

August 14, 2003

MEMORANDUM TO: Doug Coe, Section Chief
Reactor Inspection Section
Inspection Program Branch
Division of Inspection Program Management
Office of Nuclear Reactor Regulation

FROM: F. Mark Reinhart, Section Chief /RA/
Licensing Section
Probabilistic Safety Assessment Branch
Division of Systems Safety and Analysis
Office of Nuclear Reactor Regulation

SUBJECT: ASSISTANCE IN DEVELOPING SENIOR REACTOR ANALYST
TRAINING AND QUALIFICATION ACTIVITIES

Attached is a template and instructions for an individual study activity on shutdown risk for the SRA training and qualification program. Should you have any questions, please contact Marie Pohida of my staff at (X 1846).

Attachment: As stated

CONTACT: Marie Pohida, SPSB\NRR\DSSA
415-1846

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Distribution: SPSB: r/f G. Parry M. A. Ashley P. Wilson

Accession#ML032270074

G:\Individual Study Activity on Shutdown Risk.wpd

OFFICE	SPSB	SPSB:SC
NAME	MPohaida:nxh2	MReinhart
DATE	08/13/03	08/14/03

OFFICIAL RECORD COPY

Senior Reactor Analyst Individual Study Activity

TOPIC:	(ISA-SRA-# to be assigned) (Overview of Shutdown Risk)
BACKGROUND:	In SECY 97-168, based on a quantitative regulatory analysis, using PRA techniques , the staff concluded that: the existing level of safety at shutdown is largely dependent upon voluntary measures. These voluntary measures are not traceable to specific underlying regulations and could be withdrawn by licensee without prior staff approval. In the SRM to SECY 97-168, the Commission directed the staff to “continue to monitor licensee performance, through inspections, and other means, in the area of shutdown operations to ensure that the current level of safety is maintained.” In SECY 97-168, the annual risk (per calender year) of core damage from shutdown operations at PWRs and BWRs was reported to be comparable to full power risk.
PURPOSE:	To Introduce the SRA to shutdown risk concepts, definitions, and key insights
COMPETENCY AREAS:	(This is boilerplate - do not change) TECHNICAL AREA EXPERTISE INSPECTION PRA INSTRUCTION
LEVEL OF EFFORT:	Four hours
REFERENCES:	<ol style="list-style-type: none">1. Chapters 1, 2, 3, 4, 5, and 6 of the Basis Document for the PWR and BWR Phase 2 Shutdown SDP templates (currently being developed).2. Executive Summary (ONLY) of NUREG/CR-6143 Vol. 2, Part 1A, <u>“Evaluation of Potential Severe Accidents During Low Power and Shutdown Operations at Grand Gulf, Unit 1, Main Report</u> (Sections 1-9).3. Executive Summary (ONLY) of NUREG/CR-6144 Vol. 2, Part 1A, <u>“Evaluation of Potential Severe Accidents During Low Power and Shutdown Operations at Surry, Unit 1, Main Report</u> (Chapters 1-6).

ATTACHMENT

EVALUATION CRITERIA:

At the completion of this activity, you should be able to:

1. Understand the definition of plant operational states for BWRs and PWRs used in the Phase 2 Shutdown SDP templates
2. Understand the definition of shutdown initiating events for BWRs and PWRs used in the Phase 2 Shutdown SDP templates.
3. Identify dominant contributors of PWR Shutdown Risk based on the Surry Shutdown PRA.
4. Identify dominant contributors of BWR Shutdown Risk based on the Grand Gulf Shutdown PRA.

TASKS:

1. Read the Basis Document Chapters 1-6 for the BWR and PWR SDP shutdown templates to: (1) understand how the BWR and PWR Shutdown SDP templates are constructed and (2) understand key shutdown definitions necessary to use the templates and discuss shutdown risk concepts.
2. Read the Executive Summary (ONLY) of NUREG/CR-6144 Vol. 2, Part 1A, "Evaluation of Potential Severe Accidents During Low Power and Shutdown Operations at Surry, Unit 1", Main Report (Chapters 1-6). Scan sections S.1, S.2, and S.3. Read Sections S.4, S.5, and S.6 (pages xxxi - xxxvii) in detail to understand the dominant contributors to PWR Shutdown Risk.
3. Read the Executive Summary (ONLY) of NUREG/CR-6143 Vol. 2, Part 1A, "Evaluation of Potential Severe Accidents During Low Power and Shutdown Operations at Grand Gulf, Unit 1", Main Report (Sections 1-9). Scan section 1.1 and 1.2. Read Sections 1.3 and 1.4 (pages 1-2 - 1-7) in detail to understand the dominant contributors to BWR Shutdown Risk.
4. Meet with your supervisor, or a qualified senior reactor analyst as designated by your supervisor, to discuss any questions that you may have as a result of this activity and demonstrate that you can meet the evaluation criteria listed above.

DOCUMENTATION: Senior Reactor Analyst Qualification Signature Card, Item X