

S87-314
52

UNITED STATES
NUCLEAR REGULATORY COMMISSION
WASHINGTON, D.C. 20555

February 25, 1988

MEMORANDUM FOR: Victor Stello, Jr., Executive Director for Operations

Raymond F. Fraley, Executive Director for ACRS

FROM: Samuel J. Chilk, Secretary

SUBJECT: STAFF REQUIREMENTS -- SECY - INTERIM POLICY
STATEMENT ON MAINTENANCE OF NUCLEAR POWER PLANTS
AND REQUIREMENTS FROM STATUS BRIEFING ON JANUARY 7,
1988 (COMMISSIONERS' CONFERENCE ROOM, DC OFFICE,
OPEN TO PUBLIC ATTENDANCE)

In public session on January 7, 1988, the Commission was briefed by the staff on its proposed "Interim Policy Statement on Maintenance of Nuclear Power Plants" as contained in SECY-87-314. This is a joint SRM which contains a summary of views and comments of the Commission expressed at that meeting and those contained in their vote sheets on SECY-87-314 which were submitted after the briefing. (Their full views were provided to you with their vote sheets.)

1. The Commission, with Chairman Zech and Commissioners Carr and Rogers concurring, has approved the attached Policy Statement, as modified by Commissioners Carr and Rogers, for publication as a final statement in the Federal Register.
(EDO) (SECY SUSPENSE: 3/14/88)

2. The Commission, with Chairman Zech and Commissioners Carr and Rogers concurring, directs the staff to develop a notice of proposed rulemaking for Commission review no later than August 1, 1988.

8. The proposed rule should spell out NRC's expectations in maintenance within the framework of the attached final policy statement, yet still encourage industry initiatives to achieve excellence. In preparing the proposed rule, the staff should consult in some open fashion with interested persons, including representatives of the regulated industry, and should consider maintenance approaches in other countries. Staff should also review practices in other industries in this country in which human performance and equipment reliability play an important role in safe operations, and regulatory activities which ensure the adequacy of these practices. The staff should periodically brief the ACRS and seek their input during the development of the notice of proposed rulemaking. In this regard, the Chairman suggested that the staff should also schedule public workshops to solicit early public and regulated industry participation in the formulation of the proposed rule, and that the ACRS should consider monitoring one or more of these workshops as a part of their review activities.

(EDO/ACRS)

(SECY SUSPENSE: 8/1/88)

Chairman Zech noted that SECY-87-314 represented an outstanding effort by the staff to carry out the Commission's previous guidance in the development of NRC's maintenance policy. He commended the staff for their

vigorous approach to this important issue which can contribute to improve safety of operations. Chairman Zech and Commissioner Bernthal suggest that the staff should proceed with plans to implement professional maintenance inspections using highly qualified specialists, including perhaps peer reviewers from outside the agency; the staff should focus on developing the criteria needed to implement a final maintenance rule by inspecting maintenance practices at both good and poor performing plants; the staff should also continue to follow the development of industry consensus on the standards for maintenance.

Commissioners Roberts and Bernthal believe that the approach the Commission takes in the area of maintenance in order to assure protection of public health and safety is a major policy question. As such, the Commission should have the benefit of the views of both the public and industry (not to mention the ACRS). Therefore, they approve in principle the staff's recommendation in SECY-87-314. However, they believe that the ACRS's views should be considered by staff prior to any policy statement being published (especially in light of its February 16, 1988 letter). They do not approve making the current draft of this policy statement final at this time.

In addition to not providing for a formal public comment period on a major Commission policy, it does not include two important aspects of the staff's proposal. First, it does not provide the focus on those systems which are important to the safe operation of nuclear power plants. Second, instead of encouraging industry initiatives toward self-improvement as the staff's proposal does, the current draft will most likely discourage further industry initiatives as utilities will await NRC rulemaking, thereby delaying continuing improvement in this area.

Commissioner Bernthal has the following further comments, which Commissioner Roberts supports:

The Commission first voted to produce a maintenance policy statement o

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April 27, 1987 via SECY-86-316. Only Commissioner Asselstine dissented, recommending that the Commission instead develop a rule. On September 11, 1987 Chairman Zech in COMLZ-87-51 proposed that "staff should proceed with an Advance Notice of Proposed Rulemaking and studies necessary to develop a proposed maintenance rule...", a directive to which I raised no objection, but I urged that these matters not be permitted to delay Commission consideration of Staff's final draft policy statement, then scheduled for October.

Five months later, the policy statement still has not issued, but the Commission majority has apparently reached a final decision to proceed with a maintenance rule. Unfortunately, this issue has had little or no discussion by the Commission, by the Staff (understandably, since the Commission directed otherwise in SECY-86-316), and certainly has not had the benefit of public or ACRS comment. Indeed, I am informed that ACRS remains unconvinced of the appropriateness of a rule, and even raises serious concerns about the proposed policy statement (cf. February 16 memorandum from ACRS Chairman Kerr to Chairman Zech). In the Commission's January 7, 1988 briefing, the EDO indicated Staff's own uncertainty as to the content of any such rule.

54

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In view of all these factors, I believe it no longer makes sense for the Commission to issue a policy statement, interim or otherwise. At this late stage, especially if the Commission wishes to proceed with a rule as early as August, industry is likely to note little and remember less any Commission policy statement -- they will simply await the proposed rule.

There is, however, an appropriate procedural mechanism for circumstances such as this, when 1) it is not entirely certain (at least on the part of ACRS) that a rule is appropriate, and 2) if a rule is deemed necessary, there is great uncertainty as to what form the rule should take. The appropriate procedure is an Advance Notice of Proposed Rulemaking, as first suggested by the Chairman last September. Moreover, Staff's commendable efforts to provide a more detailed description of maintenance programs and components, systems and structures -- elements which could

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have formed the core of an ANPR if not of the rule itself -- would not have been lost in the interim, but could immediately have been offered for public and ACRS comment.

In sum, I would have directed Staff to develop forthwith an Advance Notice of Proposed Rulemaking, for publication as soon as possible. Staff's draft policy statement should have formed the basis for the ANPR. (Alternatively, the policy statement drafted by Commissioners Carr and Rogers could also have served as the basis, while those Staff sections deleted in the C&R version could be presented separately for public comment). The current state of this SRM and the many major policy issues raised therein are reason enough to choose the ANPR as an alternative course, fully consistent with the latest intent of the Commission. This course would not have delayed ultimate issuance of a maintenance rule should the Commission finally so choose. Indeed, in all likelihood it would have expedited such issuance.

On additional matters related to maintenance of nuclear power plants, the following guidance are offered for staff action:

a. The Commission, with all Commissioners concurring, requests the staff to investigate the pros and cons of continuing to require the surveillance and testing of equipment while the plant is at power. The staff should assure that NRC does not require unnecessary tests or inspections that result in equipment disassembly or unnecessary wear. Staff should inform the Commission of the bases of present requirements and any proposed modifications to present technical specification requirements.
(EDO) (SECY SUSPENSE: 8/1/88)

b. The Commission, with Commissioners Roberts, Bernthal, Carr and Rogers concurring, questions whether a dedicated maintenance inspection program encompassing of 75 percent of the utilities is an effective use of limited resources. Instead, staff should continue its normal practice of assigning inspection resources to those plants needing more attention in the maintenance area, and should, in addition, conduct other visits, as necessary, to enhance the effectiveness of maintenance.

C. The Commission, with Chairman Zech and Commissioners Carr and Rogers concurring, is concerned about the utilization of LER cause codes as a maintenance performance indicator due to the subjective nature of these codes; staff should continue efforts to develop maintenance indicators that are more quantifiable and meaningful. In this connection attention is invited to Commissioner Rogers' memorandum of January 21, 1988 to the EDO.
(EDO) (SECY SUSPENSE: 8/1/88)

d. The Commission's five-year plan should be adjusted in accordance with the above directives.
(EDO) (SECY SUSPENSE: 6/88)

In SECY-87-314, the staff indicates that "inadequate maintenance at some plants (emphasis added) has been a significant contributor to plant - reliability problems and, hence, is of safety concern". Commissioner Roberts believes that in the near term the staff should focus its efforts on these plants to ensure corrective action is taken. In the long term, in a more deliberative manner and with full benefit of input from the public, ACRS and industry, he believes that staff should consider approaches to enhance the effectiveness of maintenance for all plants.

Commissioner Bernthal would also direct staff to assess the Japanese and other successful foreign maintenance programs and experience to determine, for example, whether a minimum required period of plant shut-down is key to an effective plant maintenance program.

Attachment:
As Stated

Copies:
Chairman Zech
Commissioner Roberts
Commissioner Bernthal
Commissioner Carr
Commissioner Rogers

OGC
ACRS
PDR

56

POLICY

Background

The Commission has a program to continually evaluate the operational performance of nuclear power plants. Analysis of operational events has shown that, in some cases, nuclear power plant equipment is not being maintained at a level which ensures, with a high degree of reliability, that the equipment will perform its intended function when required. A limited NRC examination of nuclear power plant maintenance programs has found a wide variation in the effectiveness of these programs. Inadequate maintenance at some plants has been a significant contributor to plant reliability problems and, hence, is of safety concern. The Commission believes safety can be enhanced by improving the effectiveness of maintenance programs throughout the nuclear industry. The Commission is proceeding with rulemaking consistent with this belief. This policy statement is being issued to provide guidance to the industry while the rulemaking proceeds.

Policy Statement

It is the objective of the Commission that all components, systems and structures of nuclear power plants be maintained so that plant equipment will perform its intended function when required. To accomplish this

57

objective, each licensee should develop and implement a maintenance program which provides for the periodic evaluation, and prompt repair of plant components, systems, and structures to ensure their availability.

Definition of Maintenance

The Commission defines maintenance as the aggregate of those functions required to preserve or restore safety, reliability, and availability of plant structures, systems, and components. Maintenance includes not only activities traditionally associated with identifying and correcting actual or potential degraded conditions, i.e., repair, surveillance, diagnostic examinations, and preventive measures; but extends to all supporting functions for the conduct of these activities. These activities and functions are listed below under "Activities Which Form the Basis of a Maintenance Program".

Maintenance Programs

Each commercial nuclear power plant should develop and implement a well-defined and effective program to assure that maintenance activities are conducted to preserve or restore the availability, performance and reliability of plant structures, systems, and components. The program should clearly define the components and activities included, as well as the management systems used to control those activities. Further, the

program should include feedback of specific results to ensure Corrective actions, provisions for overall program evaluation, and the identification of possible component or system design problems.

Activities Which Form the Basis of a Maintenance Program

An adequate program should consider:

- ø Technology in the areas of
 - corrective maintenance,
 - preventive maintenance,
 - predictive maintenance,
 - surveillance;
- ø Engineering support and plant modifications;
- ø Quality assurance and quality control;
- ø Equipment history and trending;
- ø Maintenance records;
- ø Management of parts, tools, and facilities;
- ø Procedures;
- ø Post-maintenance testing and return-to-service activities;
- ø Measures of overall program effectiveness.

- ø Maintenance management and organization in the areas of
 - planning,
 - scheduling,
 - staffing,
 - shift coverage,
 - resource allocation;

- ø Control of contracted maintenance services;
- ø Radiological exposure control (ALARA);
- ø Personnel qualification and training;
- ø Internal communications between the maintenance organization and plant operations and support groups;
- ø Communications between plant and corporate management and the maintenance organization.

Maintenance recommendations or requirements of individual vendors should receive appropriate attention in the development of the maintenance program.

Future Commission Action

The Commission intends this policy statement to provide guidance to the industry in improving maintenance programs for their power reactor facilities. The Commission will continue to enforce existing requirements including those that address maintenance practices and will take whatever action that may be necessary to protect health and safety.

The Commission expects to publish a Notice of Proposed Rulemaking in the near future that will establish basic requirements for plant maintenance programs. We believe that the contents and bounds of the proposed rule will fall within the general framework described in this policy statement. Consideration will also be given to industry-wide efforts that already have been initiated. We encourage interested parties to provide their views on this important subject to the Commission, even at this early stage of the rulemaking process. Any notice of proposed rulemaking that is published will provide, of course, a period for public comment on its contents.