

**RISK-INFORMING THE SRP - IMPROVING NEW REACTOR REVIEW EFFICIENCY  
THROUGH APPLICATION OF RISK INSIGHTS**

Last Update:  
09/15/07  
Lead NRO Division: DNRL  
Supporting Division: DSRA

#	NRO/DSRA MILESTONES	DATE (Target/Complete)
1	Form technical team to identify possible approaches to risk-inform the SRP to enhance new reactor review efficiency.	02/15/06(C)
2	Provide ESBWR risk insights to DNRL to support SRP pilot effort to develop "desk guides" to focus new reactor reviews. (Transmitted via APLB memorandum ML061040127)	04/11/06(C)
3	Develop options to risk-inform the SRP, including pros and cons of each.	05/31/06(C)
4	Present options to Director, ADRA, and obtain concurrence to proceed with team recommendation. (Gary Holahan endorsed the recommended option, which is to risk inform the review process rather than re-write the SRP, and directed that DRA move forward with implementation.)	06/12/06(C)
5	Identify SRP sections amenable to being risk-informed. ("Amenable" in this context means that risk insights from the PRA provided as part of the application can provide meaningful information to focus review resources on areas significant to core damage or large early release risk.)	10/30/06(C)
6	Develop a template for use by DRA to transmit reactor type-specific risk insights to DNRL for inclusion in the web-based SRP desk guide for the SRP sections identified in milestone # 5.	12/29/06(C)
7	Meet with DNRL and present proposed template and process; incorporate feedback and comments.	12/29/06(C)
8	Develop draft guidance document that describes how DSRA will transfer plant-specific PRA information to DNRL for the applicable SRP sections.	06/27/07(C)
9	Develop 5 or 6 sample templates using the AP1000 PRA. Present to senior management and use as examples for training.	09/04/07(C)
10	Develop final guidance document that describes how DSRA will transfer plant-specific PRA information to DNRL for the applicable SRP sections.	06/27/07(C)

#	NRO/DSRA MILESTONES	DATE (Target/Complete)
11	Develop and conduct DSRA training for technical reviewers who will be reviewing new reactor PRA submittals and providing risk information to DNRL for inclusion on the web-based, SRP desk guide.	05/16/2007 (C)
12	Conduct training seminars for all technical reviewers who will be using the risk insights included in the web-based, SRP desk guide.	Begin November 2007
13	Provide EPR risk insights to DNRL in accordance with the guidance document developed in step 8.	TBD
14	Provide PRA insights for each additional reactor type as they become available.	TBD

Description:

The purpose of this effort is to provide staff in NRC a basic framework for applying risk insights to the review of new reactor license applications for those areas of the SRP that are amenable to being risk-informed. The resulting framework and procedure should enhance NRC staff's efficiency in performing reviews using the SRP guidance. Specific objectives include the following:

- Ensure the effective review of safety analysis reports to provide reasonable assurance that public health and safety are maintained. An effective review is one that would identify, should they exist, any non-conforming aspects or other issues that would be inimical to public health and safety.
- Facilitate the efficient review of safety analysis reports through use of a graded approach to the depth and level of detail of the review. A graded approach is one in which the level of resources applied to a given review is commensurate with the importance of the topic being reviewed to assuring public health and safety.

While the SRP provides a useful list of areas to review, it does not necessarily provide any indication of how important a given area is to assuring public health and safety. Given that the review of an applicant's information will never be a complete design verification of every detail, and given limited resources and a finite schedule to perform the review, reviewers of necessity focus on those areas that, in their judgment, are important to providing this assurance. Risk techniques and insights provide valuable input to a reviewer in determining the scope and level of detail to be reviewed in a certain area.

DSRA will provide a framework and process for supplying risk insights from new reactor PRA submittals to be included in the "risk insights" portion of the web-based, SRP desk guide under development by DNRL. The risk insights will be provided for those SRP sections for which risk insights exist for a given reactor type. A two-tier document scheme is envisioned, similar to what DNRL is proposing for other sections of the SRP desk guide. The tier one information will

briefly list the risk-significant functions and features for a specific SRP chapter (where applicable). The tier two document will provide additional detail from the PRA submittal.

#### Historical Background:

The Director, NRR/ADRA, requested that NRR/DRA look into applying risk insights to risk-inform the review of new reactors using the SRP. NRR/DRA put together a team of knowledgeable PRA individuals in February, 2006, to brainstorm possible approaches and determine pros and cons to allow use of risk insights in this manner. The team explored several options and presented them, along with a recommendation, to the NRR/ADRA Director in June, 2006.

The team recommended risk-informing the review process, because this would provide the most benefit in a timely manner for a given level of effort. The NRR/ADRA Director agreed with this recommendation during a briefing on June 12, 2006, and directed NRR/DRA to work out the implementation sufficiently to allow development of resource estimates and other details necessary to implement the recommendation. He also stated that NRR/DRA should involve the New Reactor Infrastructure Planning Branch in NRR/DNRL in going forward.

On February 5, 2007, the Office of New Reactors (NRO) commenced and the effort to risk-inform SRP reviews was transferred to NRO/DSRA where staff continue to develop the approach and guidance to risk-inform SRP reviews.