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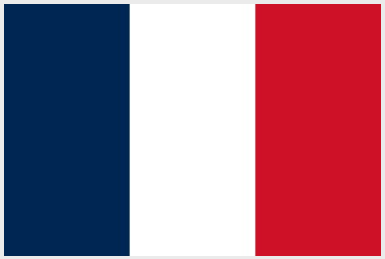
NUCLEAR REGULATORY APPROACH

FRANCE VS UK



VS

Mott MacDonald: Leading nuclear technical capability

- Approximately 20,000 staff and employee owned.
- Mott MacDonald's nuclear business evolution
- HQ in UK. Established offices across world including in France.
- Selected projects:

1963-1964
Engineering and project management for Hunterston A Station, Scotland.

1980s-2000s
design house for Sellafield, UK,

2010
Selected as sole designer for FOAK Bradwell A reactor weather envelope, UK.

2011 onward
Hinkley Point C and subsequently Sizewell C, UK.

2012 - 2022
ENEC providing resources or the Barakah Nuclear Power Station, UAE.

2013 - 2017
Supported Hitachi GE for their Generic Design Assessment of ABWR for Wylfa, UK.

2014 onward
Awarded role on Design Service Alliance partner with Sellafield Ltd, UK as part of AXIOM.

2014 onward
Selected as Technical Support Consultant for UK Office for Nuclear Regulation.

2016
Asset management advisory for Nuclear Decommissioning Authority, UK.

2017-2021
Selected for Generic Design Assessment and Site Development for HPR-1000 for Bradwell B, UK.

2020 onward
Appointed as multi-disciplinary designer from concept to detail for FOAK medical reactor at Mol, Belgium.

2023
Appointed as Key Supplier for Holtec FOAK SMR-300 deployment in the UK.

One of top engineering consultancies in the nuclear sector in Europe.

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High level comparisons- Lots of similarity in Structure!

Topic	UK	France
Key Legislation	Health and Safety at Work etc. Act 1974, Energy Act 2004 (amended by Energy Act 2013), Nuclear Installations Act 1965 (NIA)	Environment Code, Public Health Code, Public Health Labour Code
Nuclear Regulator	ONR	ASNR (INB Order 2012 etc.)
Environmental Regulation	Environment Agency *(England)* / SEPA *(Scotland)*/ NRW *(Wales)*	Largely integrated via national framework and ASNR oversight
Radiation Protection	Ionising Radiations Regulations 2017 REPPIR 2019	ASNR radiation protection framework
New Build	Generic Design Assessment (GDA) (To de-risk. GDA process not mandatory- could apply directly for site license, env. Permits and planning consent)	National authorisation process
Operating Basis and Periodic Review of Safety (PRS)	Goal-setting / ALARP- SFAIRP safety case approach. License Condition 35- *PRS.*	More centralized and prescriptive compliance approach. Formal fleet-wide periodic safety reviews every decade

France

- Follows a prescriptive and regulation-driven model, with the INB and Arrêté INB setting detailed and standardized expectations.
- EDF requirements are highly consistent across the sector, with a strong emphasis on documentation and demonstrable compliance.

United Kingdom:

- Utilises a principles-based model guided by ONR Safety Assessment Principles (SAPs).
- The UK approach emphasizes safety justification and demonstration, allows greater flexibility in methods, but demands high-quality evidence. Site specific guidance vary depending on the licensee (e.g., Sellafield, NNB GenCo, NRS).

UK

licence-condition based

operator-led safety case.

goal-setting regulation

multiple regulators

Nuclear Regulatory Taskforce
(paraphrased…)

- Safe but too fragmented
- Slow, cautious and process heavy

The five primary regulatory problems are as follows:

1. **Fragmented Oversight**: A single project faces multiple regulators, sometimes as many as 8 in defence, with no single designated lead. This results in misalignment, inconsistency, and delay.

2. **Disproportionate Decisions**: Regulators frequently make overly conservative and costly decisions that are not proportionate to the actual risk being managed.

3. **Flawed Legislation**: Underlying laws and regulations prioritize process over outcomes, leading to time-consuming delays and suboptimal decisions.

4. **Government Indecision**: Government departments are often slow and indecisive in their roles as policymakers and regulators, failing to provide clear direction.

5. **Weak Industry Incentives**: The near-monopolistic status of much of the industry provides weak financial incentives to reduce costs or challenge disproportionate regulatory decisions.

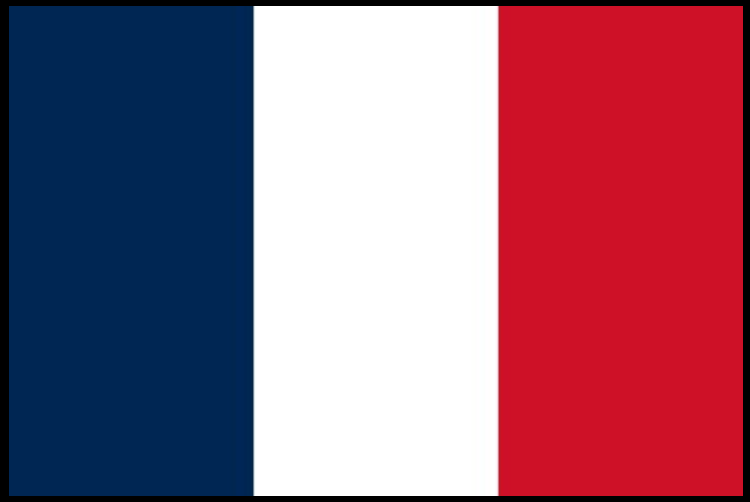
These issues have cultivated a deeply ingrained **culture of complacency and extreme risk aversion** across the sector. This 'status quo mindset' perpetuates the cycle of inefficiency and is a fundamental barrier to progress and delivery. Addressing this systemic failure requires a series of radical, root-cause solutions that fundamentally reshape the regulatory landscape.

Conclusion: A path to renewed UK nuclear leadership

The overarching vision of this report is to create a regulatory environment that enables the UK to capitalise fully on the strategic benefits of nuclear technology for the nation. Implementing these recommendations will transform the sector, enabling the safe, timely, and cost-effective delivery of the nuclear programmes essential to our future.

These reforms are designed to be radical but measured, addressing the root causes of systemic failure. By simplifying structures, restoring proportionality, and modernising processes, the UK can overcome its current challenges. This will allow the nation to reclaim its position as a global leader and capitalise on the worldwide nuclear renaissance, ensuring a secure and prosperous future.

France



centralised regulation

stronger state coordination

single nuclear authority (ASNR)

More prescriptive? Yes, but nuanced. See next slide

more standardised fleet-wide requirements.

French Specific Codes


ALARP, CAE
I'm judging whether you've played a safe and fair game, regardless of your tactics.
RECOGNISED PLAYBOOK
PROVEN PRACTICE
DEPARTURE JUSTIFICATION REQUIRED
I'm judging whether you've played a safe and fair game, and I expect you to use the recognised playbook unless you can clearly demonstrate that a different strategy is equally safe and effective.

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THANK YOU!
MERCI !

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