

Dr. Robert L. Seale, Chairman
Advisory Committee on Reactor Safeguards
U.S. Nuclear Regulatory Commission
Washington, D.C. 20555

November 26, 1997

SUBJECT: ACRS LETTER OF OCTOBER 8, 1997, ON THE HUMAN PERFORMANCE
AND RELIABILITY IMPLEMENTATION PLAN

Dear Dr. Seale:

Thank you for your comments and recommendations regarding the Human Performance and Reliability Implementation Plan (HP&RIP). The staff is continuing to work on the HP&RIP, including development of a high-level model or structure to show how the activities in the plan are related to each other and to the mission stated in the plan. We agree that such a model should incorporate the insights from operational experience and build on an existing human performance model or ATHEANA. The objective is to develop a model, or perhaps a set of models, that is at the appropriate level of detail to support decisions concerning allocation of the Agency's limited human performance related resources. The Office of Nuclear Regulatory Research will take the lead in developing the high level model or structure for this purpose.

In addition to development of a high-level model, the staff is working to develop a process for prioritizing Agency human performance and reliability activities in a manner that is risk informed. I agree with the Committee's recommendation that development of the HP&RIP be given high priority, within the resource constraints on the staff to work on other high-priority activities listed in Appendix B as well.

I appreciate the ACRS interest in the Agency's plans to address the important issues of human performance and reliability. As the HP&RIP is revised, a copy will be transmitted to the ACRS for its review and comment.

Sincerely, **Original Signed by**
Hugh L. Thompson, Jr.
L. Joseph Callan
Executive Director
for Operations

cc: Chairman Jackson
Commissioner Dicus
Commissioner Diaz
Commissioner McGaffigan
SECY



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PDR ACRS
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RESEARCH ACTION ITEM

October 10, 1997

MAIL CONTROL FORM

9:23 am

FROM: R. L. SEALE
TO: CALLAN, EDO
ACTION NECES/APPR?: N

FOIA No.:

RES No.: **970364**
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WITS No.:

DESCRIPTION: **HUMAN PERFORMANCE AND HUMAN RELIABILITY
IMPLEMENTATION PLAN**

SPECIAL INSTRUCTIONS: SEE GREEN TICKET

DOCUMENT DATE: October 8, 1997
DUE TO RES: **October 31, 1997**

RECEIVED BY RES: October 10, 1997
DUE TO EDO: ~~November 5, 1997~~

ASSIGNED TO: **W. HODGES, DST**
FOR SIGNATURE OF: CALLAN, EDO

ROUTING:
M. KNAPP
D. ROSS
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11/12/97
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ACTION

ACTION

EDO Principal Correspondence Control

FROM: R. L. Seale
ACRS

DUE: ~~11/05/97~~
11/12/97

EDO CONTROL: G970715
DOC DT: 10/08/97
FINAL REPLY:

TO:

Callan, EDO

FOR SIGNATURE OF :

** GRN **

CRC NO:

Callan, EDO

DESC:

HUMAN PERFORMANCE AND HUMAN RELIABILITY
IMPLEMENTATION PLAN

ROUTING:

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Thompson
Norry
Blaha
Burns
Mitchell, OEDO

DATE: 10/08/97

ASSIGNED TO:

CONTACT:

RES

Knapp

SPECIAL INSTRUCTIONS OR REMARKS:

Prepare response to ACRS for EDO signature. Add Commissioners and SECY as cc's (shown on original for reply).

LETTER TO DR. ROBERT L. SEALE DATED November 26, 1997

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JSummerour (RES970364)

ARamey-Smith

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for OEDO and for those
highlighted. Please make
contribution.

Thanks,

OEDO, 11/28/97

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

October 8, 1997

Mr. L. Joseph Callan
Executive Director for Operations
U.S. Nuclear Regulatory Commission
Washington, D.C. 20555-0001

Dear Mr Callan:

SUBJECT: HUMAN PERFORMANCE AND HUMAN RELIABILITY IMPLEMENTATION
PLAN

During the 445th meeting of the Advisory Committee on Reactor Safeguards, October 2-3, 1997, we reviewed the human performance and human reliability implementation plan. Our Subcommittee on Human Factors reviewed this matter during a meeting on June 3, 1997. During these reviews, we had the benefit of discussions with representatives of the NRC staff and of the documents referenced.

Conclusions and Recommendations

1. The development of the Plan is still in progress. Although the mission of the human performance activities has been defined, it is not clear how the six programs listed in the plan will satisfy this mission. This may be due to the fact that the high-level model that we recommended in our February 13, 1997 report to show the connection between the objectives of these programs and Agency activities has not yet been developed.
2. Although ATHEANA appears to be a reasonable starting point for the development of the high-level model, it needs to be modified and expanded to serve the needs of the Plan.
3. We recommend that insights derived from operational experience be incorporated into the development of the high-level model.
4. We recommend that development of the Plan be given high priority, even if some of the activities listed in Appendix B of the Plan must be suspended.

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Discussion

In our February 13, 1997 report, we commented that the Human Performance Program Plan was not a plan, but an inventory of human performance projects. Much progress has been made since then. The ATHEANA model has been put forth as a first step toward the development of a high-level model for integrating and prioritizing Agency activities associated with human performance. The staff told us that this high-level model has not yet been completed. Consequently, we cannot evaluate whether individual activities that the Agency is currently sponsoring will lead to an effective treatment of human performance.

We believe that the development of a high-level model remains urgent. It will allow the staff to articulate the objectives of the Plan and to show how individual activities contribute to the achievement of these objectives. It will also provide the basis for prioritizing these activities. Without such a high-level model, the need for many of the activities listed in Appendix B of the Plan is not apparent.

The use of ATHEANA as the starting point for the development of the high-level model is promising. The staff has acknowledged that ATHEANA, originally intended to serve as the basis for quantifying human error rates in probabilistic risk assessments, will have to be expanded and modified to serve the needs of the Plan. We agree that a model suitable for developing a research program in support of the Plan will be different from the ATHEANA model.

We emphasize the importance of incorporating insights from operational experience into the high-level model. We urge that the most significant lessons learned from operational experience be included in the current effort.

During our discussions with the staff, it became evident that the development of the Plan had been slowed, perhaps due to lack of adequate resources. We reiterate that the development of the Plan should be given high priority, even if some of the activities listed in Appendix B of the Plan must be suspended. We believe that the Plan will enable the staff to systematically prioritize and efficiently manage the Agency human performance related activities.

We will continue to work with the staff in this area.

Sincerely,

A handwritten signature in dark ink, appearing to read "R. L. Seale". The signature is fluid and cursive, with the first letters of each name being capitalized and prominent.

R. L. Seale
Chairman

References:

1. Memorandum dated August 12, 1997, from M. Wayne Hodges, Office of Nuclear Regulatory Research, to John T. Larkins, Executive Director, ACRS, Subject: Transmittal of Human Performance and Human Reliability Implementation Plan.
2. ACRS report dated February 13, 1997, from R.L. Seale, Chairman, ACRS, to Shirley Ann Jackson, Chairman, NRC, Subject: Human Performance Program Plan.