ACRSR-0849
BDR 11/20/79

UNITED STATES
NUCLEAR REGULATORY COMMISSION
ADVISORY COMMITTEE ON REACTOR SAFEGUARDS
WASHINGTON, D. C. 20555

November 14, 1979

Honorable Joseph M. Hendrie
Chairman
U. S. Nuclear Regulatory Commission
Washington, D.C. 20555

SUBJECT: NUREG-0600 "INVESTIGATION INTO THE MARCH 28, 1979 THREE MILE ISLAND ACCIDENT BY OFFICE OF INSPECTION AND ENFORCEMENT"

Dear Dr. Hendrie:

During its 235th meeting, November 8-10, 1979, in accordance with the Commission's request, the Advisory Committee on Reactor Safeguards completed its review of NUREG-0600. The report was also discussed at a Subcommittee meeting in Washington, D. C. on October 30, 1979. During its review the Committee had the benefit of discussions with the Nuclear Regulatory Commission (NRC) Inspection and Enforcement (I&E) Staff, and of comments from the licensee.

The stated scope of NUREG-0600 is limited to investigation of the licensee's operational actions prior to and during the course of the accident, and his actions to control release of radioactive materials and to implement his emergency plan during the course of the accident. Consistent with this limitation, emphasis is placed on departure from Technical Specifications prior to the accident and departure from the licensee's procedures during the course of the accident, with little consideration of other factors.

Other investigations and other NRC task force studies have considered not only the actions taken by the licensee, but also other facets of the accident, including peculiarities of the nuclear steam supply system that tended to inhibit recovery or to confuse the operators by leading to pressure and level conditions not anticipated by the written procedures, and deficiencies of the control room and system design that degraded the quality of information available to the operator. Additional details not in NUREG-0600 can be found, for example, in a report entitled "Analysis of Three Mile Island Unit 2 Accident" (NSAC-1, July 1979) prepared by the Electric Power Research Institute, Nuclear Safety Analysis Center.

NUREG-0600 includes a factual chronology with event descriptions, and a finding of operational and administrative shortcomings and errors. It concludes (Appendices IB and IIF) that a total of 36 items of potential operational or administrative noncompliance existed. The Office of Inspection and Enforcement subsequently, by letter of October 25, 1979 to Metropolitan Edison Company, imposed fines for seventeen violations, infractions and deficiencies, many of them multiple occurrences.

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Because the limited scope of the report tends to lead to a catalog of violations with only limited recognition of other factors that contributed to errors by the operators, the Committee has some concern that it may be concluded from the charges of failure to follow accident procedures that such failure is automatically a violation.

Accident procedures are prepared by the licensee and are not approved by NRC, but the licensee is required to follow them. The Committee believes that an accident procedure cannot be sufficiently detailed to encompass every possible sequence of events, and that it must be based on the assumption that a particular set of conditions exists; a deviation from this set of conditions may make it necessary to depart from the procedure. As an example, TMI-2 Emergency Procedure 2202-1.3 (Loss of Reactor Coolant/Reactor Coolant System Pressure) which is referred to in NUREG-0600, is believed by the Committee to include confusing symptoms and instructions for the case of a loss of reactor coolant at the top of the pressurizer. Likewise TMI-2 Emergency Procedure 2202-1.5 (Pressurizer System Failure) which calls for pressurizer level control is believed to be unacceptable for the TMI-2 accident or for any other loss of reactor coolant at the top of the pressurizer. The question, therefore, arises whether an operator, using his best judgment, is guilty of a violation if he consciously takes an action that is at variance with procedures which in themselves may contain confusing or incorrect guidance. The Committee believes that, if so, this is the wrong approach to protecting the health and safety of the public during an emergency and that the operator, guided by the written procedures, his training, and available technical advice, should be allowed to use his best judgment to deal with the problem. His judgment will obviously be subject to post-factum appraisal.

The Committee has found this report less than satisfactory, and its title misleading, chiefly because of limitations in its predefined scope. For this reason, the Committee recommends the preparation and issuance of a summary report that consolidates and integrates the findings of the several NRC Task Forces that have investigated and reported on this accident.

Sincerely,

Max W. Carbon
Chairman