grimes).

While Licensee certainly believes that it has installed sufficient data and communication links to the EOF, the whole point of emergency planning is to consider all possible failures and develop procedures that minimize the likelihood of taking wrong response actions. In this case, Licensee believes that a substantial improvement in the reliability of information flow can be achieved during the early hours of an accident, without creating any significant planning or response disadvantages, by stationing the Emergency Director in the control room. See, e.g., Tr. at 23091-96 (Rogan); 15030-31, 22987-88 (Zahler).16/ The NRC Staff argument simply does not respond to this conclusion.17/

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16/ The NRC Staff cites to the testimony of Mr. Dornsife (the State's nuclear engineer) that certain information might be more available in the EOF than in the control room. See Staff Br. at 19-20 & n.29. All of that testimony relates to Mr. Dornsife's ability, as an outsider not intimately familiar with the location of all plant instrumentation, to recognize and understand information about plant operations and potential releases. However, it is precisely because GPU Nuclear has stationed a Vice President full-time at the TMI site (currently Mr. Hukill), who is familiar with the TMI-1 control room and can understand the information set forth there, that Licensee desires this person as Emergency Director to be stationed in the control room.

17/ The NRC Staff also argues that there is little significance to the four-hour cutoff and the potential for misinformation is as great after four hours as before four hours. See Staff Br. at 19 n.26. To some extent the NRC Staff is correct. There is nothing magical about four hours. There are, however, two factors which influenced Licensee's decision on the four-hour point. First, if Messrs. Arnold and Clark, Licensee's primary choices for Emergency Support Director, are at the Company headquarters in Parsippany, four hours is about as fast as they can get to TMI. Both of them, not being as

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Although NRC Staff witnesses testified on this issue over numerous hearing days, there is not one shred of evidence which supports the claim that, during the early hours of an emergency, necessary information will be as available in the EOF as it is in the control room.

3. It is Naive and Impractical to Station Someone More Junior than the Emergency Director in the EOF and Authorize that Person to Make Protective Action Recommendations

Under Licensee's concept of operations, the senior on-site Company official stations himself in the control room as the Emergency Director. Because of Licensee's commitment to station corporate officers at the site, the primary person delegated for this position is the Vice President TMI-1. In

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familiar as Mr. Hukill with the control room, would prefer to station themselves at the EOF. However, even after they arrive, they would not assume the responsibilities of the Emergency Support Director until they had brought themselves up to speed about the accident and declared their readiness to become Emergency Support Director. Second, by about the four-hour mark Licensee expects that both its on-site and off-site emergency response organizations will be fully mobilized. Thus, the likelihood of misinformation will be less than during earlier stages of the emergency when personnel are reporting to their on-site or off-site locations and the possibility for confusion exists as each new person is brought up to speed about the accident. See, e.g., Tr. at 23093-96 (Rogan). Indeed, earlier in its brief, the NRC Staff cites approvingly from a Licensing Board conclusion that the likelihood for confusion is greater during the early hours of an accident (Staff Br. at 6 & n.7).

addition, because this official is stationed full-time on-site, he has the ability to function effectively and efficiently in the control room. As part of the off-site support organization, Licensee intends to bring its senior corporate officials from Parsippany to the site to assist in accident management and long-term recovery.<sup>18/</sup> It is from this personnel pool that Licensee desires to designate its Emergency Support Director.

The NRC Staff belittles this approach, asserting it "merely" is Licensee's "preference" to have its most senior on-site management official make protective action recommendations (Staff Br. at 22). In the NRC Staff's view, there is no reason why a trained individual more junior to the

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<sup>18/</sup> The NRC Staff claims that it is Licensee's choice not to have its senior officials who are designated to fill the Emergency Support Director position located close to the TMI site (Staff Br. at 22, n.37). As the NRC Staff well knows, in response to the lesson learned from the TMI accident, Licensee brought all of its nuclear operations together in a single new entity -- GPU Nuclear. To Licensee's knowledge, no one doubts that this action substantially improved and strengthened all aspects of Licensee's nuclear operations. However, given that GPU Nuclear operates nuclear power plants at both TMI and Oyster Creek, it is not possible for the senior corporate officials to be stationed at the plant sites. Moreover, GPU Nuclear's central engineering and support organizations are all located in Parsippany, New Jersey, where the senior corporate officials also have their offices.

If Licensee is required to delegate responsibility for protective action recommendations to an official located in the EOF within one hour after declaration of a site area emergency, then Licensee may have to forego use of the background and expertise of its senior corporate officials in Parsippany.

Emergency Director could not station himself in the EOF, and from that location be authorized as Licensee's sole spokesman and the person to make protective action recommendations to the State (id.). In support of this proposition, the NRC Staff asserts that neither Licensee nor the Appeal identified any defects in such an approach (id. at 22-23). This claim is in error.

During the hearings, Licensee's witness Robert Rogan carefully articulated Licensee's view on this subject. As Mr. Rogan noted, this view was "very well thought out \* \* \* and with much consultation among senior management of the company." Tr. at 23093 (Rogan). That view is that the person making protective action recommendations for Licensee and communicating these recommendations to the State "should and must be the senior person available." Id. This conclusion was equally obvious to the Appeal Board. See ALAB-698, at 34-35. The notion that the important process of making protective action recommendations could be achieved equally well simply by designating a more junior employee as Emergency Support Director (and fully training him) is totally unsupported in the record. See Tr. at 23046-50, 23074-75 (Rogan), 23037-38 (Zahler).

Moreover, as a matter of organizational theory, the proposal to station a more junior employee at the EOF with responsibility for formulating and communicating protective

action recommendations makes little sense. It is highly naive to believe that this more junior employee would formulate and transmit such recommendations without first discussing his proposed recommendations in detail with the Emergency Director in the control room and receiving the Emergency Director's approval. In such circumstances, the so-called decision-making burden on the Emergency Director has not been reduced at all. Instead, the State now has lost the ability to communicate directly with the Company official actually making the decisions, since the required single spokesman is the more junior employee in the EOF. Under this concept of operations, the Emergency Support Director is likely to be little more than a communicator, transmitting the Emergency Director's recommendations to the State.

Licensee does not intend to respond during an emergency in this manner. It is contrary to all of Licensee's strongly held views that there should be free and open communication between the Company and the State. As previously indicated (see p. 5, supra), rather than place a more junior employee in the EOF, Licensee would move its on-site senior official out of the control room -- even though he may be the person best qualified to manage the accident from the control room -- and station him in the EOF as the person responsible for making protective action recommendations.

B. THE NRC STAFF POSITION IS NOT REQUIRED BY  
RULE OR BY AGENCY GUIDANCE DOCUMENTS

As previously noted (see p. 14, supra), no Commission rule requires that protective action recommendaitons be made from the EOF. The NRC Staff suggests, however, that Commission approved regulatory guidance set out in NUREG-0654 and -0696 does directly address this issue (Staff Br. at 8-9). Upon careful review, Licensee believes this agency guidance is less than explicit in recommending that protective action recommendations be made from the EOF. And, even if as a general matter agency guidance had made such an explicit recommendation, the evidentiary record in this proceeding provides sufficient reason for not following that generic recommendation.

1. The Guidance Documents do not Explicitly Recommend that Protective Action Recommendations be Made From the EOF During the Early Hours of an Accident

NUREG-0696, "Functional Criteria for Emergency Response Facilities" (Staff Exb. 8), provides general agency guidance with respect to three emergency response facilities and two data systems for linking these facilities together. With respect to the EOF, NUREG-0696 provides guidance in the following areas: functions; location, structure, and habitability; staff and training; size; radiological monitoring; communications; instrumentation, data system equipment, and



power supplies; technical data and data system; and records availability and management. See Staff Exb. 8 at 16-24.

NUREG-0696 recommends that the EOF be activated for site area and general emergencies (id. at 5), and further recommends that "[u]pon EOF activation, designated personnel shall report directly to the EOF to achieve full functional operation within 1 hour" (id. at 19). With respect to the number and type of personnel to be stationed at the EOF, NUREG-0696 makes no specific recommendations. Rather, it provides (id.):

A senior management person designated by the licensee shall be in charge of all licensee activities in the EOF. The EOF staff will include personnel to manage the licensee on-site and off-site radiological monitoring, to perform radiological evaluations, and to interface with off-site officials. The EOF staff assignments shall be part of the licensee's emergency plan. The specific number and type of personnel assigned to the EOF may vary according to the emergency class. The staffing for each emergency class shall be fully described in the licensee's emergency plan.

NUREG-0654, "Criteria for Preparation and Evaluation of Radiological Emergency Response Plans and Preparedness in Support of Nuclear Power Plants" (Staff Exb. 7), adds very little to this guidance. It recommends that an EOF be established in accordance with the guidance of NUREG-0696 (id. at 52), that the emergency response facilities, including the EOF, be activated and staffed in a timely manner (id.), and, as part of the so-called Table B-1 guidance, that a senior manager be

stationed at the EOF within one hour for the purposes of "radiological accident assessment and support of operational accident assessment" (id. at 37).

Significantly, neither of these guidance documents directly addresses whether the particular individual charged with responsibility for formulating protective action recommendations during the early hours of an emergency should be located in the EOF as distinct from on-site in the control room. This omission is particularly telling, because as described next, the NRC Staff readily conceded during the hearing that not much actual thought or study had been devoted to this question.

2. The Guidance Documents are not Based on any Reliable Evidence and do not Consider Licensee's Unique Circumstances

In its brief, the NRC Staff claims that NUREG-0654 and -0696 strike an appropriate balance between two conflicting lessons learned from the TMI-2 accident relating to emergency response (Staff Br. at 9-10).<sup>19/</sup> In fact, aside from the

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<sup>19/</sup> The two conflicting lessons are: first, thought should be given to stationing the person making protective action recommendations outside the control room so as to minimize the number of people and functions performed within the control room, and second, thought should be given to stationing the person making protective action recommendations inside the control room, at least during the early hours of an emergency, so as to improve the accuracy of information and to minimize the likelihood of confusion about plant operations or radioactive releases. See 14 N.R.C. at 1475-76.

argument contained the NRC Staff brief, the hearing record contains no evidence to support such a claim. To the contrary, the hearing record demonstrates a surprising lack of analysis that might be viewed as support for the guidance document recommendations.

For example, the record indicates that, while NUREG-0654, Table B-1, recommends stationing an Emergency Support Director at the EOF within one hour, it does not describe any reasons supporting that recommendation. See Tr. at 22931 (Chesnut). Similarly, while NUREG-0696 has a section on EOF staffing (see Staff Exb. 8, at 19), it does not explain the basis for any position set forth in the document. Nor has the NRC Staff undertaken to publish any study evaluating where a licensee should station its official responsible for making protective action recommendations to the State. Tr. at 22933 (Chesnut).

These shortcomings are compounded by the fact that the authors of NUREG-0654 and -0696 had no knowledge of the TMI site specific emergency plan, including the staffing levels provided for by Licensee or the concept of operations governing Licensee's emergency response. See Tr. at 22931-32 (Chesnut). Mr. Grimes (the former Director of the Division of Emergency Preparedness) recognized that fully acceptable concepts of operations different than those described in NUREG-0654 and -0696 do exist. See Tr. at 15485 (Grimes). He also recognized

that the particular options specified in the guidance documents were based on a very limited set of observations of drills at various power plants, and that the NRC Staff did not "have enough experience to say that [the guidance document recommendation] are optimum." Id. From Licensee's viewpoint, significantly missing from the NRC Staff database were observations of drills and exercises at TMI (see id.), despite the fact that prior to the hearing Licensee had run two dozen or so drills at TMI-I in the past year. See Tr. at 15440 (Grimes and Chesnut).

In short, a review of the hearing record demonstrates that the guidance document recommendations constitute little more than one particular concept of operations among many, and that no systematic study or evaluation has been performed to validate the particular approach described in the guidance documents.

3. The NRC Staff has Conceded that Licensee's Approach Provides Reasonable Assurance that the Public Health and Safety will be Protected

The touchstone of the Commission's regulatory authority over nuclear power plants is that there be reasonable assurance that licensed activities be conducted without endangering the health and safety of the public. See, e.g., 10 C.F.R. § 50.57(a)(3)(i); see generally Power Reactor

Development Co. v. International Union of Electrical, Radio & Machine Workers, 367 U.S. 396 (1961). With respect to emergency preparedness, the Commission's obligation is to find reasonable assurance that adequate protective measures can and will be taken in the event of a radiological emergency. See 10 C.F.R. § 50.54(s)(2)(ii); see also 10 C.F.R. § 50.47(a)(1).

In this proceeding, the NRC Staff witness testified that this regulatory standard would be satisfied whether or not the person making protective action recommendations is located in the control room or at the EOF. See Tr. at 22950 (Chesnut).<sup>20/</sup> In view of this testimony, Licensee is at a loss to understand why the NRC Staff continues to assert that the generic recommendations reflected in the guidance documents are the only acceptable way to proceed. In particular, Licensee believes that current NRC Staff claims that Licensee's proposal "could adversely affect the public health and safety" and "will provide less protection for the public health and safety" (Staff Br. at 5), are totally unwarranted rhetoric, and are completely at odds with the testimony and position taken by the NRC Staff during the hearing itself.

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<sup>20/</sup> Counsel for the NRC Staff also candidly stated that the issue of where the person making protective action recommendations is stationed "is a very, very close question and it really is one that is quite judgmental. There are advantages and disadvantages on either side." Tr. at 23081 (Tourtellotte); see also 23059-60, 23062 (Tourtellotte).

C. LICENSEE'S PLAN HAS BEEN FULLY TESTED AND REPRESENTS MANAGEMENT'S CONSIDERED JUDGMENT ON HOW TO BEST PROTECT THE PUBLIC HEALTH AND SAFETY

The NRC Staff asserts that Licensee's approach to having protective action recommendations emanate from the control room during the early hours of an emergency is "untested" and "unverified" (Staff Br. at 24). This is simply untrue.

Licensee's initial versions of its upgraded emergency plan were submitted to the NRC Staff in October and November, 1979. See Rogan, et al., ff. Tr. 13756, at 6-7. As Commission regulations continued to evolve, Licensee revised and updated its plan. See id. at 7-9. From the start, and throughout all the revisions, Licensee's clearly stated concept of operations was that responsibility for making protective action recommendations during the early hours of an accident would remain with the Emergency Director in the control room.

In developing and refining this concept of operations, Licensee conducted numerous drills and exercise. For example, during 1980 more than a dozen emergency plan drills were run at TMI. These drills exercised various facets of Licensee's on-site and off-site emergency organizations, as well as State and County emergency response agencies. The results of these drills were used to develop the specific emergency organizations, communication links, and response

procedures described in Licensee's plan. See Rogan, et al., ff. Tr. 13756, at 117-18.

One aspect of any drill is that the scenario usually compresses real time so that the drill can be completed within the allotted time. Jumping on this "compression" of time, the NRC Staff claims that, since previous drill scenarios at TMI had the Emergency Support Director reporting to the EOF in less than four hours after declaration of a site area emergency, Licensee has never actually tested the feasibility of having protective action recommendations made from the control room.<sup>21/</sup> Licensee does not believe this correctly states the facts, since the NRC Staff position assumes that only the availability of the Emergency Support Director was "speeded-up" and not plant casualties and radioactive releases. In fact, Licensee believes the scenarios accurately represent potential accident sequences and all that has been compressed is "dead-time" between various scenario milestones.

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<sup>21/</sup> The NRC Staff also claims that the early drills conducted by Licensee identified problems in communicating protective action recommendations to the State and that this alleged problem distinguishes Licensee from other nuclear plant operators in Pennsylvania (Staff Br. at 24-25 & n.37). These claims are totally unwarranted. The testimony shows that in the earliest drills, a communication line originally anticipated to carry only radiological information also was used to transmit operational information, and in an attempt to alleviate this matter, Licensee encouraged the State to send its nuclear engineer to the EOF and proposed that an additional dedicated telephone line be installed. See Tr. at 23088-90 (Rogan). There is nothing unique about this, and certainly there is no basis for claiming this matter sets Licensee apart from other nuclear power plants in Pennsylvania.

Moreover, after receiving ALAB-698, Licensee embarked on a set of drills and exercises to explicitly test and confirm the feasibility of delaying the transfer of responsibility for making protective action recommendations from the control room to the EOF. The affidavit of Robert E. Rogan, filed herewith,<sup>22/</sup> describes these drills and exercises. As the Rogan affidavit indicates, two such drills already have been held, another similar drill will be conducted in less than a month, and by November, 1983, two further drills will be conducted, including a full-scale annual exercise with the State. This program already has demonstrated the feasibility of Licensee's plan, and it is expected that the three future drills in the next six months will confirm this conclusion.

From the start, Licensee's considered management decision has been that the best way of protecting the public health and safety was for protective action recommendations to be made from the control room during the early hours of an emergency. This conclusion is based on Licensee's experiences during the TMI-2 accident and the learning gained from the numerous drills and exercises that have been conducted at TMI since then.

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<sup>22/</sup> Submitted with the Rogan affidavit is a motion for leave to file the affidavit with the Commission. Licensee requests that this motion for leave to file be granted.



D. THE COMMONWEALTH POSITION PROVIDES  
INADEQUATE REASON FOR REVERSING ALAB-698

Though invited by the Commission to file a brief in support of the NRC Staff review petition, the Commonwealth of Pennsylvania merely resubmitted its reply brief before the Appeal Board, together with a short memorandum that summarizes the Commonwealth's views. The positions asserted by the Commonwealth in its reply brief were fully considered by the Appeal Board below and rejected. Accordingly, there is little need to redo that effort here. Licensee would, however, make two brief observations.

First, the entire Commonwealth position is based on the speculation of the State's nuclear engineer that, if the senior corporate official is not at the EOF, necessary information will not be transmitted from the control room to the EOF. See Tr. at 23021-23 (Dornsife).<sup>23/</sup> Such unsupported speculation provides no basis for reversing ALAB-698. Furthermore, such a claim is inconsistent with the NRC Staff position that existing communication lines and data links ensure that timely information will be transmitted from the control room to the EOF (see p. 22, supra).

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<sup>23/</sup> Moreover, this speculation is based on observations during a drill when it is necessary to simulate data transmission over the plant CRT. Tr. at 23021-22 (Dornsife). During an actual emergency that information would be displayed on a real-time basis. Id.

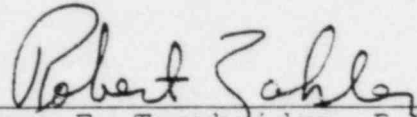
Second, despite the Commonwealth's desire to have face-to-face discussions in the EOF between its nuclear engineer and Licensee's senior manager during the early hours of an emergency, the Commonwealth is unwilling to commit to send its engineer to the EOF within one hour after declaration of a site area emergency, or equip its engineer with a beeper so that he could be quickly contacted if necessary, or to man its end of the dedicated telephone line from TMI to the Bureau of Radiation Protection on a 24-hour per day basis. See Tr. at 23017-20 (Dornsife). Because the Commonwealth is unwilling to make these commitments, it is possible that, if Licensee moved its senior on-site manager out of the control room to the EOF (despite its strong desires not to do that) the State's nuclear engineer would not yet have arrived at the EOF and there could be no face-to-face communications. Thus, if the Commonwealth position is accepted, all that may happen is that Licensee will be deprived of stationing its senior on-site manager in the control room.

V. Conclusion

For the foregoing reasons, the Commission should dismiss the petition for review and affirm that part of ALAB-698 being challenged by the NRC Staff.

Respectfully submitted,

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