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

July 21, 1988

OFFICE OF THE
SECRETARY

MEMORANDUM FOR: Victor Stello, Jr.
Executive Director for Operations

FROM: Samuel J. Chilk, Secretary

SUBJECT: STAFF REQUIREMENTS - BRIEFING ON HUMAN FACTORS
PROGRAM AND NRC VIEWS OF NAS RECOMMENDATIONS,
2:00 P.M., TUESDAY, MAY 1, 1988, COMMISSIONERS'
CONFERENCE ROOM, ONE WHITE FLINT NORTH,
ROCKVILLE, MARYLAND (OPEN TO PUBLIC ATTENDANCE)

The Commission was briefed by the staff on NRC's human factors programs and staff comments on the National Academy of Sciences, recommendations for short and long term human factor research needs.

Chairman Zech requested the staff to:

- Ø Orient the human factors research activities to help reactor operators and other plant personnel (e.g., maintenance, surveillance, testing, etc.) from making mistakes. He requested the staff to concentrate on procedural measures which would assist plant operators.
- Ø Encourage industry participation in pilot programs to improve human performance.
- Ø Involve operators, maintenance and other plant personnel in the human factors research activities.
- Ø Apply human factors and operational personnel experiences in the review of the advanced reactor designs.
- Ø Investigate the use of procedures flow charts as a simplified technique to the more bulky emergency operating procedures. For plants implementing procedures flow charts, inspect consistency of the charts with the emergency operating procedures.

Commissioner Carr emphasized the need for peer review of the human factors research programs and supported access for university researchers at NRC reactor simulators. He observed that the objectives and tasks described in SECY-88-141 do not

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support the budget expenditure. He found the program objectives lacking integration, difficult to identify, and incomplete, particularly in the area of organization and management. He emphasized the need for clear documentation of goals and results.

Commissioner Rogers requested the staff to review its proposed "Man/Machine Interface" research programs in light of the NAS recommendations and in light of the wealth of knowledge already available. The staff should not "retread" ground already well established. He also recommended that the staff explore avenues to encourage industry to apply existing human factor knowledge in daily plant operations. He recommended as a first step to inform the industry of human factors improvements which are directly applicable to plant operations.

Subsequent to the meeting, the Commission reemphasized its commitment to human factors improvements at nuclear power reactors. Specifically, the Commission requested the staff to:

1. Consider organizational improvements within the agency in order to implement the Commission's desire to increase NRC's emphasis on and commitment to the human factors aspect of nuclear safety.
2. Actively encourage industry participation and the involvement of operational personnel in all phases of human factors activities.
3. Keep the Commission informed of progress in identifying sources of operational errors, root causes, and suggest ways to improve plant safety through reduction of human related errors.
4. Improve researchers access to reactor simulators for enhancement of the basic understanding of human factors at nuclear power plants.

The Commission also requested the staff to place greater emphasis on:

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1. Application of the lessons learned and reaching timely closure of human factors licensing issues (e.g., control room design reviews, safety parameter display systems, emergency operating procedures, etc.).
2. Applied research that will address existing human factors problems and anticipated future issues, particularly understanding the nature and causes of human error.
3. Identifying the human factors issues related to materials and waste management.

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The staff should submit an information paper which updates the human factors initiatives and which addresses the above items and provides a clear definition of problems and issues to be addressed by the research programs.

(EDO)

(SECY Suspense: 8/31/88)

cc: Chairman Zech
Commissioner Roberts
Commissioner Carr
Commissioner Rogers
OGC
GPA
PDR - Advance
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