

Moving on from the productivity challenge to disruptive technologies

The fourth conference of the #CENuclear theme group

2nd May 2019

Philip Isgar – Chair Nuclear Institute Digital Community SiG



John Robison – Head of Digital Engineering Capability at Sellafield Ltd.



*Presentation on Realising Productivity –
Changing the Mind-set Factory Thinking through Digitalisation Volume 3*



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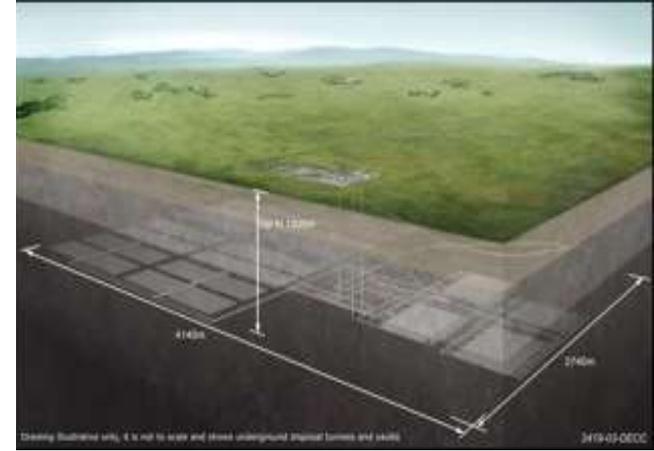
Nuclear Sector Deal

Key commitments

Department for
Business, Energy
& Industrial Strategy

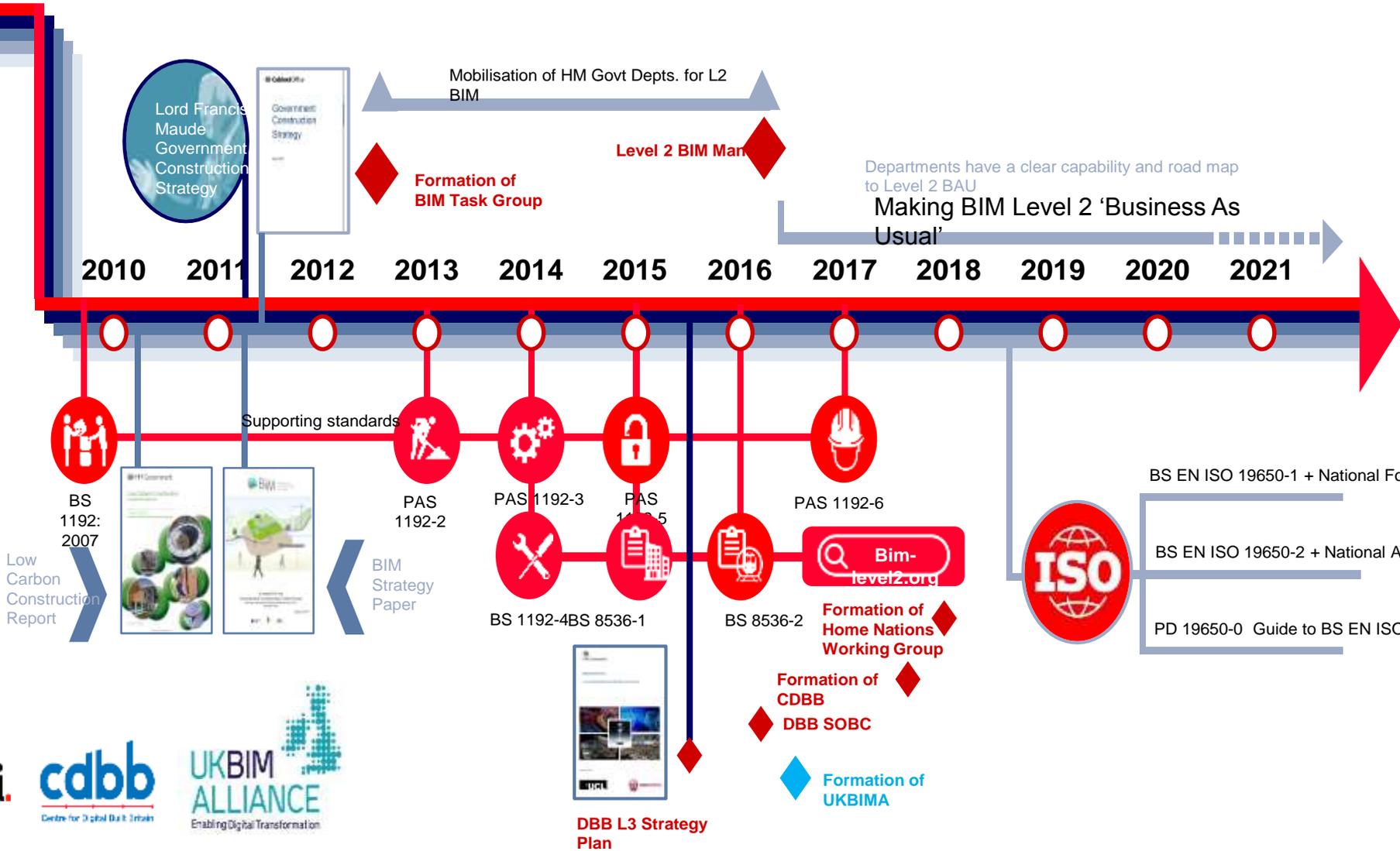
Decommissioning and legacy clean-up

- Over 75 years of legacy to clean up as well as wider decommissioning
- Sellafield one of the most complex sites in Europe
- Several £billion annual Nuclear Decommissioning Authority (NDA) budget
- 100+ year programme
- Effective management is key enabler for new build



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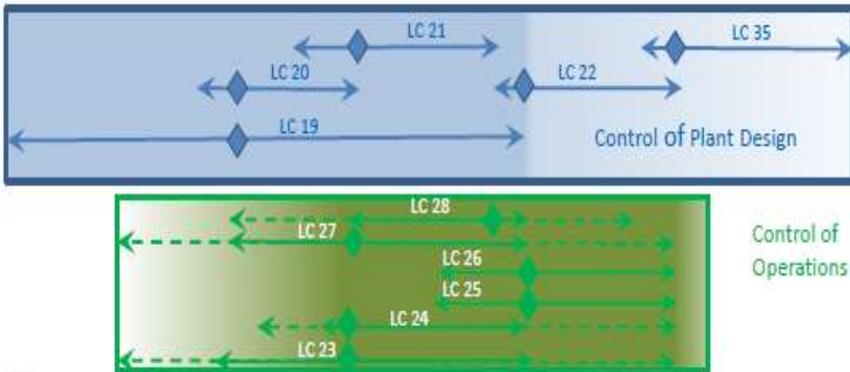
Timeline



***A Response from
Adrian Worker Chair of Nuclear Focus Group
on Volume 3 - Digitalisation***

- I am pleased to see the release of our 3rd Volume - Digitalisation in the productivity series and describes what digitalisation is and how it can be implemented. This builds further on arguments and ideas set out in Volume 1 - Factory Thinking. There is no doubt that digitalisation is becoming increasingly embraced, for good reasons, by the construction and many other industries. Therefore it should be by the Nuclear Industry also and a key consideration in our construction delivery models. Applied appropriately and sensibly. It is clear that it can support significant improvements in productivity and in addition has many other benefits to be gained across the full project life-cycle. For me, and I'm sure I speak for others to, this volume helps me understand what it is, its language, how and what it can benefit and moreover, how can it can be deployed in new build and later life-cycle projects. As said in previous volumes, there is no silver bullet but, digitalisation would be a key contributor in the armory of driving improved productivity.
- What is exciting about this Volume is that it the collaborative work of not only Constructing Excellence but the Nuclear Institute and Sellafield. This shows the work we have been doing is now increasingly being recognised and starting to change mind sets at all levels within our industry. Recent initiatives and targets set out in the Industrial Strategy and Nuclear deal demand change targeted at cost reduction targets for both the new build and decommissioning projects and this is critical if we are to have a nuclear industry at all. So, if you're not on board yet, get on board now. Get involved and make a difference.

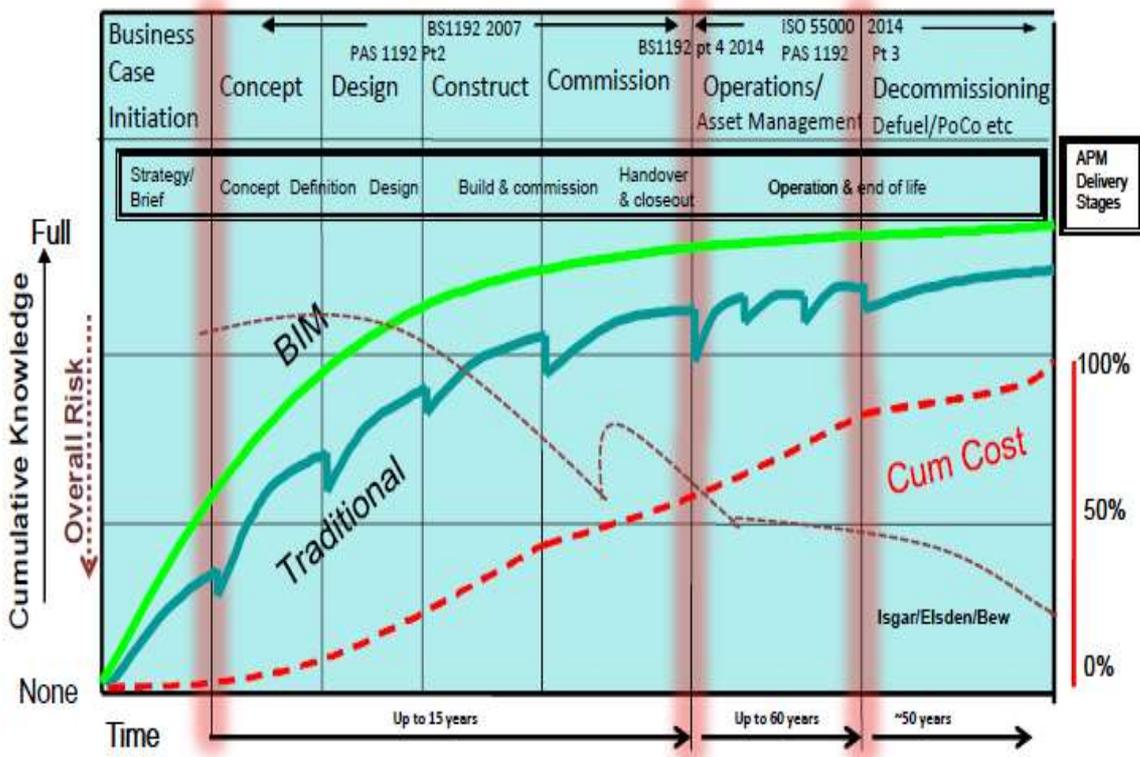
The Digital Community (Engineering–Manufacture–Construction–Operations) Enterprise Life-cycle management and, . . . the Site Licensing Conditions (as stipulated by the ONR).



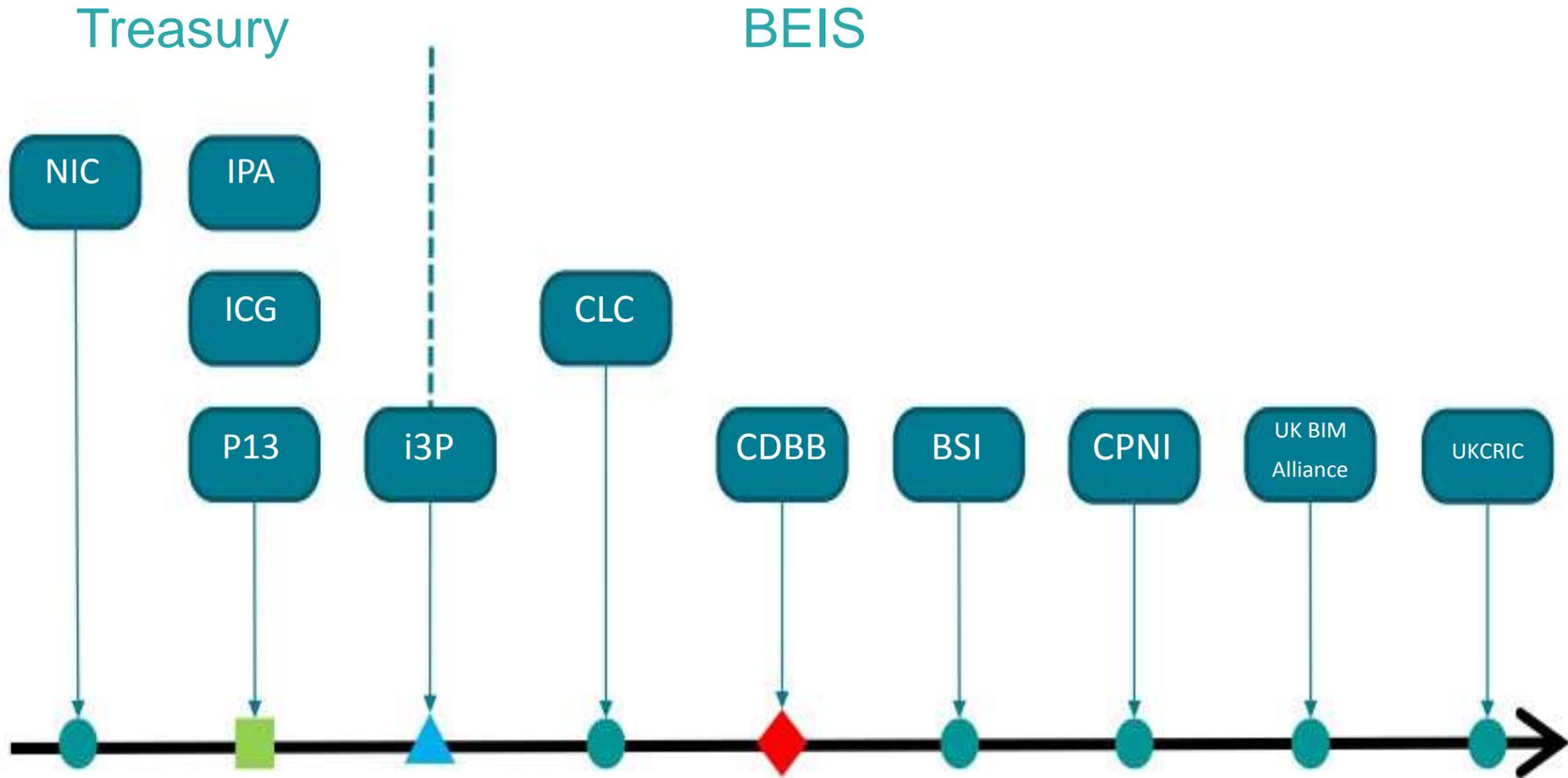
Of the 36 licensing conditions, the below are relevant to the Enterprise Lifecycle Management diagram depicted to the left.

Site Licensing Conditions:

19. Construction or installation of new plant
20. Modification to design of plant under construction
21. Commissioning
22. Modification or experiment on existing plant
23. Operating rules
24. Operating instructions
25. Operational records
26. Control and supervision of operations
27. Safety mechanisms, devices and circuits
28. Examination, inspection, maintenance and testing
35. Decommissioning



Digital transformation landscape



How Proud are we of this heritage?

