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Gentlemen:

NUCLEAR REGULATORY COMMISSION (NRC) - DRAFT REGULATORY GUIDE: DG-1001, MAINTENANCE PROGRAMS FOR NUCLEAR POWER PLANTS

TVA has reviewed and is pleased to provide comments on the draft Regulatory Guide, "Maintenance Programs for Nuclear Power Plants."

The following comments address both the specific questions in the NRC letter dated August 1, 1989, and specific sections of the draft Regulatory Guide. The Nuclear Management and Resources Council (NUMARC) draft response was considered in this response.

SPECIFIC COMMENTS

1. What level of detail should be included in the regulatory guide?

   It appears that the NRC has attempted to keep the level of detail to a point such that utilities can comply with the regulatory guide, yet still manage their program consistent with their business philosophy. However, the inclusion of subjects such as communication of overall policies and goals to the lowest ranks, control of radiation exposure (which is already addressed in 10 CFR Part 20.1), management of parts, tools, and facilities and planning and scheduling seem to be subjects which should not be regulated by NRC because they serve supporting roles to an effective maintenance program. These subjects could be interpreted by the regulators such that only programs by "top performers" are considered good and therefore become regulated. TVA agrees these things are important to the maintenance program, but the NRC should focus on bottom line performance parameters such as availability, safety system performance, or other matters which have a direct bearing on the protection of the health and safety of the public. The other subjects should be clearly noted as "good practice" subjects that cannot be regulated by the NRC.

2. Is the scope of systems, structures, and components covered by the regulatory guide appropriate?

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In general, the regulatory guide has addressed the appropriate systems, structures, and components (SSC). However, it should be clear that there should not be a documented, prescribed, maintenance approach for each and every SSC. Each utility should tailor their plans and actions to those things that are detriments to good plant safety performance using such tools as maintenance trending, industry experience, and root cause analyses of conditions adverse to quality.

3. What criteria could be used to determine that a maintenance program is fully effective and additional improvement is not needed from a safety standpoint?

   It is apparent that no one has determined a single set of such parameters. The present set of performance indicators endorsed by the Institute of Nuclear Power Operations (INPO) is a set that most utilities are using and seem to be adequate since overall maintenance performance has been improving at a steady rate over the last few years. Consistent with the NRC's charter to protect the health and safety of the public, the NRC should look most closely at bottom line indicators such as availability, safety system out-of-service type parameters and not focus on detailed process statistics, such as backlog, preventive/corrective maintenance ratios, etc., which are tools management uses to analyze maintenance performance trends.

4. Is it appropriate to use quantitative goals, which are described in Regulatory Position 3 of the draft regulatory guide, directed toward achieving a satisfactory level of performance in plant maintenance programs consistent with the level achieved by the top performing United States plants of similar design?

   It is appropriate to compare equipment failures, overall performance, and other parameters with other plants of similar design. NRC should not regulate this since it is readily apparent to TVA that the utilities are doing this on their own. One complication to using the "top performers" as a yardstick is that often the top performers change from year-to-year. We are concerned that utilities might have to change from year-to-year to emulate changing top performers.

5. What quantitative measures would be appropriate for such goals? Should they be at the plant level, system level, component level, or some combination thereof?

   The plant level measures are already included in the INPO performance indicator program. The goal setting needed depends on where improvement is needed and the scope of problems that need improvement. A plant may have a particular component that is degrading their performance. They may have a system that because of weak design needs much attention, or if the

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problems seem to indicate management problems, may be at the plant level. The utility must be the one to identify root causes of problems and establish appropriate goals and actions.

Comments relative to specific sections of the regulatory guide are as follows:

3.2 Goals

How will NRC ensure that top performers share information with other utilities? We see a burden on the top performers to share their information with others in time and finances.

4.3.2 Control of Vendors and Contracted Maintenance Services

The second paragraph of this section implies that existing preventive maintenance (PM) tasks would have to be backfitted to provide "Sufficient engineering justification . . . when the vendor recommendations are not followed." This would require everyone to do this, when some utilities with "effective" maintenance programs have never done this. A large expenditure of time and money may have to be made with little benefit.

4.3.3 Control of Radiation Exposure

Although TVA agrees that ALARA programs are important, this section of text is much too restrictive. For example, setting goals for each major work activity and work order would be a paper work nightmare. The statement concerning the use of mock-ups to minimize exposure does not have a threshold associated with it. A better approach would be to require review of jobs for ALARA consideration based on plant ALARA goals and appropriate controls and actions be taken to ensure compliance with these goals.

4.4 Maintenance Procedures

The requirements for procedures should be more generically stated with appropriate reference to national standards on procedures commonly used in the nuclear industry.

4.6.1 Preventive Maintenance

The term "technical basis" should read "Justifiable basis" in the last sentence.

4.6.4 Maintenance Surveillance

The term "maintenance surveillance" should be changed to some other term. The term surveillance denotes the action necessary to ensure compliance with technical specification surveillance requirements.

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GENERAL COMMENTS

Throughout the regulatory guide, terms are used which are very subjective, such as promptly, effective, minimize, sound, timely, proper, and systematic. Since this will become law, the guide must focus on measurable or concrete parameters and not ambiguous terms.

A consistent theme throughout the guide is corrective maintenance is always bad and PM is good. Some of the more promising philosophies that are being used are such things as the reliability centered maintenance (RCM) programs which help utilities determine where PM should be used or components should be allowed to "run to failure." Therefore, parameters that look only at ratios of preventive to corrective maintenance should be avoided.

Although TVA agrees that maintenance programs should address much of the balance of plant (BOP) systems, structures, and components, not all aspects of the program should be applied to all of them. For example, the procedural control of an activity may be needed, but the strict control of spare parts may be unnecessary.

In summary, it appears that this regulatory guide still needs quite a bit of refinement to make it something that will accomplish the NRC's objective of improving maintenance programs, yet make it something that can be consistently applied and regulated. The maintenance rule may not achieve the results NRC is seeking and may, in fact, be detrimental to current industry initiatives. NRC can continue to use its existing programs (such as SALP) to force utilities with poor maintenance programs to improve.

We appreciate the opportunity to comment on this draft Regulatory Guide.

Very truly yours,

TENNESSEE VALLEY AUTHORITY

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