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

January 18, 1979

OFFICE OF THE
SECRETARY

MEMORANDUM FOR: Lee V. Gossick
Executive Director for Operations

FROM: Samuel J. Chilk
Secretary of the Commission

SUBJECT: STAFF ACTIONS REGARDING RISK ASSESSMENT
REVIEW GROUP REPORT

Attached is a policy statement issued by the Commission on January 18, 1979. In addition, the Commission has provided the following instructions for the staff.

1. Send copies of the Risk Assessment Review Group Report (NUREG/CR-0400) and of the January 18, 1979 Commission policy statement to all known domestic and international recipients of the RSS. In the future, copies of the RSS Executive Summary and the complete RSS will be distributed only when accompanied by a copy of this statement.

2. Quantitative risk assessment techniques and results can be used in the licensing process if proper consideration is given to the results of the Review Group. The staff should use the following procedures regarding the use of quantitative risk assessment techniques and results pending development of further guidance:

a. In comparisons of risks from nuclear power plants with other risks, the overall risk assessment results of the RSS (i.e., curves or tables of the probability of occurrence of various consequences) shall not be used without an indication of the wide range of uncertainty associated with those estimates. Any such use should note the difficulty of placing high confidence on estimates that are well below the values set by experience.

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b. Quantitative risk assessment techniques may be used to estimate the relative importance of potential nuclear power plant accident sequences or other features where sufficient similarity exists so that the comparisons are not invalidated by lack of an adequate data base. Such techniques should not be used to estimate absolute values of probabilities of failure of subsystems unless an adequate data base exists, and it is possible either to quantify the uncertainties or to support a conservative analysis.

c. The quantitative estimates of event probabilities in the RSS should not be used as the principal basis for any regulatory decision. However, these estimates may be used for relative comparisons of alternative designs or requirements provided that explicit considerations are given to the criticisms of those estimates as set forth in the Report of the Risk Assessment Review Group.

d. The RSS consequence model shall not be used as the basis for licensing decisions regarding individual nuclear power plant sites until significant refinements and sensitivity tests are accomplished. However, the consequence model may be used for relative comparisons provided that such estimates are not the primary basis for such reviews and provided that explicit consideration is given to the criticisms of the various elements of that model as set forth in the Report of the Risk Assessment Review Group.

The staff shall prepare and submit by June 30, 1979, detailed procedures to ensure the proper and effective use of risk assessment theory, methods, data development and statistical analyses by the staff. Pending review by the Commission of these detailed procedures and the bases and rationale supporting them, the Office Directors will obtain the advice of the EDO's Regulatory Requirements Review Committee should questions arise regarding the implementation of the above instructions.

3. The staff shall review the extent to which past and pending licensing or other regulatory actions, including Commission, ACRS and licensing board actions and statements, have relied on the risk assessment models and risk estimates of the RSS. The Commission will examine the results of this review to determine whether the degree of reliance identified was and continues to be justified and to decide whether regulatory modifications are appropriate.

4. The staff shall give special attention to those activities identified by the Review Group as being especially amenable to risk assessment, i.e., dealing with generic safety issues, formulating new regulatory requirements, assessing and re-validating existing regulatory requirements, evaluating new designs, and formulating reactor safety research and inspection priorities.

5. The staff shall prepare a review of current NRC practices and procedures in two areas of particular concern to the Review Group:

a. the peer review process for risk assessment developments, and

b. the coordination among the research and probabilistic analysis staff and the licensing and regulatory staff, in order to promote the effective use of these techniques.

The Commission will make whatever changes are necessary to assure that effective peer review and interoffice coordination are integral features of NRC's risk assessment program.

6. The staff shall examine the significance of the technical issues raised by the Review Group and the appropriate courses of action for dealing with them. These issues include questions about statistical methods, data base quality and availability, consequence modeling, human factor considerations, earthquakes, fires, and common cause failures. The Commission will address what changes should be proposed in the approved FY 79 and proposed FY 80 research program to improve the data base, including that on human behavior. As an addditional action, the staff shall undertake a review of statistical methods and human factor considerations used in risk assessment.

Attachment:
As stated

cc: Chairman Hendrie
Commissioner Gilinsky
Commissioner Kennedy
Commissioner Bradford
Commissioner Ahearne
James L. Kelley, OGC
Kenneth Pedersen, OPE
Joseph J. Fouchard, OPA
Carlton C. Kammerer, OCA