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V. S. BOYER
SR. VICE PRESIDENT
NUCLEAR POWER

September 23, 1980

Mr. Steve L. Ramos
Office of Nuclear Reactor Regulation
Emergency Preparedness Program Office
Mail Stop Phillips 242
Washington, D. C. 20555

Subject: NUREG 0696 - Comments concerning draft of "Functional Criteria for Emergency Response Facilities"

Dear Mr. Ramos:

A number of Philadelphia Electric Company licensee representatives attended a Region I workshop at Valley Forge, Pa. on August 19, 1980 to comment on the subject document. Mr. Warren Minners, Leon Baltracchia, and yourself requested written responses as soon as possible.

The attached comments are offered for your consideration. Most of them were verbally given at the Region I workshop.

Very truly yours,

V. S. Boyer

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Attachment

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I. General Comments:

1. Nuclear Data Link

The NRC representatives at the Region I workshop stated that a specification will be written to define NDL data transmission requirements between the utility and the NRC. This will permit integration of this requirement with other data transmission requirements. We would recommend that implementation of all data transmission requirements be delayed until this specification is issued.

Further, we believe that operational criteria regarding interface between the NRC's Operation Center located in Bethesda, and the nuclear plant should be presented in NUREG 0696 as follows:

a. Direction of licensee's activities during an emergency by the Bethesda team in the Operations Center should not usurp the responsibility and authority of the utility's management, in order to avoid confusion and a breakdown in the established chain of command at a time when organizational efficiency is of prime importance.

b. Inquiries from the Operation Center to control room personnel should be avoided so as not to distract plant personnel engaged in critical emergency response activities. The primary communication link should be established with the EOF and/or the TSC.

c. The NDL should be a minimal "alert" data link and all analysis and plant support work should come from the TSC.

2. Correspondence: D. G. Eisenhut to all Operating Nuclear Power Plants, dated August 1, 1980, titled: "Functional Criteria for Emergency Response Facilities".

The above correspondence proposes a completion date for all NUREG 0696 items of April, 1982. The schedule is based on the performance of the following activities on parallel paths: development of equipment specification, design review and approval by the NRC, hardware procurement, and installation. In our judgment, scheduling performance of these activities in sequence is necessary for a well engineered installation.

The prospect of all nuclear licensees requesting the same equipment from vendors with limited resources will have a major impact on equipment procurement schedules. The pickup of data signals from existing plant sensors will require a plant shutdown and it is appropriate that the implementation schedule should minimize plant transients and the impact on plant availability.

We recommend that the implementation schedule should incorporate the following two provisions: (1) provide 9 months to accommodate system design and the development of equipment specifications before issuing purchase orders for hardware. This 9 month period would be effective upon issuance of the approved draft of NUREG 0696, (2) Installation need not be completed until the first refueling outage following receipt of material and equipment.

II. Specific Comments

1. Page 4 Section C - "Emergency Response Facility Systems Integration" Line 19 "These signals shall be transmitted, processed, and displayed independently of any equipment used for normal plant operations, such as the plant computer".

   If the plant computer was monolithic, this requirement might be justified, especially with past design. Present day multiple/ redundant design would allow for both SPDS and normal plant functions in specific cases, and still preserve the security, reliability, and access requirements of concern to the NRC.

   We would suggest the following: "These signals shall be transmitted processed, and displayed independently (whether as separate system or included as part of the normal plant computer system).

2. Page6,7- Article II, Safety Parameter Display System Function Section A - "Human Factors Engineering shall be incorporated in the various aspects of the SPDS design to enhance the functional effectiveness of control room personnel."

   Section C - "The SPDS display shall be readable from the operating stations of the shift supervisor, control room senior reactor operator, shift technical advisor, and at least one reactor operator".

   Since the NRC concern is the effective interface of the operator with control room information, we suggest that Section C be made plant specific based on individual control room arrangements. The NRC premise is that the SPDS is the all-inclusive display panel for the operator under an accident condition. We would expect this display to be located centrally for those personnel mentioned since other control room information shall also be monitored at this time.

   Also, the shift supervisor and shift technical advisor do not have specified control room stations.

   We recommend that the wording be changed to read "central location" or "located to be read by at least the senior reactor operator.

3. Page 8 - Section A states that the TSC will provide support during the recovery phase. This may very well be, however, we believe that under many circumstances the TSC operations can be downgraded

or even eliminated during the recovery phase as more and more of the plant returns to normal operation. We suggest wording be incorporated into the functional requirements permitting such flexibility.

4. Page 8 - Section F - Safety Parameter Display System Design Criteria (1) "The SPDS shall be capable of functioning during ------- including the Operating Basis Earthquake -------".

   The purpose of the SPDS is to alert the operator to abnormal operating conditions. Therefore, the SPDS is not needed for an OBE event, since the presence of an OBE will alert the operator to the existence of abnormal operating conditions. Additionally, SPDS readout is required in the TSC and EOF which are not required to withstand the OBE. It is our recommendation that the SPDS design need not comply with the OBE.
   (2)"The data acquisition system for the SPDS, consisting of sensors ----- shall be designed and qualified to Class IE standards."

   The Class IE should be deleted, since the system is not essential to safe shutdown of the plant, containment isolating reactor core cooling, or in preventing radioactive releases to the environment.

5. Page 10 - Section B - Technical Support Center Location - "The TSC shall normally be in a location that is within approximately two minutes comfortable walking time of the control room." "If— habitable TSC be located at a greater distance ----, a primary TSC facility must be provided ----".

   NRC representatives indicated that they might periodically want face-to-face communication with the control room operators, or need to review instrumentation data not transmitted via the SPDS.

   The requirement for a TSC has been accepted and the licensee should be given more flexibility in providing a proper facility, even if it is outside the plant. Most operating plants, and even some under construction do not have the capability to properly meet the proximity requirement.

   It would also seem prudent to design one TSC with full capability rather than provide two; especially if the primary facility needs to be evacuated at the time support is most needed.

   We recommend that the two minute requirement be deleted and emphasis be placed on one primary habitable TSC near to the control room. Where the TSC is in another building, alternate communication may be required, such as TV monitoring or a dedicated TSC operator in the control room. We agree that provisions should still be made for access from the TSC to the control room.
6. Page 5 - Verification and Validation Criteria "The SPDS, TSC, EOF, and NDL design, development, qualification, and installation shall be independently verified by qualified personnel other than the original designers and developers."

This sentence should be clarified to be more specific. Verify can be expanded to an independent QA/QC program other than now being used for plant design. Validate can be expanded to sensor redundancy and computer calculation programs to validate sensor engineering unit readings.

We recommend this wording be changed to indicate "design, development ——— to good engineering practices similar to accepted plant design practices".

7. Page 13 - Section H (last paragraph) requires a total TSC unavailability of 0.01. This conflicts with page 14, Section I (third paragraph) which requires a 0.001 unavailability. We recommend TSC unavailability of 0.01 as being the more practical number.

8. Page 15 - Third paragraph of Section A, and page 18, Section G mentions coordination of licensee activities with local, state agencies and NRC and FEMA. State and local agency plans are specific about communication links and pathways for transmittal of information. These requirements have been incorporated into our site emergency plan. These pathways should not be short circuited. Licensee communication to local agencies occurs only during the first few minutes for the purpose of providing prompt and direct notification to local agencies. Continued communication between the licensee and local agencies after state agencies have become activated will generate confusion. Similarly, on the Federal level our communication should be limited to NRC and not shared with FEMA.

9. Page 18 - Section F Emergency Operations Facility Habitability "To ensure adequate radiological protection for EOF personnel, permanent radiation monitoring systems shall be installed in the EOF.

This requirement would prohibit the use of portable equipment, and lends itself to misinterpretation resulting from diverse definitions of the word "permanent." There may be applications where portable instruments would satisfy and be superior to the radiation protection requirements. It is recommended that the word "Permanent" be deleted from this sentence and be replaced with "dedicated radiation monitoring equipment."

10. Page 18 - Section G and Page 19, Section H (Second paragraph) refer to an alternate EOF. This document does not specify a requirement for an alternate EOF; therefore reference to an undefined alternate EOF does not appear appropriate. It is recommended that this reference be deleted.

11. Page 19 - Section I - Emergency Operations Facility Technical Data and Data System says "Additional radiological, meteorological, seismic, ---- shall be received, processed and displayed in the EOF as needed ----".

Seismic data is unrelated to the implementation of EOF functions. If seismic data is of interest to personnel outside the control room, it can be readily obtained using the communication ties to the control room. Therefore, we recommend the deletion of this requirement.

It also says that "Data providing information on the general condition of the plant is also required in the EOF for utility resource management and recovery management. At minimum, the EOF data set will include data for all Type A, B, C, D, and E variable specified by R. G. 1.97. Signals from sensors providing data for variables specified by R. G. 1.97 shall be input directly into the data acquisition processor serving the EOF with no previous signal processing by a plant process computer. The EOF shall receive and have the capability to display the same plant data and radiological information that is transmitted to the NRC."

We concur with the criteria in Section III of NUREG 0696, that a broad spectrum of plant data be transmitted to the Technical Support Center in order to assist management in the mitigation of accidents. The EOF function, as described in NUREG 0696 Section IV, is for the management of overall emergency response, the coordination of radiological assessments, and for management of recovery operations. It is our recommendation that the data displayed in the EOF be limited to radiological and meteorological data. A full spectrum of data display in the EOF would be redundant, would consume space needed for the high personnel occupancy requiremsnt, may overstress and jeopardize the integrated data transmission network, and is not necessary to the recovery activities may be obtained from the control room and TSC using dedicated communications. For the same reasons presented above it is our recommendation that the display of the SPDS in the EOF should not be mandatory.

Prepared by: G. M. Morley
September 19, 1980