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8 July, 1993

Mr. Dean Houston
ACRS

Dear Dean:

Below are my comments on the draft report of the Regulatory Review Group and on the meeting of the subcommittee on Regulatory Policies and Practices held on July 7, 1993. I have not commented on the improvements that could be achieved by editorial review of the documents, but there are parts of the report in its present form that are very murky.

COMMENTS ON REPORT OF REGULATORY REVIEW GROUP

The Commission and the staff are to be commended for the efforts to eliminate unproductive and unnecessary regulations and regulatory practices, and to remove inconsistencies and outright contradictions that have crept into the body of regulations over the years. It is also encouraging to observe that the Review Group is identifying situations in which narrow interpretation of some regulations by the staff has led to unnecessary burdens on licensees. If the Group's recommendations are implemented there is little doubt that safety of the operating reactors will be enhanced. However a problem with the approach in its present form is that it lacks a clear definition of what is being regulated. Further, the standards which must be met in order that a plant's or a licensee's performance be acceptable, are not well defined. (Presumably the Safety Goals were meant to form a basis for some such standards, but there is a significant disconnect between the safety goals and today's regulatory process.)

The existing body of regulations came into being, and much of its development occurred, in an era when the design and construction of nuclear power plants was the staff's principal preoccupation. Thus, e.g., Appendix A of 10CFR50, which still provides much of the foundation of existing regulatory philosophy, is labelled General Design Criteria. What developed was a framework of written regulations and a set of precedents, many unrecorded, formally, which were formulated during the licensing of the plants now operating. These became a standard by which each plant proposed for licensing could be judged. If, in the view of the staff members performing the review, the plant passed it was licensed.

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Page Two
Houston
8-VII-93

Until it did, it was not. "Adequate protection" at the Operating License stage in effect meant that the staff had conducted a review and had concluded that the plant met adequate protection standards.

The licensing of the operating plants occurred over a period of years, and during this period the body of regulations changed through both growth and modification. The precedental material also accumulated. Thus the standard (or set of standards) by which a plant was judged, in determining whether it should receive a license, changed with time.

As operating experience has accumulated, and as more regulatory effort has been directed to operating plants, there has been a significant shift in emphasis from those aspects of plant performance that can be judged on the basis of formal regulations, to evaluations, frequently subjective, which depend on the staff's perception of the performance of the plant and of utility management. And though it is undeniable that the influence of management on plant performance is significant, there are almost no formal regulations that specify either acceptable management performance or the associated acceptable plant performance.

Rather, what now exists, as a principal regulatory mechanism, is the SALP process, unencumbered with any significant body of regulations, which purports to deal with "Licensee" (presumably this means management) performance in a realm of operation that is superior to that which is "acceptable" on the basis of compliance with regulations. (All three numerical grades that are assigned, as a result of a SALP review which determine much of the staff's subsequent interaction with the licensee, are said to describe a plant and a management which are in compliance with the NRC's regulations.)

The current approach raises several questions, none of which are answered by the draft document. First what is being regulated? Is it the population of operating plants? If it is, existing regulations and procedures are ill suited to the task, since they are designed to deal with individual licensees. Is it the individual plant? If it is then plants are being regulated to different standards, since early plants are not required to conform to the same set of regulations as those licensed later.

Second, what is acceptable plant/licensee performance? Is it a given level of safety? If so a licensee will search in vain to find that level described in enough detail that the staff's judgment of whether it is being achieved can be anticipated before a SALP report has been prepared. Is it conformance with regulations? Apparently not, because licensees are instructed to come to meetings to discuss SALP ratings with plans to improve these ratings, even though the rating to which the staff gives the

Page Three
Houston
8-VII-93

lowest value is said to describe licensee performance that is in conformance with regulations.

It appears, then, that a high priority in the performance of a meaningful regulatory review is an up-to-date description of what it is that the staff is trying to achieve by the regulatory process, and how it determines when it has been achieved by a licensee, or by the population of operating plants. This should be a description that can be understood and interpreted, and the results of which can be predicted, by an independent and objective observer.

Nevertheless, in order to get anything done which will benefit those plants now operating it is desirable to go ahead with something, even if incomplete and in some cases inappropriate, before the above is undertaken. However until the body of regulations has been overhauled to place an appropriate emphasize on operations instead of being occupied almost entirely by design and construction, the regulatory process will be, at best, makeshift.

Additional remarks:

A burden not mentioned in the documents that the ACRS has received is the creeping legalism that has invaded the regulatory process. There are numerous examples. For example there is sufficient experience throughout all of industry that in spite of all that can be done, human error will occur. This is recognized by the NRC requirements for system design by the Defense in Depth philosophy that is an important element of reactor design. However in the regulation of reactor operation it appears to be neglected. There appears to be a belief that the system of fines that has been promulgated can, if the fines are made sufficiently severe, reduce human error to zero. It won't and it can't! It is dangerous to think this way, and it places an unnecessary burden on licensees. Of course effort must be made to reduce human error, but the safety systems and other systems are designed to be tolerant of it, and the regulatory approach should take into account the fact that it is going to occur.

Another burden not addressed is the requirement that there be two resident inspectors at each single unit site. Why is one not sufficient? Is there evidence (quantitative or qualitative) that risk is increased when only one resident inspector is assigned to a single unit site? There probably is a job description somewhere that specifies the responsibilities of the resident inspector, and an analysis that shows that one RI cannot fulfill them alone. I don't believe that the ACRS has seen them.

Page Four
Houston
8-VII-93

Recommendations

I recommend that the ACRS approve the proposed rule change. It should remove some of the unnecessary burden imposed by ambiguity and inconsistencies in the existing body of regulations. Its implementation may be painful for the staff, but I'd suggest that the Committee defer comments on that until the rule change has occurred.

In the light of the discussion that I heard during the subcommittee meeting I also recommend that the Committee ask someone in NRR to give a presentation on the licensing basis of the existing body of operating plants. With the exception of those members of the Committee who have utility backgrounds, none of the present members have had any extensive experience with plant licensing. The discussion indicated a lack of understanding of the variety of license conditions under which the current population of plants operates. Indeed the discussions that the Committee has had with the staff and with NUMARC on the establishment of a licensing basis for a plant that applies for a new license may indicate that many licensees are uncertain as to what regulations (and consequent operating restrictions such as Tech Specs) currently apply to them.

I shall look forward to seeing the Committee's letter and to observing what the staff and the Commission decide to do with the proposed rulemaking.

Sincerely,

Bill Kerr
William Kerr

COMMENTS ON REGULATORY REVIEW

The Commission and the staff are to be commended for the efforts to eliminate unproductive and unnecessary regulations and regulatory practices, and to remove inconsistencies and outright contradictions that have crept into the body of regulations over the years. It is also encouraging to observe that the Review Group is identifying situations in which narrow interpretation of some regulations by the staff has led to unnecessary burdens on licensees. If the Group's recommendations are implemented there is little doubt that safety of the operating reactors will be enhanced. However a problem with the approach in its present form is that it lacks a clear definition of what is being regulated. Further, the standards which must be met in order that a plant's or a licensee's performance be acceptable, are not well defined. (Presumably the Safety Goals were meant to form a basis for some such standards, but there is a significant disconnect between the safety goals and today's regulatory process.)

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