ACRSR-2030

April 17, 2003

The Honorable Nils J. Diaz
Chairman
U.S. Nuclear Regulatory Commission
Washington, DC 20555-0001

SUBJECT: PROPOSED NRC GENERIC LETTER 2003-XX: CONTROL ROOM HABITABILITY

Dear Chairman Diaz:

During the 501st meeting of the Advisory Committee on Reactor Safeguards, April 10-12, 2003, we discussed a proposed NRC Generic Letter on control room habitability with representatives of the NRC staff and representatives of the Nuclear Energy Institute (NEI) and its Control Room Habitability Task Force. Our discussions were facilitated by the documents referenced in this report.

RECOMMENDATIONS AND CONCLUSIONS

- The proposed NRC Generic Letter 2003-XX: Control Room Habitability should be issued.

- The NRC should consider using the Human Factors Research Program to develop quantitative information on potential performance degradation when control rooms are contaminated with smoke or operators are wearing special protective equipment.

DISCUSSION

Testing at 30 nuclear power plants has shown that unfiltered inleakage to control rooms in the great majority of cases exceeds, often substantially, the inleakage assumed in plant safety analyses. The tested installations have had to repair facilities and revise analyses to comply with their licensing basis.

In light of evidence from tests done to date, the staff believes many other licensees will find actual inleakage into their control rooms substantially higher than assumed in safety analyses. The staff has prepared a Generic Letter to alert licensees to the test findings and to request licensees to demonstrate that the control rooms at their facilities comply with the current licensing and design bases. The staff has prepared this Generic Letter following consultation with the nuclear industry and public meetings in each of the NRC's Regions. We believe the Generic Letter should be issued.

The Generic Letter requests that licensees provide the requested information within 180 days or request within 60 days an extended time for response. It is likely that many licensees will find it necessary to conduct tests to verify assumptions concerning control room inleakage. Such testing often takes about two weeks to conduct. Because testing resources are limited, scheduling of tests may make it necessary for licensees to delay responses well beyond the 180 days specified in the Generic Letter.

A further complication licensees may encounter in responding to the requests in the Generic Letter is the evolving nature of control room habitability guidance available to licensees. The staff has developed four draft regulatory guides pertinent to control room habitability. We have not reviewed these draft regulatory guides in detail. We do understand that some of the guides endorse portions of guidance in the NEI document, NEI 99-03 Rev. 0. In March 2003, NEI has issued a substantially revised version, NEI 99-03 Rev. 1. We encourage plans by staff and NEI to hold workshops to clarify the guidance that the licensees can adopt to respond to requests in the Generic Letter.

Guidance developed by the staff and by NEI has addressed appropriate operator responses should control rooms be contaminated by smoke, hazardous chemicals, or radioactive materials. There is, however, very little data on the potential degradation of operator performance within control rooms in the event of contamination or when operators are forced to wear protective equipment, such as self-contained breathing apparatus. The NRC should consider using the Human Factors Research Program to develop quantitative information on the potential performance degradation to facilitate staff reviews of licensees' plans and proposals in these areas.

We would appreciate a further briefing by the staff on the control room habitability issues once licensees have responded to the requests of the Generic Letter and staff has reviewed and analyzed the responses.

Sincerely,

/RA/

Mario V. Bonaca
Chairman

References:

1. U.S. Nuclear Regulatory Commission, NRC Generic Letter 2003-XX: "Control Room Habitability," March 2003.
2. U.S. Nuclear Regulatory Commission, Regulatory Guide DG-1111, "Atmospheric Relative Concentrations for Control Room Radiological Habitability Assessments at Nuclear Power Plants," Revision 1, December 2002.
3. U.S. Nuclear Regulatory Commission, Regulatory Guide DG-1113, "Methods and Assumptions for Evaluating Radiological Consequences of Design Basis Accidents at Light-Water Nuclear Power Reactors," December 2002.

4. U.S. Nuclear Regulatory Commission, Regulatory Guide DG-1114,

"Control Room Habitability at Light-Water Nuclear Power Reactors," February 2003.

5. U.S. Nuclear Regulatory Commission, Regulatory Guide DG-1115, "Demonstrating Control Room Envelope Integrity at Nuclear Power Reactors," March 2003.
6. Letter dated March 11, 2003, from Alexander Marion, NEI, to F. Mark Reinhart, NRC, transmitting NEI 99-03, Revision 1, "Control Room Habitability Guidance."