

STABILIZING PRA QUALITY EXPECTATIONS AND REQUIREMENTS

Risk Informed Activities Session T3

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March 11, 2004**



BACKGROUND

- SRM dated 12/18/03 “Stabilizing the PRA Quality Expectations and Requirements”
- Directs staff to develop action plan to:
 - Engage stakeholders and define practical strategy for implementation of a phased approach to PRA quality
 - Discuss resolution of technical issues

PRA QUALITY

- Some confusion about the meaning of the term “PRA Quality”
- Defined in RG 1.200
 - For a given application, PRA Quality is determined by the appropriateness of
 - Scope
 - Level of detail
 - Technical acceptability
 - The greater the emphasis on risk insights the more stringent the requirements for the PRA in terms of scope, level of detail and assessment of delta risk

SRM OBJECTIVES

- Encourage industry to develop better, more complete PRAs
- Provide a pathway for predictability by establishing clear expectations
- Facilitate near-term progress and enhancement of safety through the use of available methods
- Create efficiencies in review of risk-informed applications
- Strive for increased effectiveness in the longer term

SRM APPROACH

- Adopts a “phased” approach to achieving an appropriate quality for licensee PRAs for NRC’s risk-informed regulatory decision making
- Allows continued practical use of risk insights while progressing towards increased levels of quality in PRA

SRM TASKING

- Directs the staff to develop an action plan to:
 - Define a practical strategy for implementation
 - Address the resolution of technical issues
 - Model uncertainty
 - Seismic and other external events
 - Human performance issues

THE PHASED APPROACH

- The phase for each application type is determined by the availability of the PRA guidance documents needed to generate the results required for that application and establish that they are of sufficient quality. e.g.,
 - industry consensus standards and guidance documents
 - regulatory guides
- Schedule for transition between phases is driven by the implementation of the relevant guidance documents

PHASE 1 – Application Specific

- Currently in phase 1
- PRA quality judged only in the context of what is needed for the application
- All contributors to risk are to be addressed
- Contributors to risk that are not included in the scope of the PRA model must still be addressed (i.e., qualitative arguments, bounding analysis, or restricting the scope of application)

PHASE 2 – Issue Specific

- An application type approach to PRA quality
- PRA quality judged only in the context of what is needed for the application
- All significant operational modes and initiating event types applicable to the issue are to be included in the PRA scope
 - Significance of an operational mode or initiating event type is determined by whether taking it into consideration could change the decision “substantially”

PHASE 2 Issue Specific (Cont'd)

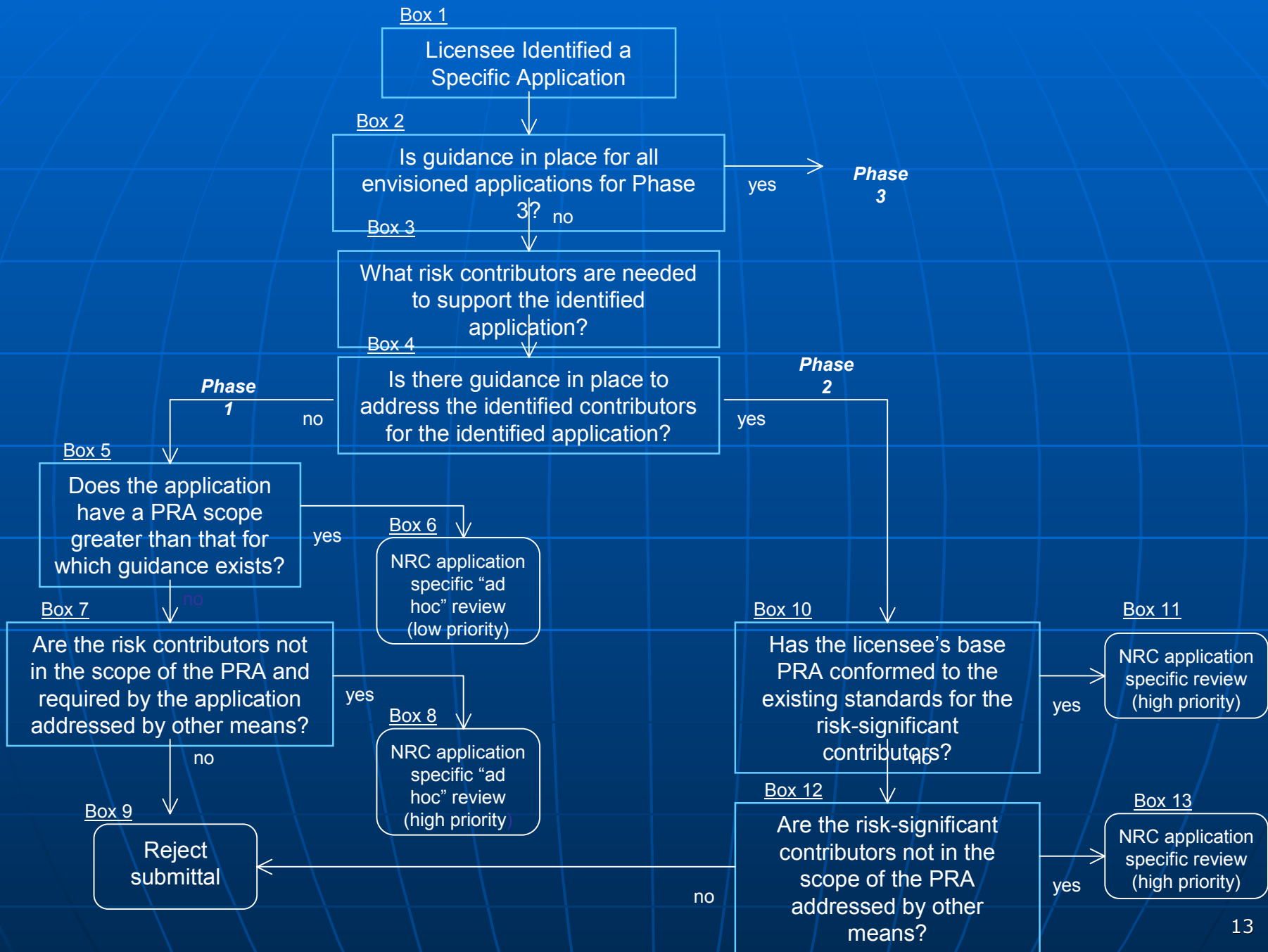
- To achieve phase 2, guidance must exist for
 - Use of PRA in making the decision
 - Assessment of the quality of the PRA used to support the application
- After reaching Phase 2
 - All parts of the PRA required for an application must conform to the guidance and standards
 - The ASME Standard, in chapter 3, allows for only those requirements needed for the application to be assessed

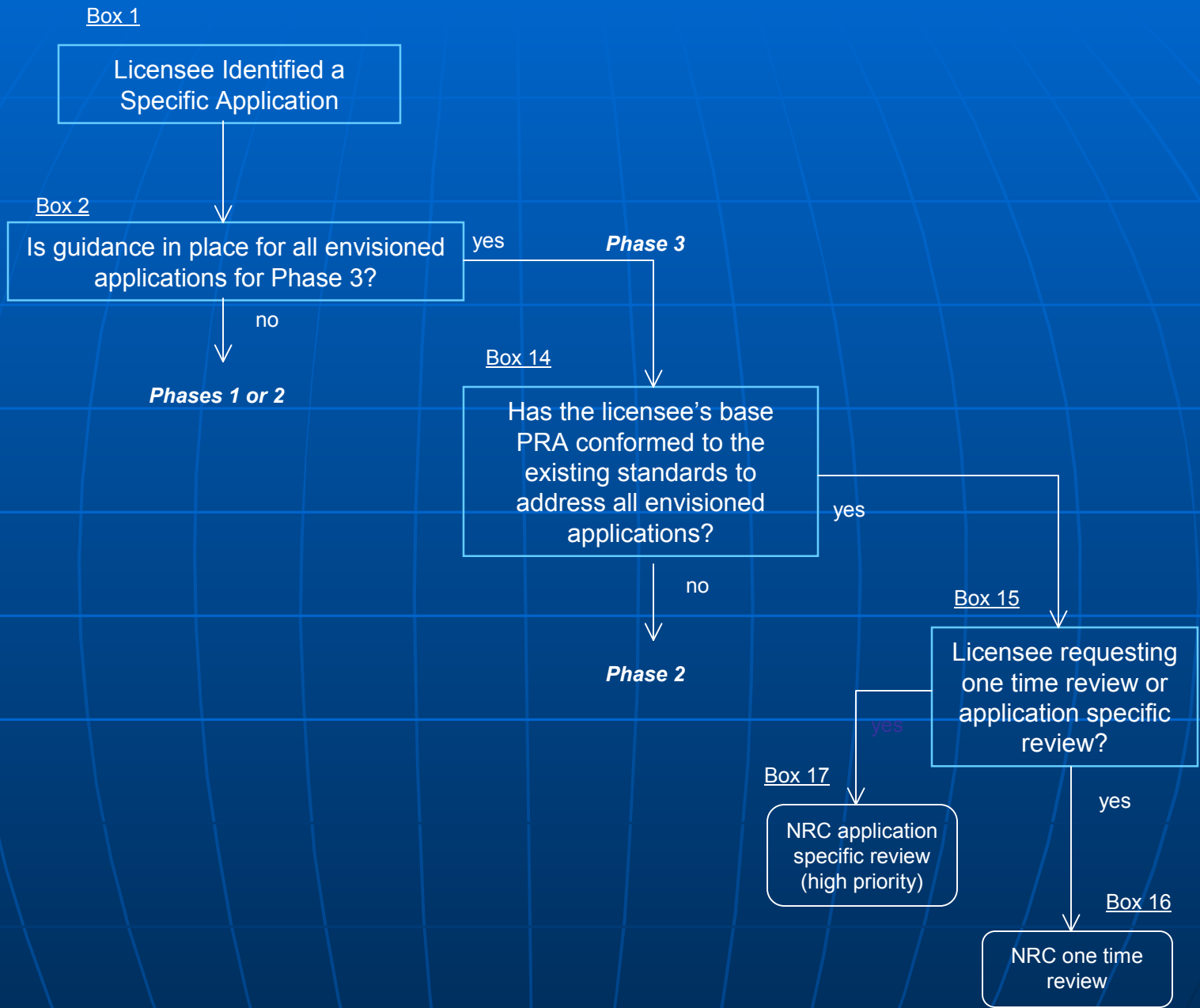
PHASE 3 – All Applications

- Regulatory framework is in place that enables licensees to develop a base PRA to conform to all the existing Standards in sufficient depth to address all currently envisioned applications
- All guidance documents needed to achieve Phase 3 are scheduled to be completed by December 31, 2008

PHASE 4 – Fully Quantified

- Phase 4 will be reached when a PRA has been developed to the extant state-of-the-art
- It is recognized that reaching this goal will be resource intensive and involves NRC review and approval





STATUS

- Interoffice (NRR/RES) working group established
- Next public meeting 3/24/04
- ACRS briefings 3/25/04 & 4/15/04
- Plan due to Commission 7/04