

November 11, 2000

MEMORANDUM TO: Hubert J. Miller, Regional Administrator, R-I
Luis. A. Reyes, Regional Administrator, R-II
James E. Dyer, Regional Administrator, R-III
Ellis W. Merschoff, Regional Administrator, R-IV

FROM: Samuel J. Collins, Director */RA*
by Jon Johnson Acting For/
Office of Nuclear Reactor Regulation

SUBJECT: WORKING GROUP ON RISK EXPERTISE RECOMMENDATIONS

A Working Group on Risk Expertise was formed in July 2000, with the purpose of improving risk expertise among staff. The goals of this working group included: 1) ensuring that every reactor inspector in the Divisions of Reactor Projects and Reactor Safety is capable of using and understanding the risk-informed Significance Determination Processes (SDP) and, 2) ensuring that a subset of these inspectors receives advanced risk training. The purpose of this memorandum is to transmit the recommendations of this working group and to assign action items, office leads and due dates (Attachment 1). Your support in developing the action items and in meeting deadlines is appreciated.

One of the more challenging action items is to develop near-term training directed at improving the reactor safety SDP understanding and use, through the use of examples. Due to resource constraints and the immediacy of the need for this training, I am asking that each region provide at least three reactor safety SDP case studies that include at least one BWR and PWR example. Also, if appropriate, a fire protection case study would be beneficial. Case studies should be in the form of a scenario with applicable worksheets in WordPerfect format. In order to avoid similar scenarios, SDP case studies should be coordinated in advance with Doug Coe, Chief, Reactor Inspection Section, Inspection Program Branch. The Technical Training Center (TTC) will take the lead in developing learning objectives for each example. Due to the quick turn around time, the training will most likely be in the form of workbooks; however, web-based training is under consideration for future needs. The due date for the SDP case studies is December 30, 2000.

Attachment 2 is a solicitation of interest notice for advanced risk training for your use in competitively selecting region-based staff for training. The solicitation notice is provided for implementing action item 2.c "Regions to competitively select a set of inspector positions for additional risk training". Included with the solicitation notice are elements and standards along with a GG-14 position description update that outlines duties and responsibilities once the training is successfully completed. The element and standards are provided as guidance only due to the potential development of generic elements and standards.

For this initial solicitation each region will receive 3 slots for the advanced training. However, future solicitations will be the responsibility of each individual region on an as-needed basis and should be coordinated with training class availability through the Technical Training Center. The advanced training consists of 7 classes over 8 separate weeks, which is equal to about 184 hours. Credit for courses previously taken may be approved by regional Division of Reactor Safety, Directors, with concurrence from the Probabilistic Safety Assessment Branch, NRR. You should accommodate this training within your training allocation (approximately 243 hours per direct staff). If you believe that you can not accomplish your staff training objectives within the allocated hours, please inform us of what training will not be completed so that your training needs may be presented to NRR for further review.

Any questions regarding the above should to directed to Doug Coe at 301-415-2040.

Attachments: As stated

cc: R. Barrett, NRR
J. Hannon, NRR
F. Miraglia, OEDO
G. Holahan, NRR
P. Bird, OHR
K. Raglin, OHR

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Accession #ML003770579 *see previous concurrence

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WORKING GROUP ON RISK EXPERTISE ACTION ITEMS

ACTION ITEMS	DUE DATE	LEAD OFFICE/ REGION	STATUS
SRA TRAINING AND QUALIFICATION PROCESS IMPROVEMENTS			
1.A. Develop IMC1245 Qualification Standard for SRA Certification	January, 2001	NRR	In Draft
1.B. Replace senior management review panel for final SRA certification with local oral board	January, 2001	NRR	In Draft
1.C. Modify the SRA rotation requirement to 2 months at SPSB/NRR and 2 months other then home region	January, 2001	NRR	In Draft
DEVELOPMENT OF IMPROVED RISK ANALYSIS SKILLS AMONG NON-SRA STAFF			
2.A. Develop near-term training directed at improving reactor safety SDP understanding and use, through the use of examples	February, 2001	NRR/TTC	
2.A.1. Provide SDP examples to NRR	December, 2000	REGION	
2.B. Establish appropriate position description language and related elements and standards for GG-14 positions selected for additional training	December, 2000	NRR	Completed
2.C. Regions to competitively select a set of GG-14 inspectors for additional risk training	March, 2001	REGION/ NRR	Solicitation Notice for Training Completed
2.D. Conduct SRA series	April, 2001	TTC/NRR	
2.E. Redesign the workshops within the P-111 course	March, 2001	TTC	

Solicitation of Interest
for
Advanced Risk Training

Purpose

The purpose of this announcement is to solicit applications for competitive selection of GG-14 region-based inspectors, including senior or resident inspectors that currently have a GG-14 assignment to the region, to receive advanced risk training specified below. Staff selected will receive advanced risk training that will enable them to utilize NRC Probabilistic Risk Assessment (PRA) software tools to perform and interpret basic quantitative risk analysis.

Background

A task group was formed in July 2000, with the purpose of improving risk expertise among staff. A recommendation from the task group was that each region competitively select a set of inspectors (one or more) per region to receive additional risk training. One of the goals formulated by this task group was to ensure that these inspectors are capable of utilizing NRC Probabilistic Risk Assessment (PRA) software tools to perform and interpret basic quantitative risk analyses, and who can, through work experiences, develop a skill set useful for the review of risk analyses more advanced than those of the SDP. The number of inspectors to receive this training will be evaluated separately by each region based on workload demands for these skills under the revised reactor oversight process.

Expectations

You are expected to complete the training course requirements described below. Once you have successfully completed the training, you may be evaluated on elements and standards similar to the ones attached in addition to your current elements and standards. Also, your position description will be revised to reflect your new duties (Attachment 2). Candidates should not be assigned duties on reactor technologies for which they have not been trained.

Qualifications Required

Candidates must be at the GG-14 grade level and possess an existing foundation of technical knowledge of reactor-plant integrated system operations. Candidates must be region-based; however, senior or resident inspectors that currently have a GG-14 assignment to the region are also eligible. Candidates must possess current BWR or PWR reactor inspection qualifications under Inspection Manual Chapter (IMC) 1245.

Training

It is anticipated that the next training course series will be offered beginning in the April 2001, time-frame. Credit for courses previously taken may be approved by regional Division of Reactor Safety, Directors, with concurrence from the Probabilistic Safety Assessment Branch, NRR.

Application Process

Interested staff that meet the basic qualification requirements should address the evaluation factors and forward that information to their Regional Personnel Officer. A SF-171, Optional Form 612 and/or resume is not required. However, employees are not precluded from submitting the above. Performance in each training course will be graded and all selectees are expected to pass all training courses.

Evaluation Factors

1. Experience in applying engineering knowledge to nuclear power plant design, operations and/or to inspection of nuclear power plant operation.
2. Experience with problem identification and resolution of complex technical issues using risk as a basis for decision making.
3. Describe skill in presentation of complex technical issues both orally and written. Discuss experience presenting technical information to large groups for information or training purposes.
4. Professional experience in evaluating and integrating nuclear power plant activities, and assessing performance from a risk and/or safety perspective using risk tools such as the SDP or PRA insights.
5. Experience leading/participating in reactive inspection teams and integrating plant performance and risk insights.

Contact

Contact your regional personnel officer for further information.

General course requirements

PRA Technology and Regulatory Perspective (P-111) (10 days)
Probability and Statistics for PRA (P-102) (5 days)
System Modeling Techniques for PRA (P-200) (4 days)
Basic SAPHIRE Course (P-201) (4 days)
Advanced SAPHIRE Course (P-202) (4 days)
Human Reliability Assessment (HRA) (P-203) (3 days)
Risk Assessment in Event Evaluation (P-302) (3 days)

Optional training

Applied Statistics (HR)
External Events (P-204)
PWR or BWR technical training series (see expectations above)

SUGGESTED GG-14 SUPPLEMENTAL ELEMENTS AND STANDARDS

1. PERFORMANCE ELEMENT

Performs risk evaluations of nuclear power plant events and plant equipment availability data to determine the impact of plant operations on safety risk. Provides the results of evaluations for use in planning and prioritizing NRC inspection effort. When requested by management, completes risk assessments intended to resolve technical issues.

PERFORMANCE STANDARD

Evaluations are technically sound and are of sufficient scope and depth to support conclusions. Risk assessments are documented in accordance with NRC inspection guidance. Evaluations are conducted in a timely manner consistent with review and inspection schedules. Performs assignments in an independent manner with only a moderate need for technical assistance and guidance from SRAs.

Generates appropriate worksheets or products reflecting his/her recommendations and guidance in accordance with established schedules. Recommendations and guidance are generally technically accurate and the need for follow-up requests is limited provided the request is not of a highly controversial nature. Prior to issuing technical positions or evaluation, communicates and coordinates with SRA's to ensure consistency with agency mission, goals, and regulations. Keeps appropriate levels of management aware of significant issues

SUPPLEMENTAL GG-14 POSITION DESCRIPTION

Regular Duties

Performs risk evaluations of nuclear power plant events using criteria and methodology developed for these evaluations. Evaluates plant equipment availability data to determine the impact of plant operations on safety risk. Provides the results of evaluations for use in planning and prioritizing NRC inspection effort.

Conducts reviews of NRC inspection reports, LERS, Performance Indicators, morning reports and other documents to determine generic weaknesses in licensee performance as related to risk significance. Conducts in-depth evaluations and analysis of abnormal conditions, and routine licensee practices to understand and determine the risk significance of individual events and collective operating experience. Provides the results of these reviews and evaluations to the assessment of licensee performance.

May be required to plan and lead inspections at nuclear power facilities. Planning for the inspection includes determining the inspection scope and attributes and obtaining the necessary in-house and contractor technical expertise to carry out the planned inspection. Team inspections evaluate licensee safety performance by focusing on licensee activities and hardware that make significant contributions to safe operations.

Basic Skills

Knowledge of Probabilistic Risk Assessment (PRA) sufficient to utilize computer based PRA tools in the analysis of plant operations to assess risk significance.

In-depth knowledge of safety analysis and potential hazards associated with operation of a nuclear power facility and the function of systems, structures, and components that have been designed to prevent the occurrence of an unsafe condition and to mitigate the consequences of a nuclear accident.

Demonstrated ability to apply this understanding to the risk evaluation of nuclear power facilities in order to identify areas requiring improvement.

Contacts

No changes

Responsibility for Decisions

General Supervision "A"

Receives guidance from the regional Senior Reactor Analyst GG-15, as appropriate, on matters relating to the utilization of Probabilistic Risk Assessment (PRA) tools in the analyses of plant operations. For complicated or complex issues, the advice and guidance of the regional Senior Reactor Analyst GG-15 is sought.

Independent Action

Determines what risk information is necessary and gathers that information from available resources.

Develops risk-based analysis of specific operational events and risk insights from collective industry experience.

Contributes to the formulation of long-range objectives of the inspection program through risk based assessment of licensee events. Makes safety recommendations on the technical adequacy of licensee corrective actions for events based on risk assessments. Provides risk insights regarding the inspection program to NRC management.

Provides risk insights for inspection planning. Collects the necessary information required to properly characterize the risk significance of inspection findings. While an inspection is in progress makes decisions as to how far to pursue an issue and as to what further details will be needed to support NRC assessment process.

Supervision Exercised

No changes

Working Conditions

No changes

Effort

No changes