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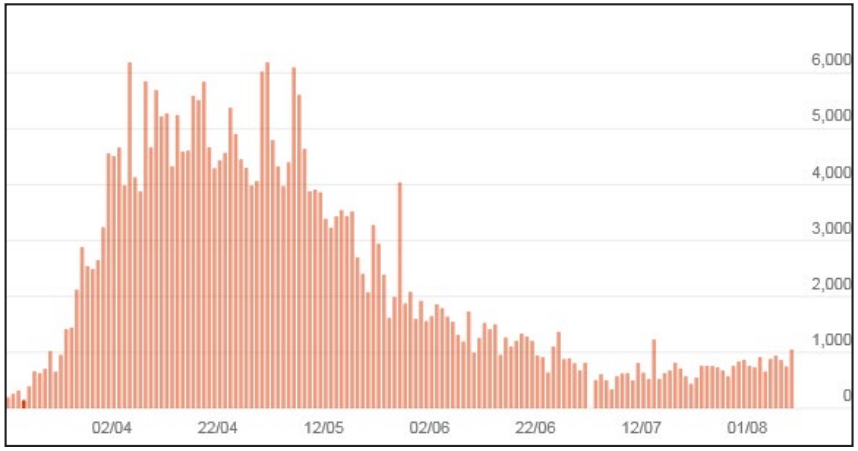
Nuclear and Radiation Safety and Security Challenges due to the Covid-19 Outbreak

UK Experience

Mark Foy – Chief Nuclear Inspector

Office for Nuclear Regulation

UK National Situation (August)



- COVID-19 – 330,000 confirmed cases and 41,500 deaths
- R number in the UK 0.9 to 1.1
- Gradual relaxing of restrictions - Schools returning; public gatherings of up to 6 allowed; non essential retail shops, restaurants, hotels, places of worship open.
- Social distancing still in place, face coverings compulsory in shops and public transport
- Local hot spots, local lockdowns

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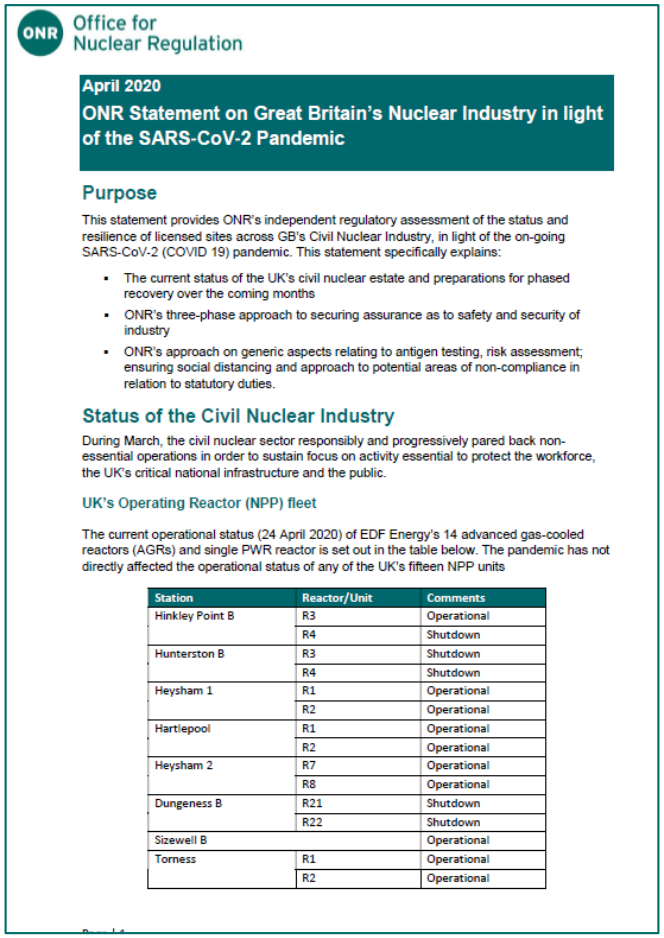
Industry nuclear safety & security status

March – June

- All **ONR staff work at home, predominantly remote regulation** – on-site by exception
- **Industry responsibly pared back non essential** activities in early stages of pandemic
- **No impact on operation of UKs NPP units**, a small load reduction due to reduced electricity demand
- **Sellafield placed in largely quiescent state,** facilities require ongoing manning and utilities to sustain nuclear safety
- **Nuclear Safety and Security** maintained
- **Emergency scheme capability** assured across the sector
- **4 direct COVID-related fatalities** in the sector
- **Peak absence of 18-20% across the sector** relating to suspected COVID 19 illness and isolation due to household illness
- **UK Statement issued internationally** late April to IAEA, NEA, WENRA etc.



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April 2020

ONR Statement on Great Britain's Nuclear Industry in light of the SARS-CoV-2 Pandemic

Purpose

This statement provides ONR's independent regulatory assessment of the status and resilience of licensed sites across GB's Civil Nuclear Industry, in light of the on-going SARS-CoV-2 (COVID 19) pandemic. This statement specifically explains:

- The current status of the UK's civil nuclear estate and preparations for phased recovery over the coming months
- ONR's three-phase approach to securing assurance as to safety and security of industry
- ONR's approach on generic aspects relating to antigen testing, risk assessment; ensuring social distancing and approach to potential areas of non-compliance in relation to statutory duties.

Status of the Civil Nuclear Industry

During March, the civil nuclear sector responsibly and progressively pared back non-essential operations in order to sustain focus on activity essential to protect the workforce, the UK's critical national infrastructure and the public.

UK's Operating Reactor (NPP) fleet

The current operational status (24 April 2020) of EDF Energy's 14 advanced gas-cooled reactors (AGRs) and single PWR reactor is set out in the table below. The pandemic has not directly affected the operational status of any of the UK's fifteen NPP units

Station	Reactor/Unit	Comments
Hinkley Point B	R3	Operational
	R4	Shutdown
Hunterston B	R3	Shutdown
	R4	Shutdown
Heysham 1	R1	Operational
	R2	Operational
Hartlepool	R1	Operational
	R2	Operational
Heysham 2	R7	Operational
	R8	Operational
Dungeness B	R21	Shutdown
	R22	Shutdown
Sizewell B		Operational
Torness	R1	Operational
	R2	Operational

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Regulatory oversight during pandemic

Stage 1: Response
March – June 2020

- **Predominantly remote regulation** – on-site presence by exception (essential intervention only)
- **Re-baseline** regulatory activity
- **Support** safe reduction of dutyholder operations

Stage 2: Recovery
July – October 2020

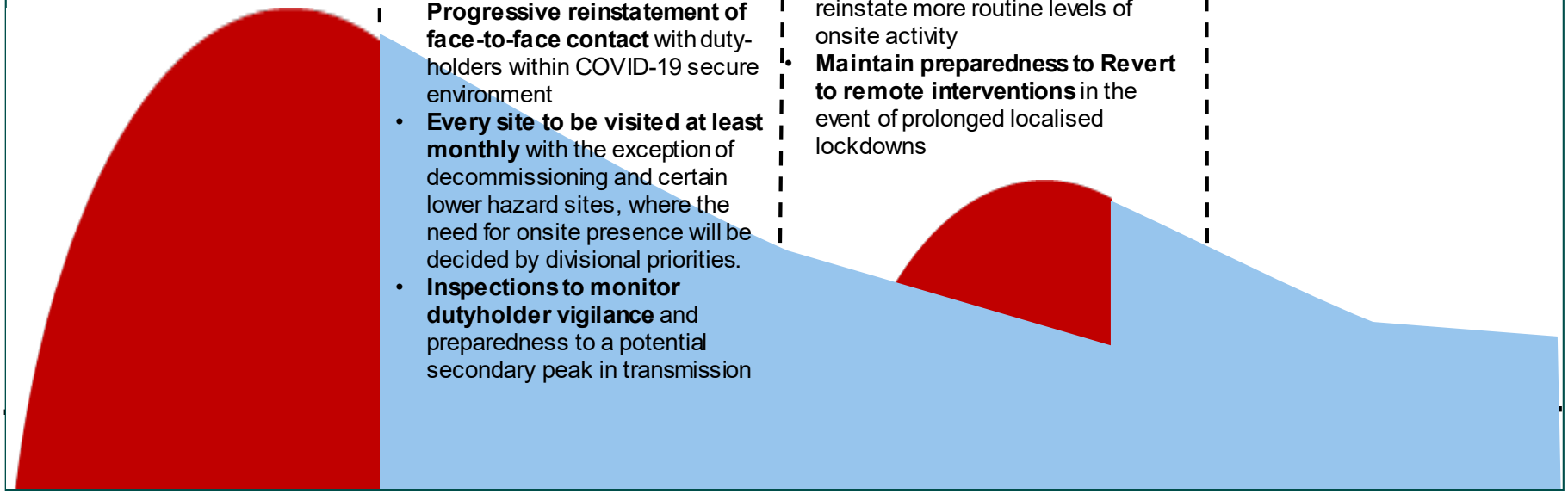
- **Ramp-up regulatory footprint** where safe to do so whilst transmission rates are low,
- **Balanced portfolio of remote and on-site inspections** to ensure compliance, enable permissioning decisions and drive improvements.
  Progressive reinstatement of face-to-face contact with duty-holders within COVID-19 secure environment
- **Every site to be visited at least monthly** with the exception of decommissioning and certain lower hazard sites, where the need for onsite presence will be decided by divisional priorities.
- **Inspections to monitor dutyholder vigilance** and preparedness to a potential secondary peak in transmission

Stage 3: Vigilance & Agility
November to March 2021

- **Maintain Balanced portfolio** of onsite activity where safe to do so and where sites are not restricted by localised lockdown
- **Further increase frequency and extent of onsite regulatory footprint** across all licensed sites and other dutyholders as we begin to reinstate more routine levels of onsite activity
- **Maintain preparedness to Revert to remote interventions** in the event of prolonged localised lockdowns

Stage 4: Learn

- **Review our regulatory framework for pandemic resilience**
- Sustained focus on **industry's preparedness for more severe pandemics**



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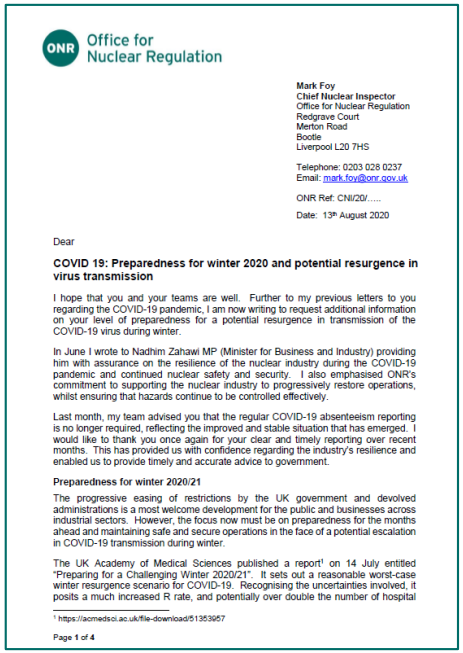
Preparation for secondary peak in winter

July - October

- **Further increase** frequency and extent of onsite regulation
- **Preparedness for secondary peak**
  - ✓ I have requested that UK industry should demonstrate resilience to secondary peak in transmission, coincident with winter flu season
  - ✓ Emergency scheme resilience; supply chain; security capability
  - ✓ Resilience to local and regional lockdowns
- **No plans to withdraw regulatory footprint** in the event of further national lockdown – remote interventions are not a sustainable means of ensuring continued public confidence



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ONR Ref: CNI/20/....

Date: 13th August 2020

Dear

COVID 19: Preparedness for winter 2020 and potential resurgence in virus transmission

I hope that you and your teams are well. Further to my previous letters to you regarding the COVID-19 pandemic, I am now writing to request additional information on your level of preparedness for a potential resurgence in transmission of the COVID-19 virus during winter.

In June I wrote to Nadhim Zahawi MP (Minister for Business and Industry) providing him with assurance on the resilience of the nuclear industry during the COVID-19 pandemic and continued nuclear safety and security. I also emphasised ONR's commitment to supporting the nuclear industry to progressively restore operations, whilst ensuring that hazards continue to be controlled effectively.

Last month, my team advised you that the regular COVID-19 absenteeism reporting is no longer required, reflecting the improved and stable situation that has emerged. I would like to thank you once again for your clear and timely reporting over recent months. This has provided us with confidence regarding the industry's resilience and enabled us to provide timely and accurate advice to government.

Preparedness for winter 2020/21

The progressive easing of restrictions by the UK government and devolved administrations is a most welcome development for the public and businesses across industrial sectors. However, the focus now must be on preparedness for the months ahead and maintaining safe and secure operations in the face of a potential escalation in COVID-19 transmission during winter.

The UK Academy of Medical Sciences published a report[1] on 14 July entitled "Preparing for a Challenging Winter 2020/21". It sets out a reasonable worst-case winter resurgence scenario for COVID-19. Recognising the uncertainties involved, it posits a much increased R rate, and potentially over double the number of hospital

[1] https://acmedsci.ac.uk/file-download/51353957

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ONR restoration of on-site activities

Gradual increase in on-site presence - establishing 'new normal' levels by April 2021

- Obtain adequate assurance on key areas of compliance – intelligence based and risk informed;
- To inform the delivery of assessment/permissioning activities;
- To conduct investigations where the work cannot be done remotely;
- To enable understanding of plant where this is not possible remotely;
- Access classified information that cannot be done remotely
- Enable staff handovers and site familiarisation;
- To respond to whistle blowing challenges;
- Gain independent assurance of supply chain activities;
- Engender stakeholder confidence in our regulation

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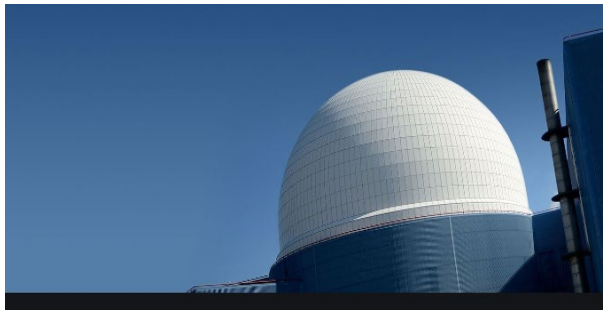
Learning lessons - 2021

Industry Resilience to more severe pandemics

- **UK industry broadly resilient** to COVID 19 pandemic
- **Not directly a nuclear safety or security challenge** but safety & security may be challenged by reduced organisational resilience to more severe pandemics:
  - ❖ Large scale social disruption and unrest
  - ❖ Potential cliff-edge effects
  - ❖ What types of facilities and capabilities potentially more vulnerable to loss of personnel – legacy facilities; heat generating; security guardforce?
  - ❖ Should there be a 'design basis' for pandemic planning?
  - ❖ How robust are our regulatory frameworks and inspection regimes for pandemic preparedness?



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Summary

- Focus must be on continued safety & security of nuclear industry
- ONR satisfied in ability of industry to safely and securely discharge its undertakings during the current pandemic.
- Lessons internationally – Need to learn and share COVID-19 experience
  - Remote inspections – how to do efficiently, where are they applicable, benefits?
  - Staff training, testing and development – Within regulator and licensee
  - Evolution of regulator/licensee relationship – Greater trust?
  - Maintaining public confidence
- Preparedness for more onerous national and international pandemic scenario - COVID-19 was a shot across the bow, coincident event?