

BWRX-300 – Fermi's first safety review

Pilot project by Fermi Energia
in cooperation with Vattenfall
with design from GE Hitachi



Timo Okkonen, Fermi conference, 7-8 Feb 2022



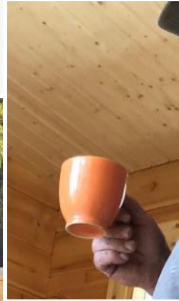
KIND SHARK

Coffee for the Carpenter

Normal



Prevention



Protection



Backup

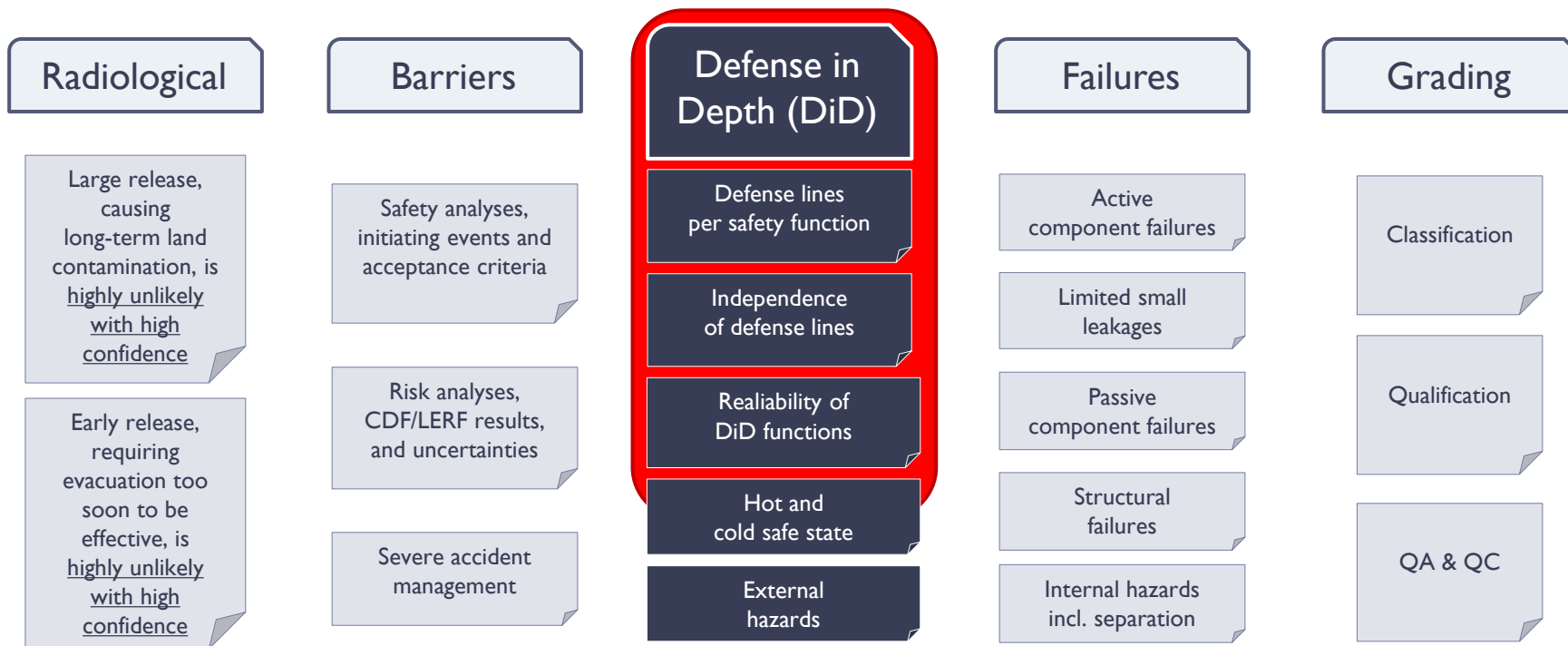


Mitigation





Our first-order evaluation criteria





Our first-order functional DiD matrix

Key functional perspectives

Reactivity
and shutdown

Overpressure
protection

Cooling and
heat removal

Critical break
isolation

Radioactivity
confinement

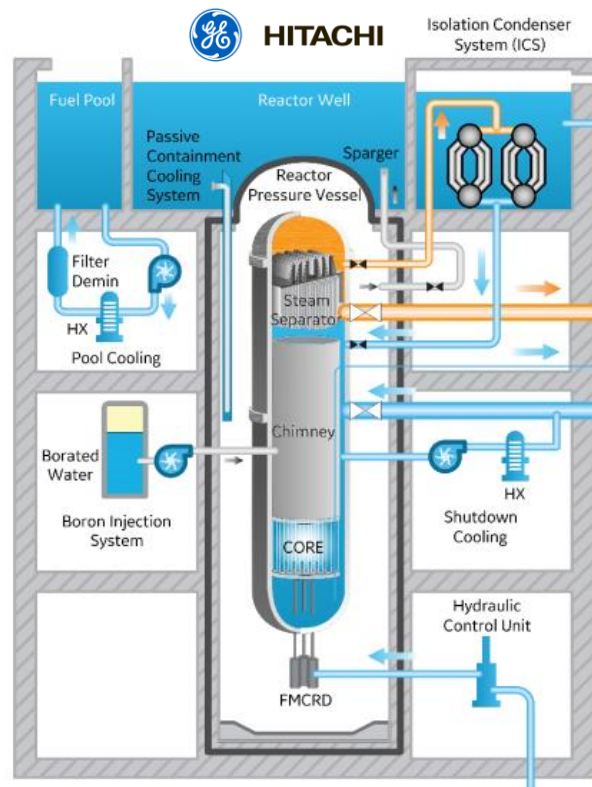
| Normal | Prevention | Protection | Backup | Mitigation |
|---------|--------------|------------|-------------|--|
| Rods | Anticipatory | Scram | Motor | Boron |
| BoP | | Passive | Passive* | Mitigative design features for severe accidents |
| BoP | | | | |
| Quality | Inspection | Automatic | | |
| Fuel | Monitoring | Reactor | Containment | |

PRELIMINARY PRINCIPAL VIEW –
EVALUATION WORK IS IN PROGRESS!



BWRX-300 features in our first focus

- ▶ Isolation of bigger line breaks
- ▶ Management of small LOCA's
- ▶ Passive isolation condenser
- ▶ Passive containment cooling
- ▶ Severe accident management
- ▶ Autonomy and coping times



Looking forward!