



Portland General Electric Company

David W. Cockfield Vice President, Nuclear

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Trojan Nuclear Plant
Docket 50-344
License NPF-1

U.S. Nuclear Regulatory Commission
Regulatory Publications Branch
Division of Freedom of Information
and Publications Services
Office of Administration
Washington DC 20555

Dear Sir:

Comments on Draft Regulatory Guide DG-1001
Maintenance Programs for Nuclear Power Plants

Attached please find Portland General Electric Company's comments on Draft
Regulatory Guide DG-1001, "Maintenance Programs for Nuclear Power Plants".

Sincerely,

Attachment

c: Document Control Desk
U.S. Nuclear Regulatory Commission

Mr. John B. Martin
Regional Administrator, Region V
U.S. Nuclear Regulatory Commission

Mr. David Stewart-Smith
State of Oregon
Department of Energy

Mr. R. C. Barr
NRC Resident Inspector
Trojan Nuclear Plant

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COMMENTS ON DRAFT REGULATORY GUIDE DG-1001
MAINTENANCE PROGRAMS FOR NUCLEAR POWER PLANTS

General Comments

A. Summary of an Effective Maintenance Program (Regulatory Position 1).

This position and other sections throughout the draft guide use the phrase "Maintenance Program". The definition of this phrase is not clear. Should a utility develop a separate document titled "Maintenance Program" which completely implements the regulatory guide, or is a series of individual procedures adequate if, in aggregate, they incorporate all of the provisions of the regulatory guide?

Regulatory Position 1 also states that the "Maintenance Program" should cover, as a minimum, structures, systems, and components (and their supporting systems) whose failure could significantly affect the safety or security of the facility, and which are included in the plant's current licensing basis and described in the Final Safety Analysis Report (FSAR). It is not clear whether this is intended to encompass all systems described in the FSAR. The Trojan FSAR contains descriptions of many systems which have little, if any, effect on reactor or radiological safety. Examples include the domestic water system, the Turbine Building heating system, and the carbon dioxide system used for purging the main generator. The systems to be included in the "Maintenance Program" require a clearer definition, particularly in reference to the FSAR.

B. Goals (Position 3.2).

This position states that information from a plant specific Probabilistic Risk Assessment (PRA) and the Individual Plant Examination (IPE) recommended by the NRC could be an acceptable basis for determining the goals and objectives of maintenance. Although the draft guide says "could", this area is a specific item for inspection in the Nuclear Regulatory Commission (NRC) Temporary Inspection Instruction. The proposed regulatory guide should emphasize that the use of PRA and/or IPE in determining goals and objectives is optional.

C. Maintenance Effectiveness Indicators (Position 5.2.3).

This position states that one acceptable method for establishing maintenance effectiveness indicators is to use the methodology of AEOD/S804B, "Application of the Nuclear Plant Reliability Data System (NPRDS) for Maintenance Effectiveness Monitoring". This method is not included in the Institute for Nuclear Power Operations (INPO) software for NPRDS and would require an extensive programming effort on the part of a utility to implement.

Informal contacts with INPO indicate that they may not fully endorse S804B. The regulatory position should be revised to reduce the emphasis on the use of NPRDS data.

Response to Specific NRC Questions

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

The present level of detail appears to be adequate. The draft guide contains principles and criteria which can be applied by the utility, and most of the areas are similar to guidelines provided by INPO.

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

No, if the scope is to include all the systems described in the FSAR. A number of the systems described in the Trojan FSAR have little or no impact on reactor or radiological safety.

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

The goals contained in Chapter I, Section C.4 of the INPO "Guidelines for the Conduct of Maintenance at Nuclear Power Stations" can be quantified and used as performance criteria. The INPO guidelines can be supplemented by quantifying the items contained in the draft Regulatory Positions 5.2.3 and 5.2.4.

In a broader sense, the inspection areas contained in the NRC Inspection Manual Temporary Instruction (TI 2515/97) provide a comprehensive measure of maintenance effectiveness, although the criteria are subjective in nature.

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 U.S. plants of similar design?

Yes.

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 quantitative measures should be a combination of systems and components.