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45 FR 54705

September 29, 1980

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ROGER S. BOYD
Vice President

Mr. Samuel J. Chilk
Secretary of the Commission
U.S. Nuclear Regulatory Commission
Washington, D.C. 20555

Dear Mr. Chilk:

KMC, Inc., and its Coordinating Group on Emergency Preparedness Implementation, a group of over 20 electric utilities with nuclear power plants in operation or under construction, is pleased to provide detailed comments on NUREG-0696. Request for comments on NUREG-0696, "Functional Criteria for Emergency Response Facilities," was published by the NRC in the Federal Register on August 15, 1980 (45 FR 54708).

A list of the Coordinating Group members is enclosed.

Fundamentally, NUREG-0696 represents an approach to the regulation of nuclear power plants that has evolved to a point where a licensee's reasonable judgment and the application of common sense are no longer permitted. Such facilities as the Technical Support Center, the Emergency Operations Facility and the Safety Parameter Display System are aids that provide for a more organized emergency response to an accident situation based on a pre-planned organization with data availability for diagnosis. Functionally, no one argues with the necessity for such improvement. However, NUREG-0696, in its stringently prescribed specificity, goes far beyond the established NRC rule of "reasonable assurance." Several examples leap from the pages of NUREG-0696:

1. An 0.01 total system unavailability (0.001 for individual parameters) for electronic equipment in the TSC, EOF, and SPDS.

2. OBE seismic requirement for the SPDS.

3. EOF habitability for low probability accidents. This habitability requirement goes far beyond anything required for a nuclear plant's design basis, and has not been supported by any technical analysis.

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Requirements such as these are easy for the NRC to specify. They are, on the other hand, incredibly difficult to justify. In fact, the NRC has not justified them in any sense; they have merely set them down as inflexible requirements. Publishing NUREG-0696 for comment is an obvious mechanism for putting the burden for justifying not having such capability on the utility licensees. This "show cause" approach to regulation, considering the improved state of emergency preparedness already set down in the Commission's regulation, is unconscionable and should be overturned by the Commission.

There is another troublesome aspect to the evolution of these NUREG-0696 requirements. When first established, the purposes for utilization were vague, and in some instances undefined. Nonetheless, implementation schedules were set which over the ensuing months have not been varied appreciably yet, with each iteration, the NRC staff has escalated the requirements. It is almost assured that, left to its own devices, the staff will continue such escalation through development of the final version of NUREG-0696 and subsequent letter from NRR that requires implementation of the established requirements. The NRC should take into account responses from individual utilities that give implementation schedules that can be met on a practical basis and permit some degree of flexible or staged implementation of the final requirements.

A special point of consideration in commenting on NUREG-0696 is the concept of the Nuclear Data Link. This creation is still in its formative stages, but is being based on a consideration that has not yet matured. Fundamental to the establishment of the NDL is a clear determination by the Commission and an understanding by the staff of the role of the NRC in an emergency. This is identified as Action Plan Task III.A.3.1, and is still ongoing. Resolution of this concern is an important prerequisite to development of the NDL (which is Action Plan Task III.A.3.4). As such, that part of NUREG-0696 that relates to the NDL should be considered as information only, with no implementation inference at this time.

There is another general thought regarding the facility/equipment requirements of NUREG-0696 that deserves deliberate Commission consideration. It relates to human factors engineering principles. One of the major lessons learned from TMI is that consideration of an integrated approach to human factors engineering has been missing in the design and operation of nuclear power reactors. The NRC has taken organizational steps to correct this and will develop Action Plan requirements to improve

these human factors aspects of design and operation. Many of the prescriptive hardware requirements, particularly the SPDS, fly in the face of basis human factors principles. It would be possible in a new facility design to incorporate the NUREG-0696 "functional criteria" in an integrated fashion that would take proper cognizance of human factors considerations. This cannot be done effectively with existing facilities. The SPDS is not integrated into the control room information flow, and will not be, even with control room upgrading in the future. The SPDS, as envisioned by NRC, has the potential for providing a disruptive flow of critical plant data when used in accident situations. Before requiring the SPDS in the control room the NRC's Division of Human Factors Engineering should obtain a contract study of the effects of such an installation on the effectiveness of control room operation during an accident.

In addition to these views, the Coordinating Group is pleased to provide the detailed comments enclosed.

Sincerely,

Roger S. Boyd

encl.

cc: Mr. Harold Denton, NRC

Mr. Warren Minners, NRC

COORDINATING GROUP ON
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Northern States Power Company
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Sacramento Municipal Utility District
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SPECIFIC COMMENTS ON NUREG-0696

Emergency Operations Facility (Page 3, Item 3)

The main purpose of the EOF is to be able to evaluate an incident and to provide recommendations to State and/or local officials for a possible response. This is not mentioned at all, and in fact, the description in the second paragraph of Item 4, Nuclear Data Link, would imply that the NRC has assumed this responsibility. Flowing from this lack of specificity of function has emerged the requirement, without benefit of justification, that the EOF be far more superbly equipped and protected than the plant itself or the real emergency response facilities of State and local authorities that have the responsibility for managing accident response. In all foreseeable situations, almost all of the EOF capability will go unused. The costs of such facility capability so completely outweigh the benefits as to be unwarrented. Before establishing the habitability requirements for the EOF, the NRC should examine a specific design and see if such an extreme position being taken is even practicable.

Nuclear Data Link (Page 3, Item 4)

The second paragraph should be clarified to indicate that the NRC will independently evaluate an accident situation, but would provide advice and assistance to the offsite authorities if it disagrees with the licensee's actions or if specifically requested. The responsibility for normally providing this advice is the licensee and there should be no inference that the NRC (or anyone else)

will duplicate and thereby dilute the responsibility unless there is a reason for doing so. The discussion related to informing officials and the general public about all aspects of the incident should also be made more clear that this is the licensee's responsibility and the NRC will provide an independent assessment as required.

The third paragraph also implies that the NRC will be providing "recommendations for actions affecting the general public." This role requires clarification in light of the fact that such considerations have a direct effect on pre-approved emergency plans that would be implemented in the event of an emergency. This lack of clarification promises to lead to the confusion evidenced at Three Mile Island.

SPDS Design Criteria (Page 8)

The design objective to achieve a component unavailability of .001 is probably higher than the state of the art, unless redundant systems are installed. It does not seem rational to specify such a reliability objective for a diagnostic system which has installed backup. In the same vein it is not necessary to design the SPDS for seismic events and seismically qualify that equipment. In both considerations, no requirements for such extreme capability have been established by the NRC staff.

TSC Location (Page 10)

A requirement to permit safe and timely movement of personnel between the TSC and control room under all emergency conditions is too open-ended. A requirement for communication in the event of extreme considerations such as design basis accidents would be more meaningful.

TSC Habitability (Page 12)

The requirement for permanent radiation monitoring systems in the TSC foreclosures equally acceptable options. Portable systems located in the TSC would be of equal value and would add more flexibility than a permanent installation.

TSC Technical Data and Data System (Page 14)

A requirement that the TSC systems, including power supplies, to have less than .001 unavailability is not justified. To meet this demand would require redundant systems which is not prudent for a diagnostic system. Such requirements should be based on results of detailed design studies.

EOF Instrumentation and Power Supplies (Page 18)

The requirement for the ability to transfer diagnostic functions from the EOF to an alternate location and the .001 unavailability of instrumentation is not justified. Upon failure of equipment, the objectives of the EOF could be accomplished using a contingency plan which would not require transfer of diagnostic functions to an alternate location.

Use of Reg. Guide 1.97 Data Set

NUREG-0696 requires, as a minimum, the display of variables and plant parameters listed in Reg. Guide 1.97 for the SPDS, TSC, EOF, and NDL. Licensees, to have any hope to meet the implementation deadline, would have to begin immediately to develop these data displays. However, in the broad regulatory sense, Reg. Guide 1.97 is still a document out for comment and under staff review. The ACRS has provided advice to the Commission (letter dated August 13, 1980) that is highly critical of the present requirements of this Reg. Guide. Recognizing that considerable NRC staff work remains on the subject of instrumentation to follow the course of an accident, it is inappropriate to require licensees to meet Reg. Guide 1.97 in its present evolving state to design their emergency response facilities.