INTEGRATION OF FACILITY AND PLANT SAFETY CASES

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Managing Safety Across Boundaries
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History

- HMS Dreadnought 1963
- DS/MP1 1965
- HMS Valiant 1966 + HMNB Faslane 1967
- HMS Resolution 1968
- HMS Swiftsure 1973
- HMNB Devonport 1980
- HMS Trafalgar 1982
- Shore Test Facility 1987
- HMS Vanguard + HMNB Faslane/Coulport 1993
- HMS Astute

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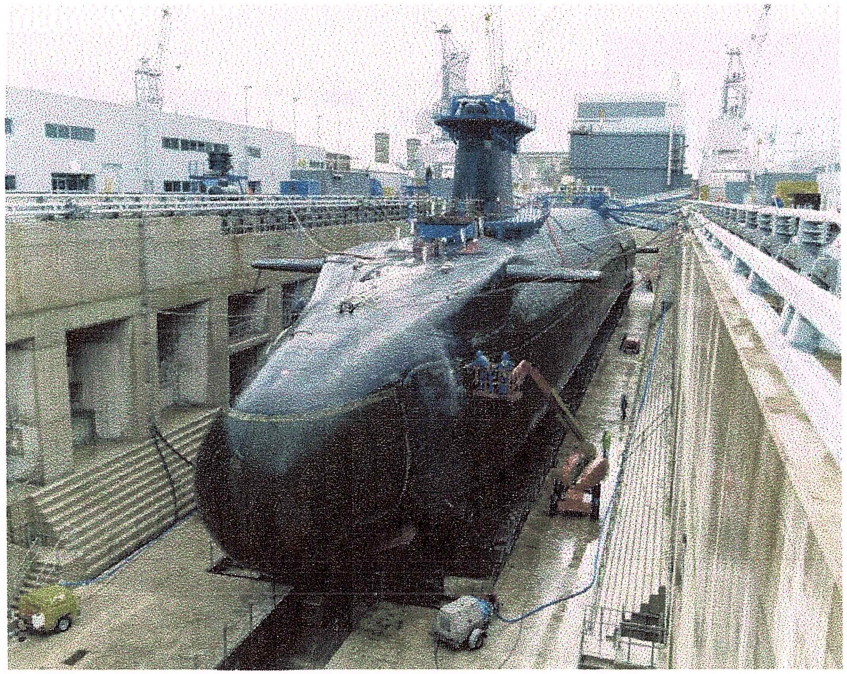
SUBMARINE - AFLOAT & DOCKED

S & T CLASS



VANGUARD CLASS

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History - PSA

- 1960s - Simple unstructured methods
- 1975 - WASH 1400
- 1970s - Development of probabilistic methods
- 1980s - STF first reactor PSA
- 1980s - Refuelling PSA
- 1991 - Vanguard PSA
- 1999 - Refuelling update
- 2002 - STF RUR
- 2002 - HMS Vanguard LOP(R)
- ongoing - HMS Vanguard new core

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Plant and Facility Safety Cases

- Plant safety case had been developed independently of facility safety cases
- Facilities designed against defined requirements
- Regulator pressure to integrate plant and facility to show balance and dependencies

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Facility Safety Cases e.g. Devonport

- Prior to 1987 regulation of Her Majesty's Dockyards was carried out internally by the MoD as exempt from Nuclear Installations Act 1965
- In 1987, dockyards handed over to management companies, e.g. DML at Devonport, so no longer exempt from NIA - refuelling activities licensed by NII
- In 1997, at Devonport, DRDL bought the dockyard assets and all activities involving nuclear plant became licensed by NII

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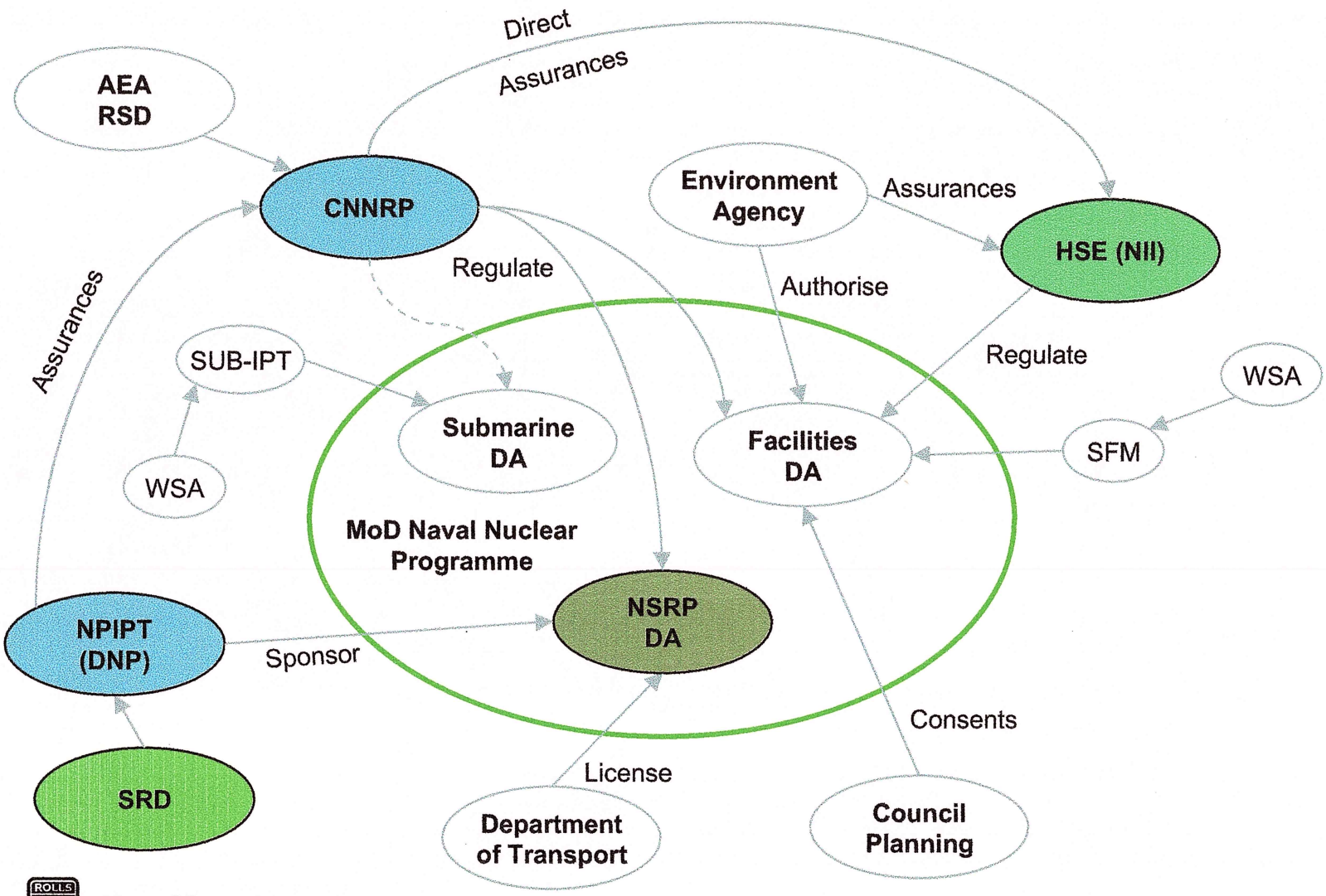
Facility Safety Cases e.g. Devonport

- DRDL is authorised by MoD regulator, CNNRP, to operate authorised site to MoD safety principles and criteria
- DRDL is also licensed by civil regulator, HSE NII, to operate licensed site to HSE safety assessment principles and other regulations, e.g. IRR 1999
- DRDL have also to meet their own nuclear safety principles
- This makes relationships between operators, owners and regulators complex

Naval Nuclear Programme Stakeholders



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WHICH CRANE ?

FASLANE

BARROW

DEVONPORT

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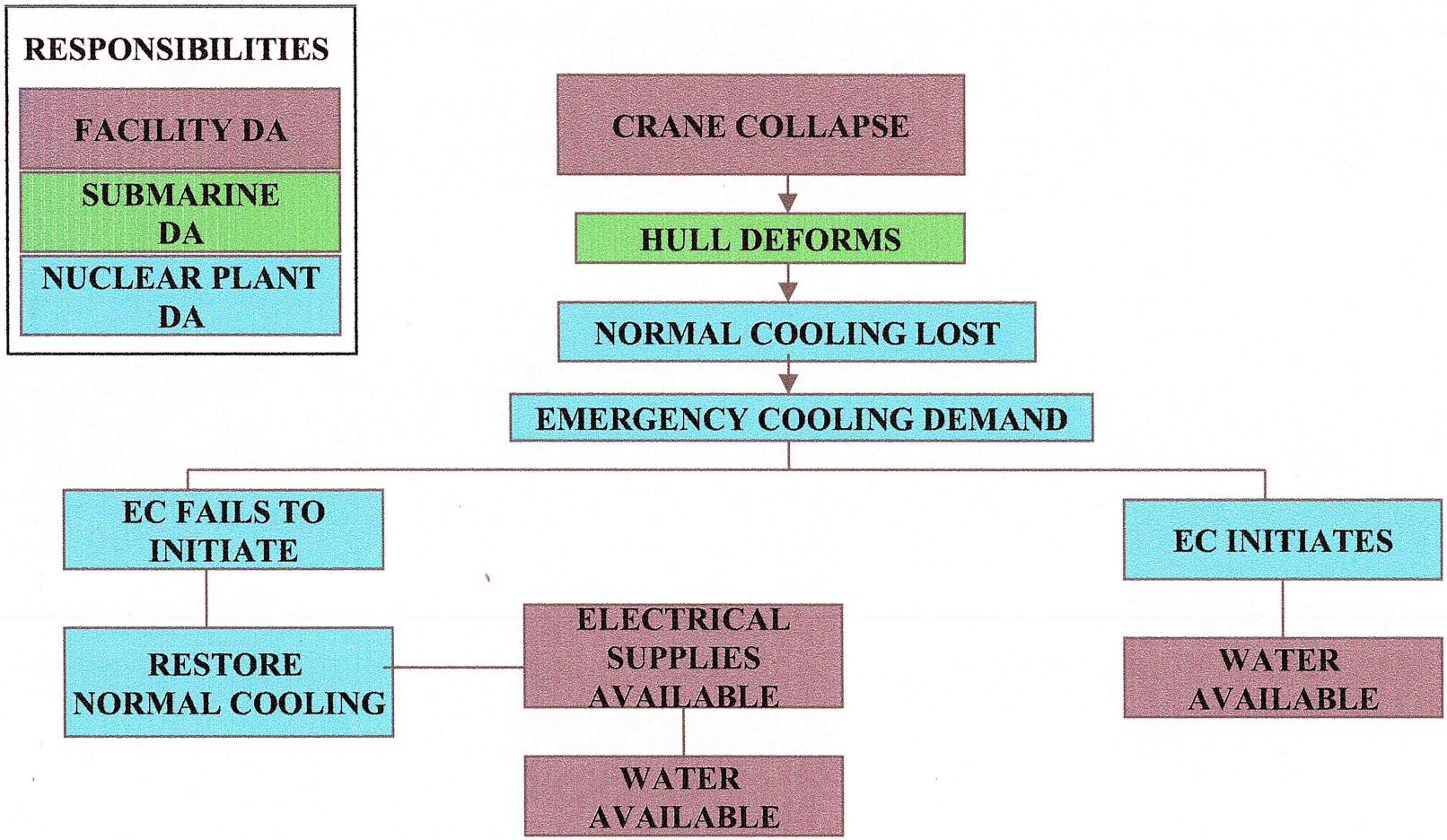
INTERFACE - PLANT & FACILITY SAFETY CASES



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PLANT/FACILITY SAFETY CASE INTERFACE REQUIREMENTS

- Considers Risk Drivers at Facility Level

- Clearly identifies contributions of risks
  - Submarine (inherent risks)
  - Facility (Activities)
  - Shared (Support System Failures)

- Reflects the Facility
  - Scope
  - Hazards

- Reflects agreement on provision of safeguards

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PLANT/FACILITY SAFETY CASE INTERFACE REQUIREMENTS continued

- Contained in referenceable documents
- Provides consistent strategy all sites
- Minimises work
- Provides mechanism for responding to safety significant change

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CONCLUSION

- **Multi-Sites**
  - **Common Approach**
  - **Supplemented by Facility Specific Requirements**
- **Submarine Role**
  - **Submarine Withstand/Safeguards better defined**
- **Transfer of Ownership**
  - **Operating limits/conditions in clear referenceable support documents**
- **Dual Regulation**
  - **Clear justification to 'Modern Standards'**

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