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

December 24, 1992

MEMORANDUM FOR: The Chairman
Commissioner Rogers
Commissioner Curtiss
Commissioner Remick
Commissioner de Planque

FROM: James M. Taylor
Executive Director for Operations

SUBJECT: GENERIC AND PROGRAMMATIC ITAAC REQUIREMENTS FOR DESIGN CERTIFICATION

On November 23, 1992, the Commission was briefed by the NRC staff, GE Nuclear Energy (GE), and the Nuclear Management and Resources Council (NUMARC). As a result of that briefing, the Commission issued a staff requirements memorandum (SRM) on December 7, 1992, requesting a sample list of generic and programmatic (discipline) ITAAC requirements being considered for design certification. The current list of these requirements is enclosed in this memorandum. In response to the other SRM request, the staff will provide its evaluation of formulating the construction inspection program prior to final design approval in a separate correspondence.

Industry initially developed generic inspection, test, analysis, and acceptance criteria (ITAAC) as a means to address concerns that applied to multiple systems of the design. However, as a result of an industry review of the GE Advanced Boiling Water Reactor ITAAC in September 1992, the industry expressed significant concerns that issue resolution would not be achieved by the generic ITAAC. In response, the staff has been actively discussing with industry an approach to the technical resolution of these concerns. The current approach is to incorporate an acceptable technical resolution with sufficient detail into the standard safety analysis report (SSAR) (i.e., Tier 2 material), with additions to the certified Design Descriptions and ITAAC (i.e, Tier 1 material) for each system to specify the design commitment and acceptance criteria. Compliance with the system ITAAC would therefore be based upon hardware conformance to design commitments. The SSAR would describe an acceptable, but not the only, method for meeting the design commitment. This approach is consistent with the concept of specification of supporting analysis algorithms in Tier 2 with a specific commitment and acceptance criteria in Tier 1. It would eliminate the need for generic ITTAC and would address the staff's safety concerns.

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The staff and NUMARC agreed to initially concentrate their efforts on the Tier 1 material and ITAAC required for design certification, and defer discussion on the ITAAC requirements for a combined license (COL). The enclosed list of generic and programmatic requirements reflect only those issues that are being considered for design certification and do not reflect certain site-specific design and programmatic issues that are required by Commission regulations to be addressed at the COL stage. Examples of site-specific design issues include the design of the ultimate heat sink and the switchyard (these are identified in the Tier 1 material as "interface requirements"); examples of programmatic issues include requirements for operator licensing and emergency preparedness. The treatment of these requirements will be discussed in a future Commission paper regarding the format and content of a COL.

In addition, the staff and industry are addressing certain areas of the design through the use of design acceptance criteria (DAC). The staff discussed these areas in SECY-92-196 and SECY-92-299, and they include piping design, radiation protection and airborne concentration, control room design (human factors), and instrumentation and controls. Although these DAC have the same format as generic ITAAC, they are being developed individually and are not considered as generic ITAAC for the purposes of discussions with industry.

Original signed by
James M. Taylor

James M. Taylor
Executive Director
for Operations

Enclosure:
Sample List

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*See previous concurrence

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SAMPLE LIST OF GENERIC REQUIREMENTS

1. WELDING
2. ENVIRONMENTAL QUALIFICATION OF EQUIPMENT/COMPONENTS
3. ELECTROMAGNETIC INTERFERENCE/SURGE WITHSTAND CAPABILITY
4. SEISMIC QUALIFICATION OF EQUIPMENT
5. INSTRUMENT SETPOINT STANDARDS
6. VERIFICATION OF MOTOR OPERATED VALVE CAPABILITIES
7. ELECTRICAL SEPARATION

SAMPLE LIST OF PROGRAMMATIC REQUIREMENTS

1. RELIABILITY ASSURANCE PROGRAM DESCRIPTION
2. INITIAL TEST PROGRAM DESCRIPTION (E.G., INITIAL CORE PHYSICS, STARTUP, LOW POWER, AND POWER ASCENSION TESTING)

Enclosure