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September 30, 1980

Secretary of the Commission
U.S. Nuclear Regulatory Commission
Washington, DC 20555

Attention: Docketing and Service Branch

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

Dear Sir:

Yankee Atomic Electric Company appreciates the opportunity to comment on the subject document. Yankee Atomic owns and operates a nuclear power generating plant in Rowe, Massachusetts. The Nuclear Services Division also provides engineering services for other nuclear power plants in the Northeast including Vermont Yankee, Maine Yankee and Seabrook 1 and 2.

Yankee Atomic supports and agrees with the basic objectives regarding improvements in emergency response facilities. We disagree with some of the specific design requirements proposed in the draft because they seem quite restrictive and preclude alternative means to satisfy objectives also stated in the draft.

We believe that meeting the functional objectives should be the primary focus of our efforts and that functional objectives should be the primary and only focus of the NUREG. This can best be done by utilizing all the capabilities of existing plant facilities and equipment. We should make modifications only when there is an advantage and quantum improvement in the quality of safety and efficient operation. We feel that the draft NUREG suffers in the main from failure to concentrate on the purpose of the requirements it presents. The data acquisition display and transmission systems are simply aids to the operator to enable him to more quickly and more accurately identify potential inadequate core cooling functions and radiation release. They are not intended to replace the safety function of the control board.

Our specific concerns given the premise outlined above are provided below and additional detailed comments are enclosed:

- Computer function - There is no reason why data from the plant computer cannot be used in the safety parameter display system to

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guide the operator to proper control board response and action. There is no reason why this SPDS function should be seismically qualified since the likelihood of occurrence of a low probability event and a sufficiently severe accident is relatively low. Additionally the operator always has seismically qualified control board indications of primary safety systems.

- . The system (i.e. SPDS) reliability criteria are excessive for what is and should be strictly a monitoring system. It is obvious that in the design of the system, high reliability will be achieved by sound engineering design. Setting arbitrary standards that in themselves are not only difficult to achieve but also delay implementation of a worthwhile system simply doesn't make sense.
- . The data requirements, as tentatively set forth in Regulatory Guide 1.97, may in themselves be counterproductive in achieving the objective of rapid accident assessment since the list is quite long. The objective of a quick easily understandable display will be subverted if an excessive number of data requirements are made on the SPDS. A more appropriate list of safety parameters has been developed by AIF, presented to NRC, favorably received by ACRS, and more directly meet the functional objective stated in the NUREG.
- . One of the most serious shortcomings of NUREG-0696 is its total failure to understand the function of the Emergency Operations Facility (EOF). By requiring a single "hardened" EOF near the site, the reality of the EOF as an operating center accessible not only for emergency offsite effort by utility, state and federal personnel but also on site support is ignored. Should the environment around the EOF become uninhabitable, the functionality of the facility is seriously hampered since vital access would be denied. A more logical approach would be to retain the present concept of primary and alternate facilities so that all functions can be carried out effectively. The misplaced concern over continuity if transfer of control is necessary between facilities can be easily addressed by proper planning.
- . The schedule outlined in NUREG-0696 can be met by a reasoned application of the functional objectives set forth. This reasoned application considers maximum utilization of existing equipment and facilities to provide the operator and emergency response personnel all the tools they need to perform their assigned tasks.

This schedule cannot be met if the unduly restrictive requirements of NUREG-0696 which are NOT NECESSARY FOR ACHIEVING THE FUNCTIONAL OBJECTIVES, are maintained.

From the standpoint of a utility licensee, responsible for the safe operation of our plants as well as effective conduct of emergency response, we are supportive of the concepts outlined in NUREG-0696. We feel we can exercise our responsibility most effectively and move forward expeditiously if the unnecessary and overly restrictive requirements of

NUREG-0696 are removed. Since the industry and NRC agree with the functional objectives set forth in NUREG-0696, a unique opportunity exists to see if we can accomplish something constructive without getting bogged down in arguments over details.

If you have any questions regarding our comments please contact us.

Very truly yours,

YANKEE ATOMIC ELECTRIC COMPANY



D.W. Edwards, Director
Operational Projects

Enclosures

YANKEE ATOMIC ELECTRIC COMPANY

COMMENTS ON NUREG-0696

1. Data Acquisition System Requirements

The requirements for data acquisition for both the SPDS and the NDL should be given in terms of overall functional objectives and not in terms of detailed design requirements as is done in the 0696 draft. The matter of how these objectives are met (equipment selection and configuration) should be left for individual plants to determine.

An example of this point is contained in the second paragraph of Section I, "Technical Support Center Technical Data and Data System." A restriction is stated there on the transmission of signals through a plant process computer. This restriction does not belong in what should be a more objectives-oriented document. Processing parameters through plant process computers is indeed an approach that can be arranged so as to meet the intent of handling data for this type of purpose. Design approaches such as this should not be precluded by this document.

2. Equipment Availability

The requirement for 99.9% availability of data acquisition and power supply equipment is unnecessary and unrealistically restrictive. This requirement is impractical to implement without designing redundancy into the system. This is unnecessary and should not be required of a non-safety related system whose objective is to aid the operator. The use of a 98% availability design objective would significantly simplify the equipment configuration requirements. Simplification of this equipment is important for the intended purposes since it will be easier to use, easier to train to, easier to document and maintain, and easier to repair.

3. Implementation Schedule

The schedule identified for these requirements, particularly in connection with the data acquisition and display systems, is unrealistic. It is unrealistic from both a personnel and an equipment availability standpoint. The availability and training of data processing manpower restricts the development of new data handling requirements such as these. The ability of the data processing equipment manufacturers to supply equipment of this nature to the entire nation of licensees simultaneously is suspect. The implementation schedule should be more realistically established to reflect these limitations.

Draft NUREG-0696 endorses Proposed Rev. 2 to Regulatory Guide 1.97. At present, both of these documents are in a state of change. The implementation schedule shows conceptual design and development of equipment specifications beginning even before the document is finally issued. This anticipation of design criteria, particularly with regard

to the fluctuating status of Regulatory Guide 1.97, is unrealistic. A meaningful starting point can only be considered after a clear definition of requirements is made. The implementation schedule should be revised based on this.

In the same regard, Section II.F of the document, Safety Parameter Display System Design Criteria, points out that detailed guides for design criteria will be published separately. If these are to be used as a design basis, the implementation schedules must reflect this.

Section I.D, Verification and Validation Criteria, calls for independent verification and validation of the facility designs. This is a time consuming step which should be done before final design procurement is implemented. This is also not reflected in the schedule.

4. Regulatory Guide 1.97

Regulatory Guide 1.97 is an inappropriate document to be endorsed or referenced by NUREG-0696. In its present form, the regulatory guide is a confused collection of requirements which if issued would be excessive. Many requirements seem arbitrary without technical justification and are sure to present major backfitting problems. The Atomic Industrial Forum (AIF) has developed a more appropriate list of safety parameters that meet the functional objectives in the NUREG. The AIF list was also favorably received by ACRS and has been presented to NRC.

5. Inconsistencies

In several areas the document refers to Regulatory Guide 1.97. Again, since this Regulatory Guide is not yet in the final form, care should be taken with its reference in any document that requires its reference. Section I.C, Emergency Response Facility Systems Integration, discusses type A through E variables. In the present form of the Regulatory Guide this has been changed to categories 1 through 6. The future form of the Regulatory Guide may change this again.

Section II.F of the document states, "The data acquisition system for the SPDS, consisting of sensors and signal conditions, shall be designed and qualified to class 1E standards." The draft then endorses the design and qualification criteria of Regulatory Guide 1.97 as providing the design requirements. This is a contradiction since not all Regulatory Guide 1.97 parameters are required to be designed to class 1E standards.

6. Unnecessary Repetition

Sections III.H, III.I, IV.H, and IV.I discuss instrumentation, power supplies, technical data and data systems for the TSC and EOF. The information discussed in these sections is in part discussed in Sections I and II. The displays in the TSC and EOF are really extensions of the SPDS. This information should, therefore, be discussed in Section II, Safety Parameter Display System, and it is unnecessary and confusing to repeat it in a discussion of each facility.

7. EOF Location and Design

Section IV.3 specifies location criteria for a near-site EOF. In combination with the radiological habitability criteria given in Section IV.F, the clear impression is that the Commission's intention is for a single EOF designed to remain habitable under GDC 19 and Standard Review Plan 6.4 analysis groundrules. The long-standing concept of a primary EOF supplemented by an alternate EOF for the very low probability conditions whereby abandonment of the primary EOF would be necessary, is apparently rejected by this document.

We use the word apparently because the document refers to an alternate EOF in the statements that appear in the middle of Section IV.G and towards the end of Section IF.F. The document is therefore very misleading and uncertain on this extremely important point.

The impression from the document and the description of the criteria bases given by the responsible NRC staff members at the King of Prussia public meeting on August 19, 1980 indicates the intention is for a single, radiologically habitable EOF located near the plant site. This desire needs to be carefully reviewed.

Licensees have been complying with the primary and alternate EOF concept for a great many years and in accordance with NRC requirements. To abandon this concept and not allow for the stated EOF functional objectives to be met by a primary/alternate EOF scheme represents a very severe impact on established emergency planning arrangements. The existing primary and alternate EOF's are structures of one type or another with equipment, communications, and information preparations dedicated to allow for a timely move from one to the other without loss of primary function. The provision should be made in this document that this primary/alternate EOF concept is an acceptable alternative method for the EOF function to the GDC 19, SPR 6.4 qualified facility.

Not only is the concept long-standing with resulting long-standing arrangements by licensees along these lines, but the concept of the EOF function needs to be reassessed from what is expressed in this document to identify the mistake in concluding a single hardened facility is required. The EOF is a coordinating and dispatching facility that needs to function with free access of personnel from not only the licensee's organization but from all other local, state, and federal emergency response organizations as well. To expect this free flow of personnel when the facility is designed to operate in a mode isolated from its environment is missing a fundamental criterion of this facility.

The unhardened primary EOF supplemented by an alternate EOF for a very low probability radiological condition is a concept that should be retained.

8. EOF Radiation Monitoring

The wording at the end of Section IV.F should be changed to reflect radiological habitability determinations by dedicated radiation survey, sampling, and analysis equipment and not permanently installed,

continuously indicating radiation monitoring gear as now stated. Radiological habitability can be quite adequately assessed with the former type of measurement program.

9 . Use of Potassium Iodide

Recognition should be given to a very effective radiation protection practice now in use by licensees. Emergency workers at licensee facilities would be administered KI for precluding thyroid doses from radiiodine exposure. This practice and its effectiveness should be factored into any radiological habitability requirements that are specified for an EOF. This would greatly reduce the impact on ventilation system design without reducing the radiological health considerations for response personnel.