



UNITED STATES
NUCLEAR REGULATORY COMMISSION
WASHINGTON, D.C. 20555-0001

February 11, 1998

MEMORANDUM TO: Samuel J. Collins, Director, NRR
Thomas T. Martin, Director, AEOD
Carl J. Paperiello, Director, NMSS

FROM: Malcolm R. Knapp, Acting Director *Bill M. Monaghan*
Office of Nuclear Regulatory Research

SUBJECT: STATUS OF THE AGENCY-WIDE "NRC HUMAN PERFORMANCE AND
HUMAN RELIABILITY PLAN" (HP&HRP)

The purpose of this memorandum is to request your assistance and continued participation in the development of the agency wide HP&HRP.

On April 10, 1997, Mr. Callan sent a letter to Dr. Seale, Chairman of the Advisory Committee on Reactor Safeguards (ACRS) regarding the Human Performance Program Plan (HPPP). In that letter, Mr. Callan stated that an agency-wide program plan for human reliability assessment and human performance evaluation would be developed. A draft of the agency-wide plan, titled "NRC Human Performance and Human Reliability Implementation Plan" (HP&HRIP) dated June 30, 1997 was developed and received office concurrence. The cover memorandum attached to the HP&HRIP, dated July 21, 1997, from Mr. Thadani to Mr. Callan, stated that over the next several months, the ATHEANA model would be assessed relative to its adequacy in reflecting the Plan's activities and that, in addition, a prioritization process would be developed to determine the priorities of proposed work.

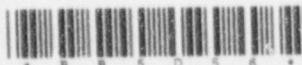
Since that time, additional discussions have been held with ACRS and work on the plan has continued. Specifically, work is underway to link the Plan's activities to the NRC Strategic Plan strategies and associated substrategies, develop and implement a prioritization scheme, analyse the Plan's activities relative to risk, and enhance the high-level structure. The goal is to have a revised plan by May 29, 1998.

RES will continue to coordinate and integrate the development of the agency wide HP&HRP according to the schedule, attached. As you can see, to meet the due date we need to follow an aggressive schedule which requires participation from your office. To assist in this effort, it would be helpful if you would designate a representative (by February 17th) to be the office liaison and to assist in aspects of the plan development, e.g., completing activity descriptions for their office by February 27, 1998 (see attached Activity Form), provide feedback on a draft prioritization method and participate in prioritization implementation meetings during the week of March 2, 1998. The revision of the HP&HRP is an opportunity to reevaluate the activities you provided for the June 30th HP&HRIP, i.e., delete, add, or modify activities and to have them link to a strategy/substrategy in the Strategic Plan. A description of each of the items on the Activity Form is also attached. There should be an "HP&HRP Activity Form" completed for each activity in your office covered by the plan.

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Those on the Attached List

- 2 -

Please inform J. Persensky, CIHFB/DST (415-6759 or JJP2), of the name of your designated representative by February 17. Wayne Hodges, Director, Division of Systems Technology, RES is responsible for development and management of the plan. He is available to answer your questions.

Attachments:

HP&HRP Schedule
HP&HRP Activity Form (blank)
HP&HRP Activity Form (with descriptions)
HP&HRP Activity Form (example)

cc w/atts: R. Spessard, NRR/DRCH
G. Holahan, NRR/DSSA
F. Congel, AEOD/IRD
C. Rossi, AEOD/SPD
D. Cool, NMSS/IMNS

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DATE	02/10/98		02/10/98		02/10/98		02/10/98		02/11/98

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HP&HRP SCHEDULE

2/17	Offices identify representatives to RES
2/20	Final Prioritization Scheme developed (RES Lead)
2/27	All Offices return completed Activity Descriptions to RES
3/2-3/6	Meetings to Prioritize Activities - All Offices
3/9-3/23	HP&HRP Development (including model, prioritization scheme, activities) (RES Lead)
3/25-3/31	Concurrence from each participating Division
4/1	HP&HRP to ACRS
4/15	ACRS Subcommittee (tentative)
4/30-5/1	ACRS Full Committee
5/15	HP&HRP Submitted for Office Concurrence
5/22	HP&HRP to EDO
5/29	HP&HRP to Commission

HP&HRP ACTIVITY FORM

Title:

Objective:

Driver(s):

Application:

Measure of Success:

Lead Office:

Coordination w/Other Office(s) (if Any):

Major Milestones/Status:

Priority:

Strategic Plan Strategy(ies) and Substrategy(ies):

HP&HRP ACTIVITY FORM - DESCRIPTION

Title: What is the name or title of the activity or project?

Objective: Why are you doing it/what is its purpose/what do you hope to accomplish?

Driver(s): What issues or factors led to the undertaking of this activity? For example, it could have been triggered by an event, or findings from an investigation or data analysis; it could have been driven by Congress, the Commission, or some other body; it might be required by some agency policy or requirement; the need for the activity might have been brought to your attention through participation in an international conference or Standards-setting body.*

Application: How will the results or products of the activity be applied or used?

Measure of Success: How will you know when the activity is successfully completed? What criterion can be used to close out the activity?

Lead Office: Which NRC Office is primarily accountable/responsible for the activity?

Coordination w/Other Office(s) (if Any): Identify any coordination that may be required. For example, NRR enhancement of HFIS may require coordination with AEOD.

Major Milestones/Status: How will you keep track of the activity, and how will others be able to monitor your progress. (Such milestones are likely to differ between offices). For example, RES activities may be measured by the completion of major tasks and the issuance of key reports; NRR activities may be shown as "continuing" (or "ongoing"), such as special inspections, and their status may be shown as "as needed"; AEOD activities may be shown as major tasks and dates for new reporting guidance.

Priority: TBD (Don't complete at this time)

Strategic Plan Strategy(ies) and Substrategy(ies): Cite the strategy and associated substrategy(ies) in the Strategic Plan with which the activity is linked.

*** Examples of Drivers:**

Nuclear Industry Experience
Other Industry Exp.
Staff Expertise
Industry Initiatives, e.g.,
 Digital I&C
 Standards
 Plant Perf. Improvements
Deregulation
Decommissioning
Downsizing

Allegations
Events
Events Assessment
Performance Assessment
Regional Requests
User Requests
Operational Reviews
Management Direction
Inspection Findings

HP&HRP ACTIVITY FORM - EXAMPLE

Title: HUMAN FACTORS ISSUES ASSOCIATED WITH HYBRID CONTROL ROOMS

Objective: Identify potential human performance problems associated with mixing digital and analog human system interfaces in control rooms and develop guidance to support NRR safety review of these hybrid human system interfaces

Driver(s): NRR user needs for revision of NUREG-0700 to provide additional guidance for reviewing digital systems in control rooms and hybrid human system interfaces. Findings from a literature review and site visits to nuclear power plants and other industrial applications indicate potential, safety significant human performance problems (e.g., soft controls, computer based procedures, maintenance of digital systems) associated with the introduction of digital systems. Licensees are upgrading existing control rooms with new technologies and an improved technical basis for reviewing this industry initiative is needed. A recent National Academy of Science study and report also speaks to the importance of conducting human factors research in this area.

Application: Human factors guidelines will be used by NRR in their evaluation of safety-related modifications in both existing nuclear power plant control rooms and future advanced plants.

Measure of Success: Extensive peer review and NRR acceptance of guidance

Lead Office: RES is the NRC Office primarily responsible for this activity.

Coordination w/Other Office(s) (if Any): Extensive coordination with NRR is required.

Major Milestones/Status: Preliminary guidance will be issued for the six highest priority human performance issues(NURFG/CRs) by December, 1998. Preliminary guidance will be issued for four medium priority human performance issues(NUREG/CRs) by December, 1999. For certain high-priority issues additional empirical research will be conducted in the FY99-FY02 time frame to complete the guidance development. Guidance will be incorporated into future revisions of NUREG-0700.

Priority: TBD

Strategic Plan Strategy and Substrategy(ies):

Strategy: We will maintain a research capability to provide timely and independent technical bases for NRC regulatory decisions.

Substrategy: We will pursue a reactor safety research program that includes elements of both confirmatory and anticipatory research to meet current and projected regulatory needs. We will focus the research on those areas in which operating experience indicates potential problems and areas with the highest safety and regulatory significance.