



Periodic Safety Reviews (PSRs) – Presentation to ENSREG Workshop

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Overview

- General Overview
- Current Arrangements
- Historic PSRs
- New PSR structure going forward

PSR – A Brief History in the UK

- The first round of PSRs (PSR1) took place in the 1990's/early 2000's.
- PSRs generally improved the safety cases, brought in a lot of hazards missed in the original designs and improved consistency between the newest and older sites
- PSR2 built on the progress made in PSR1 reviewed the hazards again and the role of PSA for hazards
- PSR2 also focussed on material condition, ageing and obsolescence issues, commensurate with the age of the plants
- PSR3 introduced a different structure (SSG-25), which is allowing further improvements and learning

PSR – Overview in the UK

The need to undertake PSRs is stated as part of the site licence for all licensed sites (and those authorised by DNSR) within the UK. This is Licence Condition (LC)15:

1. The licensee shall make and implement adequate arrangements for periodic and systematic review and assessment of safety cases
2. The licensee shall submit to the Executive for approval such part or parts of the aforesaid arrangement as the Executive may specify
3. The licensee shall ensure that once approved no alteration or amendment is made to the approved arrangements unless the Executive has approved such alteration or amendment
4. The licensee shall, if so directed by the Executive, carry out a review and reassessment of safety and submit a report of such review and reassessment to the Executive at such intervals, within such a period and for such matters or operations as may be specified in the direction

PSR – Overview in the UK

- In addition to the Licence Condition 15 ONR has guidance documentation for both inspection and assessment of PSRs:

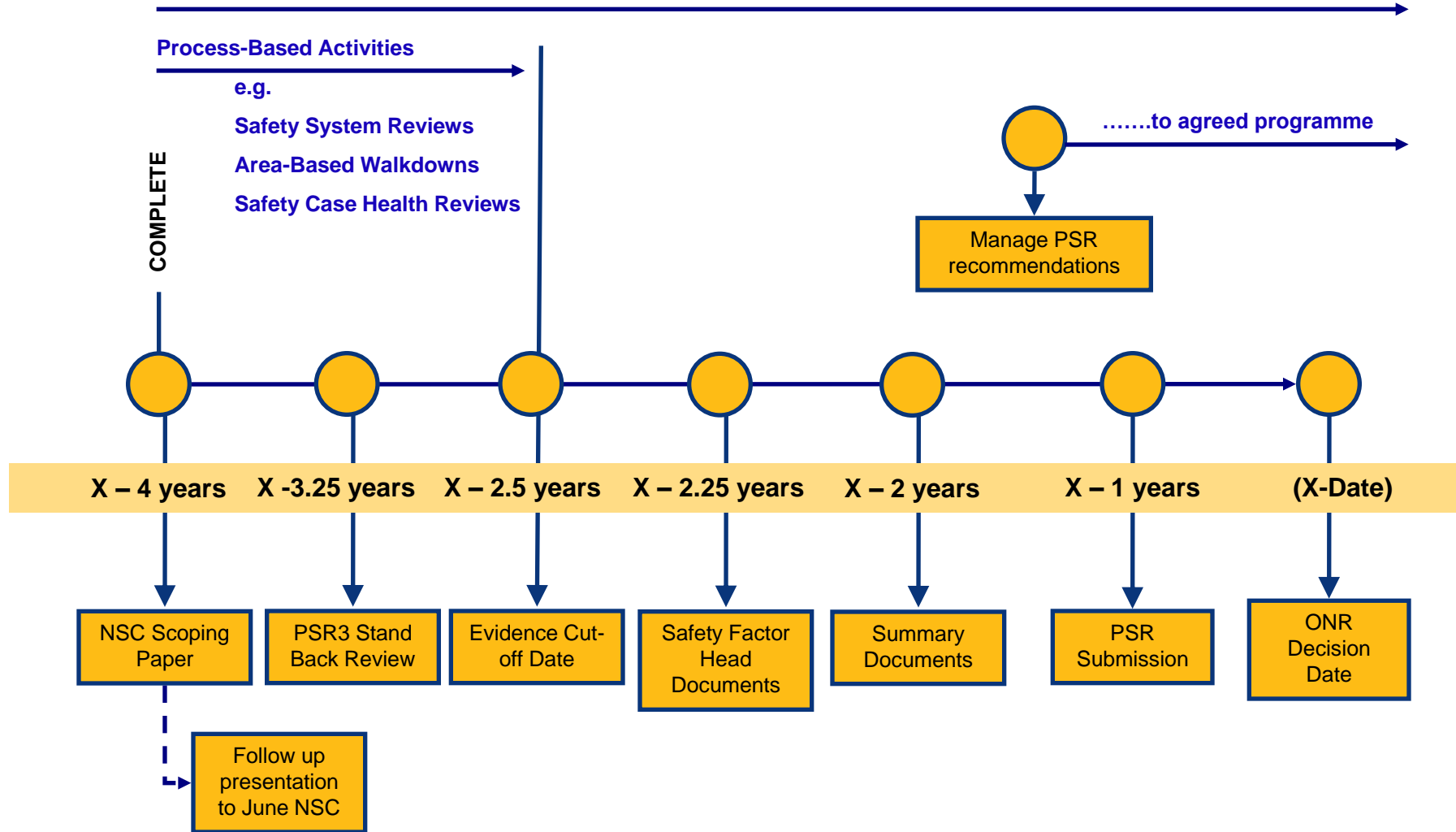
http://www.onr.org.uk/operational/tech_insp_guides/ns-insp-gd-015.pdf

http://www.onr.org.uk/operational/tech_asst_guides/ns-tast-gd-050.pdf

- Both documents are aligned with IAEA guidance on Periodic safety review of nuclear power plants (Specific Safety Guide No. SSG-25)
<http://www.iaea.org>
- They also take account and make reference to other ONR guidance, Safety Assessment Principles and wider documentation such as WENRA guidance
- PSRs play an important role in ONR's overall through life regulation to inform such activities as post outage restart consents and annual reviews of safety
- PSR is undertaken every 10 years, however other durations can be applied depending on the position of the plant within the lifecycle (shutdown, defuelling, decommissioning etc.)

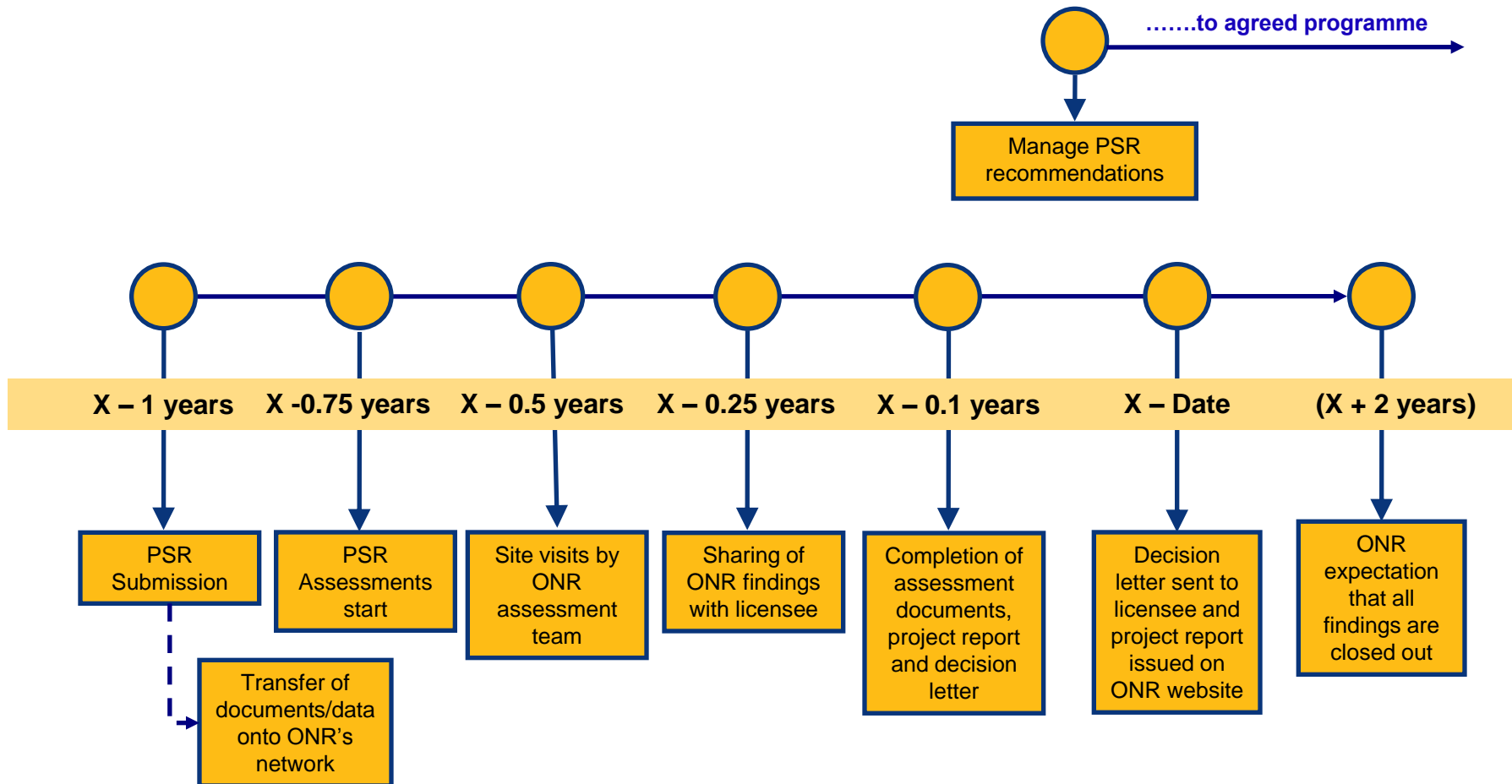
Current Arrangements (EDF Energy)

Processes continue, and resulting work is managed by normal business processes...



Current Arrangements for EDF fleet (ONR)

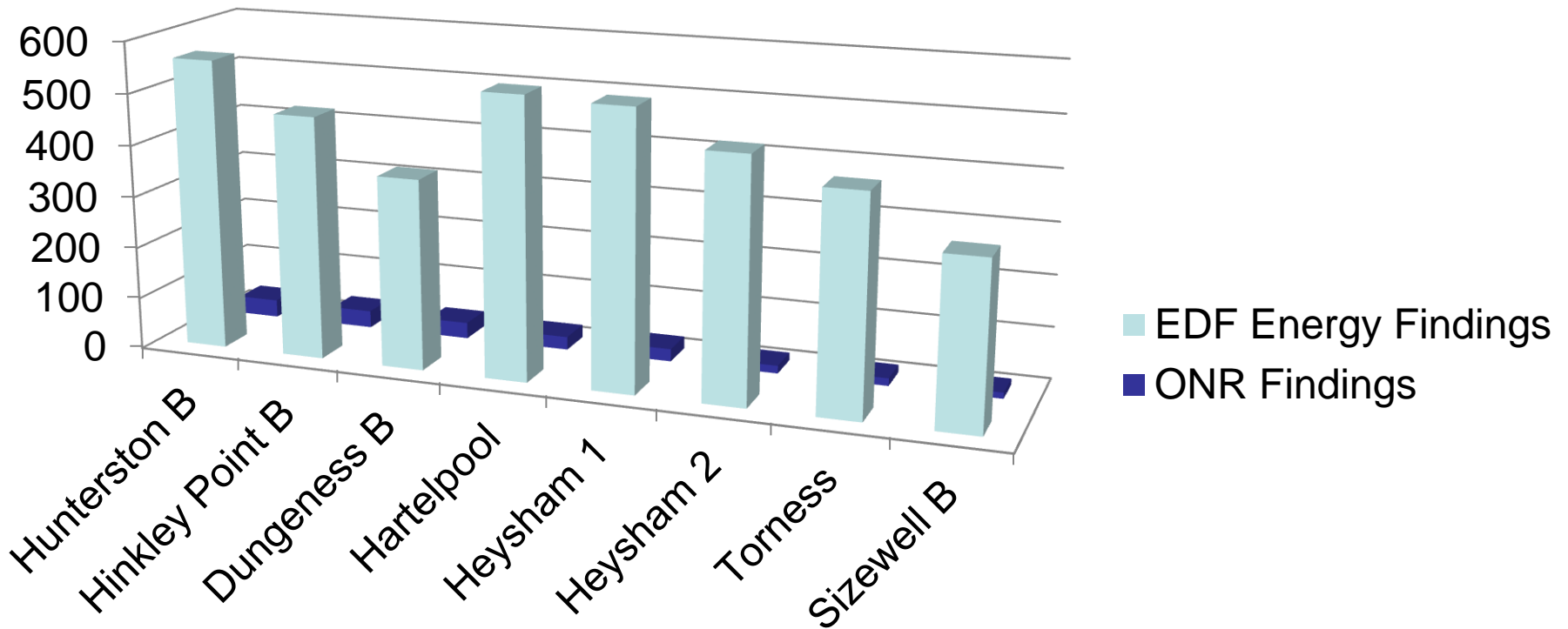
Regular interactions and resulting work is managed by normal business processes...



Historic PSRs

Station	First PSR Decision Date	Second PSR Decision Date
Hinkley Point B Hunterston B	1997	2007
Dungeness B	1998	2008
Heysham 1 Hartlepool	1999	2009
Heysham 2 Torness	2000	2010
Sizewell B	2005	2015

Historic PSRs – 2nd Round of PSRs 2005-2015



Transition of PSR structure (NPPs only)

- Initially the PSR structure took on the form of “Main Reviews” supported by “Discipline Reviews”
- The reviews sat in Chapters of the PSR; chapter 1 always being the headline safety justification
- The process has matured and become more efficient for both Licensee and ONR as the second round of PSRs took place across the plants
- IAEA guidance (SSG-25) published in 2013 will form the basis of the PSR3 work

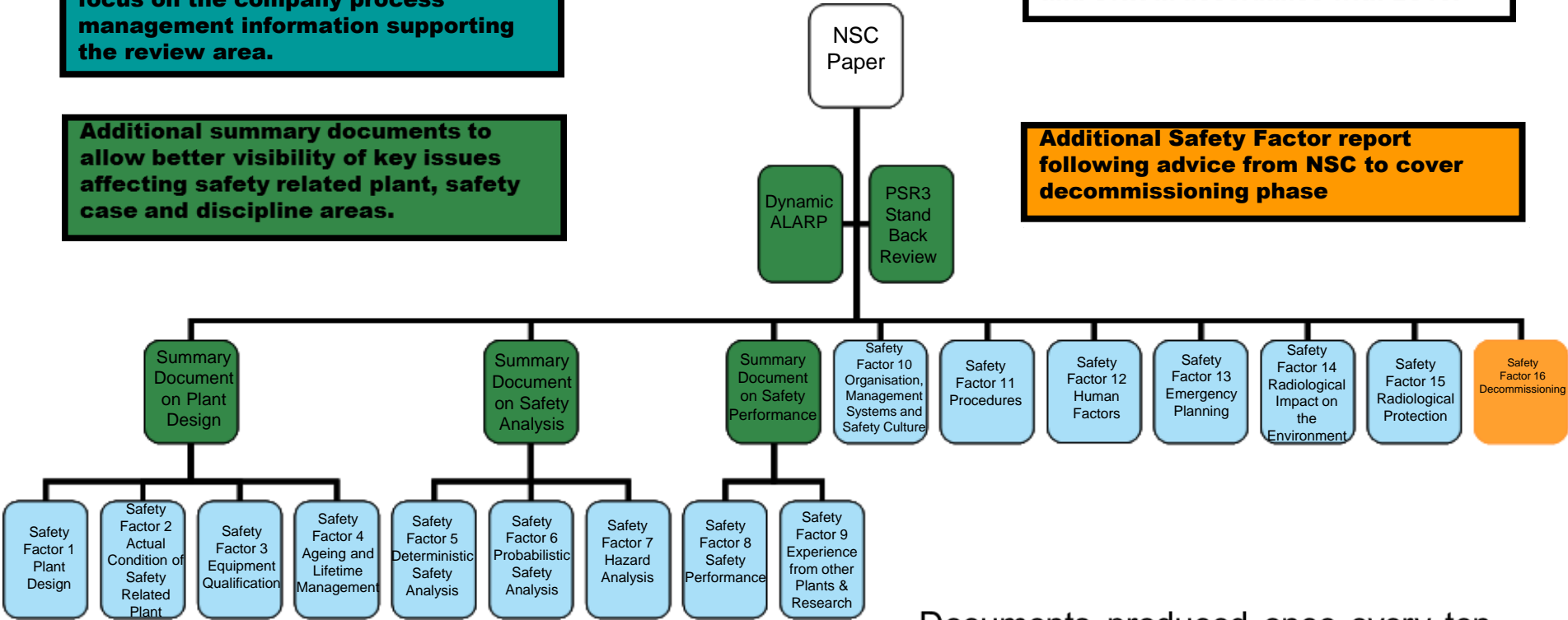
PSR3 Structure

EDF documents that align with the IAEA Safety Factors documents and focus on the company process management information supporting the review area.

Additional summary documents to allow better visibility of key issues affecting safety related plant, safety case and discipline areas.

PSR3 Submission, submitted to NSC and ONR in accordance with LC15.

Additional Safety Factor report following advice from NSC to cover decommissioning phase



Documents produced once every ten years in support of the PSR submission (except Dynamic ALARP report which will be produced for the fleet annually)

Upcoming PSR3s

Station	PSR3 Submission Date	ONR Decision Date
Hinkley Point B Hunterston B	January 2016	January 2017
Dungeness B	January 2017	January 2018
Heysham 1 Hartlepool	January 2018	January 2019
Heysham 2 Torness	January 2019	January 2020
Sizewell B	January 2024	January 2025

Wylfa

- Wylfa is the last remaining Magnox reactor and is due to cease operation by December 2015
- Wylfa completed the most recent PSR in September 2014 (decision date)
- Next PSR due 2023/4
- ONR considered the stage Wylfa was at in the lifecycle, future submissions that would cover defuelling, decommissioning

Conclusions

- The UK regulator and licensees has a mature process for undertaking PSRs
- The process has evolved over the past 20 years and the UK NPP fleet is currently about to undertake the third round of PSRs
- Learning from recent PSRs will continue to be applied to the AGRs as they commence the third round of PSRs