



Australian Government



Lessons learned from OPAL PSR

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Outline of Presentation

- Introduction and Outline of Presentation
- PSR Guidance
- Implementation of the PSR
- PSR Recommendations
- PSR Supplement
- Licensing Update
- Overall Lessons Learned

PSR Guidance

- ANSTO used IAEA Safety Standard NS-G-2.10: PSR for NPPs (now SSG-25) modified for a relatively new research reactor and applying a graded approach
- No guidance at that time from the Australian Regulator ARPANSA

PSR Guidance - Issues

- Subsequently, issues arose from differing interpretations and application of specific clauses of NS-G-2.10
- Example: clauses 3.3, 4.52 and 6.15 cover the subject of interactions between safety factors and this was done as part of the review process but not specifically or separately documented how ARPANSA wanted

Lesson Learned

- Regulatory agreement is required prior to starting the PSR
 - To ensure that Operating Organisation and Regulatory Body understand and agree what is required
 - To avoid subsequent identification of regulatory requirements after completion of the PSR that require additional work (see later slides on PSR Supplement)

PSR Implementation

- Applied standard ANSTO project management process to PSR
- Main areas for discussion:
 - Project management
 - Project plan and task briefs
 - Project implementation
 - International peer review
 - ANSTO safety committees review

Project Management

- Brought in a very experienced and expert Project Manager knowledgeable of OPAL
 - Managed and coordinated the overall project
 - Provided support and advice to reviewers
 - Facilitated resolution of differences between reviewers/safety factors
 - Coordinated the review of resultant PSR report
 - Contributed to the Global Assessment and drafted the Action Plan

Project Management

- PM supported by a professional technical writer from OPAL Configuration Management Group
 - Collated inputs from individual reviewers and prepared PSR report
 - Collated list of recommendations
 - Ensured consistent use of English and terminology throughout
 - Provided early feedback to reviewers to obvious errors and/or inconsistencies

Project Plan and Task Briefs

- Project Plan required by ANSTO project management process; identified objectives, proposed approach, roles and responsibilities and timescales
- Task Brief prepared for each Safety Factor; identified specific objectives, background, requirements, generic elements of review, suggested approach and specific deliverables

Project Implementation

- PM arranged regular project review meetings that enabled
 - Project Plan to be revised
 - Issues and topics affecting multiple Safety Factors to be discussed
 - Identified potential inconsistencies between Safety Factor reviews
 - Cross-fertilisation between reviewers

International Peer Review

- Initially considered utilising IAEA but due to time and resource limitations, arranged directly using network of contacts
- International Peer review conducted over one week by four experts from The Netherlands (2), France and the USA; documentation provided two weeks in advance
- Report incorporated into overall PSR report with no changes

Lessons Learned

- Treat a PSR as a normal project, using standard project management tools
- Appoint specialist Project Manager, preferably one with experience with the facility
- Provide adequate and appropriate support resources; ensures technical experts concentrate on technical issues, not on report writing

Lessons Learned

- Encourage communication between experts; project meeting organised and facilitated by PM a particular benefit
- Documents interactions between Safety Factors and/or review teams
- International peer reviews also provide a focus for review team to complete their work

PSR Recommendations

- Recommendations identified improvements and/or further assessments and allocated to one of three categories:
 - Cat 1: improvements are essential
 - Cat 2: improvements should be considered
 - Cat 3: improvements could be beneficial

PSR Recommendations - Issues

- All PSR recommendations became PSR actions with some recommendations generating multiple actions; 129 recommendations became 274 actions
- Many actions not required to even start implementation until after the next PSR, e.g. obsolescence planning for protection systems

Lessons Learned

- Recommendations generated by PSR should be reviewed and prioritised by line management holistically (i.e. taking all factors into consideration)
- It is acceptable to reject a recommendation
- Questionable whether there are benefits in identifying recommendations that do not need to be actioned before the next PSR

PSR Supplement

- ARPANSA preliminary review identified a number of issues:
 1. Accuracy of individual statements
 2. Adequacy of supporting evidence/references
 3. Overall assessment of systems/processes
 4. Supporting evidence for recommendations
 5. Overall assessment of common themes and root causes

PSR Supplement

- Items 1, 2 and 4 addressed by review of PSR report by independent reviewers assessing:
 - Accuracy
 - Supporting evidence/references
 - Specific source of recommendations
- Item 3 addressed by original experts on Safety Factor basis where not done as part of PSR
 - Principally associated with review of processes

Overall assessment of common themes and root causes

- Methodology adopted was:
 - Identify themes or root causes for each recommendation using keyword approach
 - Collating themes or root causes based on keywords across Safety Factors
 - Assessing themes or root causes on a global basis
- Systematic and demonstrable method that can be readily documented

Common Themes and Root Causes

- Changing requirements in standards
- Opportunities for improvement
- Asset management
- Business processes
 - Sub-divided into 5 secondary themes
- SAR/OLC/SPI update
- Time/resource limitations in completing PSR

PSR Supplement Report

- Complimentary to original PSR report, not a replacement, containing tables of
 - corrections and changes
 - revised supporting references
 - overall system/process assessment
 - review of recommendations
 - revised global assessment that addressed themes and root causes

Licensing Update

- ARPANSA have also issued a Periodic Safety and Security Review (PSSR) guide; currently under review by ANSTO but issues have already been identified
- Hoping that feedback from this and other meetings may be useful in providing responses to PSSR Guide

Overall Lessons Learned

- The PSR will be beneficial to the facility beyond the assessment of safety :
 - Identifying operational and organisational issues that improved overall performance
 - Themes and root causes that may be applicable across larger organisation
 - Strategic planning and prioritisation of follow-on actions



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Thank You

