



UK Review Activities within ONR's Fukushima Programme

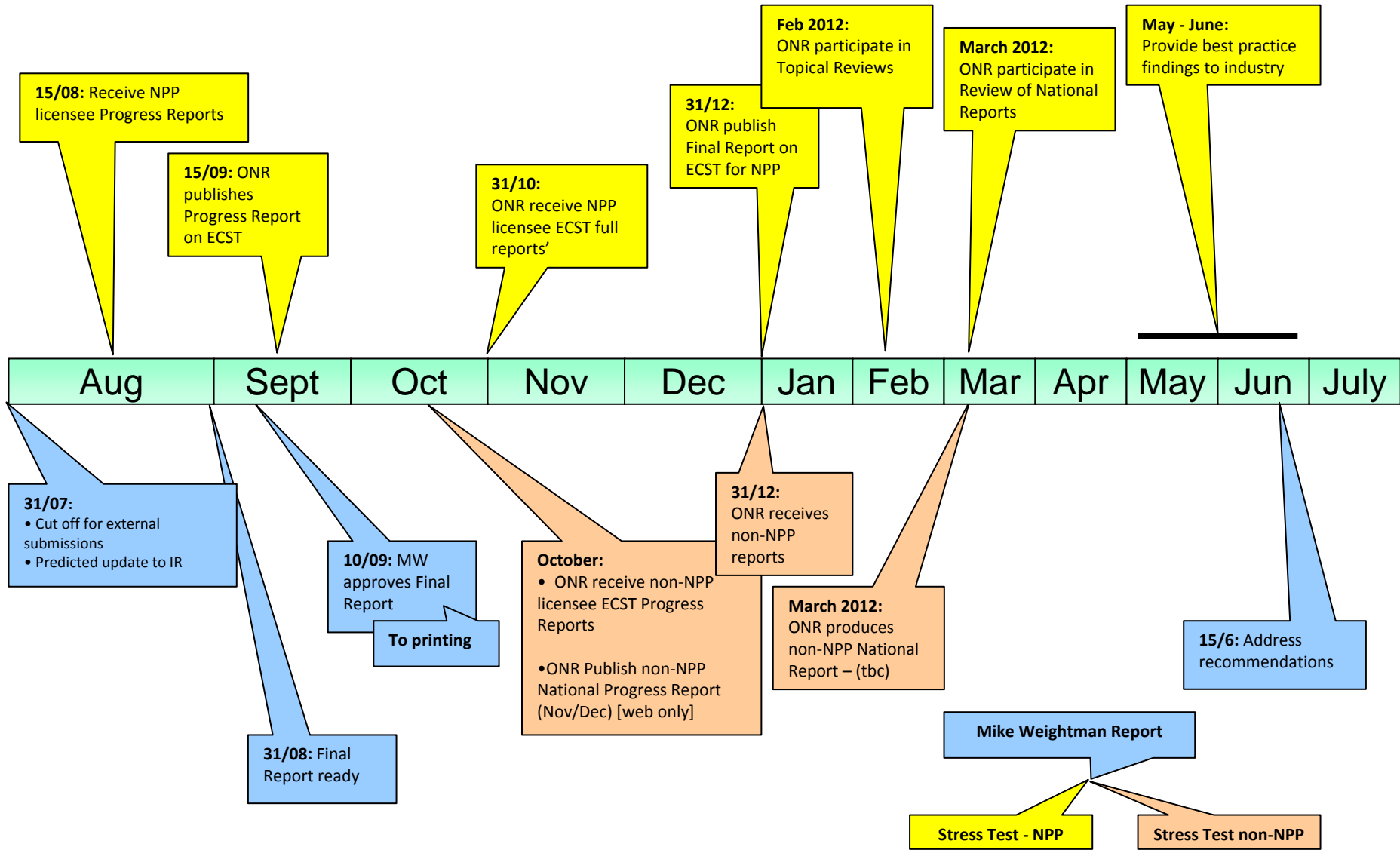
Gary Booth

Office for Nuclear Regulation

An agency of HSE

Presentation overview

- ONR Fukushima related activities
 - ‘Mike Weightman’ reports
 - European Stress Test
 - IAEA action plan (review not yet begun)



Office for Nuclear Regulation

An agency of HSE

Mike Weightman Reports

26 Recommendations for review (+ 2 recommendations for update responses of reviews)

Recommendation allocations

- General
- Relevant to the Regulator
- Relevant to the Nuclear Industry
- Way Forward



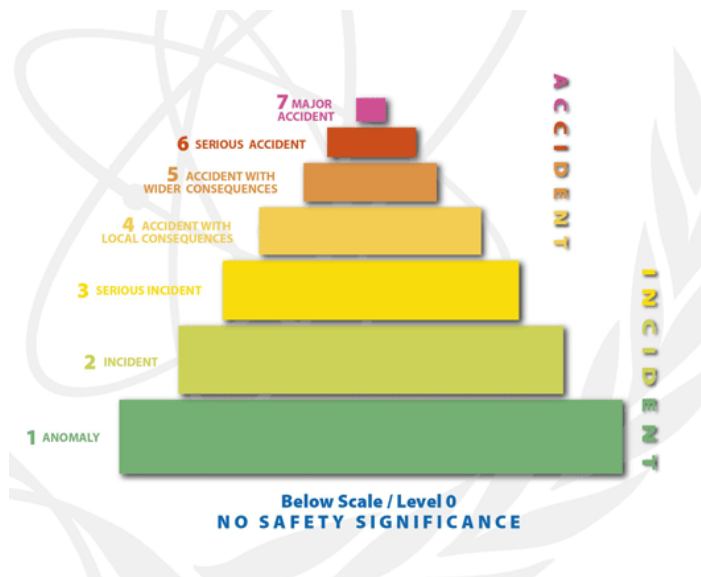
Office for Nuclear Regulation

An agency of HSE

General Recommendations

International:

- Improve dissemination of information
- UK should support review and implementation of international safety standards



Office for Nuclear Regulation

An agency of HSE

General Recommendations

- Identify lessons for contingency planning
- Review UK nuclear emergency arrangements
- Review source term estimation techniques
- Review dose prediction and measurement arrangements



Office for Nuclear Regulation

An agency of HSE



General Recommendations

- Examine planning control adequacy for developments near nuclear installations
- Enhance Openness and Transparency, including by legislative means during ONR creation

Recommendations for the Regulator

- Review detailed Safety Assessment Principles
- Consider exercising long term accidents
- Review ONRs response
- Accelerate moves to more openness and transparency
- Increase oversight of nuclear safety research and expertise



Office for Nuclear Regulation

An agency of HSE

Recommendations for Industry

- Review dependency - enhance self sufficiency
- Compare difference of consequences at Fukushima Dai-ichi and Dai-ni
- Review flooding studies
- Ensure safety cases for multi-reactors sites
re: concurrent events



Office for Nuclear Regulation

An agency of HSE

Recommendations for Industry

- Ensure adequacy of spent fuel management strategies
- Review plant layout
- Ensure adequacy of the design of new spent fuel ponds
- Consider detailed information regarding performance of concrete and other structures



Office for Nuclear Regulation

An agency of HSE



Recommendations for Industry

- All recommendations should be considered in the light of all extreme hazards
- Ensure all systems, structures and components needed for accident response are protected against hazards and capable of operating in severe accident conditions

Recommendations for Industry

- Establish the robustness of the UK grid
- Review the need for long term diverse supplies
- Review contingency plans for pond water make up
- Review venting routes
- Review provision of control
- Review communications



Office for Nuclear Regulation

An agency of HSE

Recommendations for Industry

- Review and extend accident analysis sequences
- Review training for severe accidents





Recommendations for Industry

- Promote high levels of safety culture
- Ensure complete Periodic Safety Reviews
- Provide level 2 Probabilistic Safety Analysis (PSA) for nuclear installations with potential for off-site consequences



Recommendations way forward

- Respond to the Interim Report recommendations within one month (completed)
- Further respond to all recommendations by June 2012

EC Stress Test

- European Council 24/25 March – safety of all EU nuclear plants should be reviewed
 - WENRA developed specification
 - ENSREG agreed
- Review design against flooding and seismic
- Check consequence of loss of power/heat sink
- Consider severe accident management issues

EC Stress Test

- NPP duty holders perform by Oct 2011
- National regulators produce national report by Dec 2011
- European task force peer reviews national reports by Apr 2012

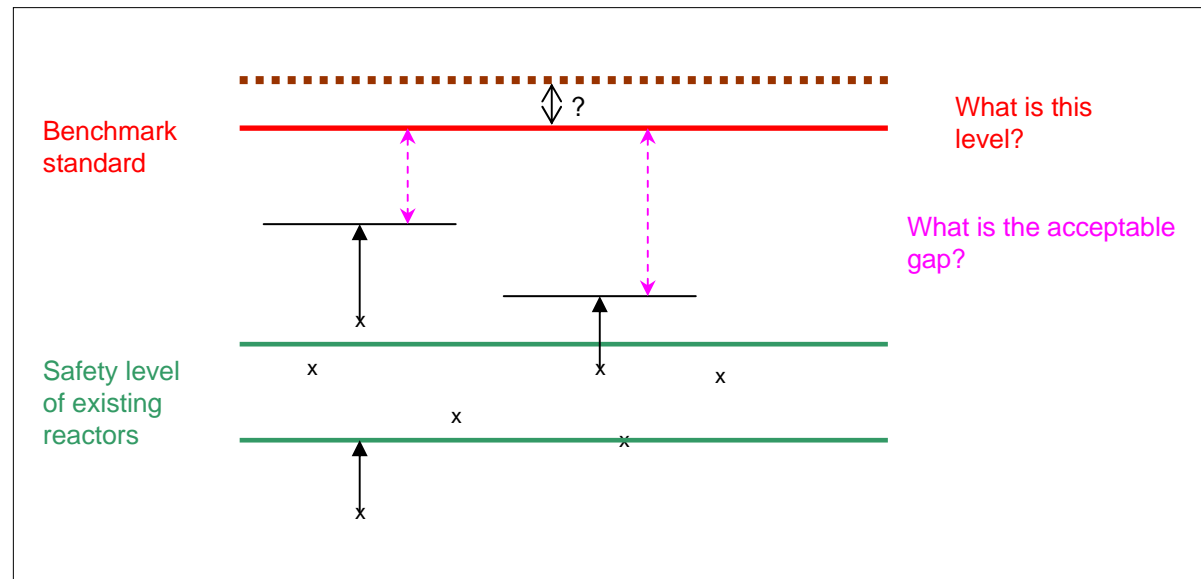
- Wider application in UK to all non NPP facilities

Office for Nuclear Regulation

An agency of HSE

Judgements

- Tolerability of Risk
- Reduction of risk so far as is reasonable practicable



Office for Nuclear Regulation

An agency of HSE

In addition

- Cliff edge
 - a small change in a parameter that leads to a disproportionate increase in consequences
- Ageing
 - Comparison with modern standards every 10 years (Periodic Safety Review)

In addition

- Emergency measures
 - Demonstrated regularly through level 1, 2 and 3 exercises
- Fuel damage evaluation
 - Sizewell B PWR - MAAP code
 - AGRs - beyond design basis studies



In addition

Lessons Learned from Review

- *Foster a good team spirit*
- *Use an appropriate level of Programme Management*
- *Work to a plan*
- *Produce high quality reports*
- *Plan for stakeholder and media engagement*



Thank you

Office for Nuclear Regulation

An agency of HSE