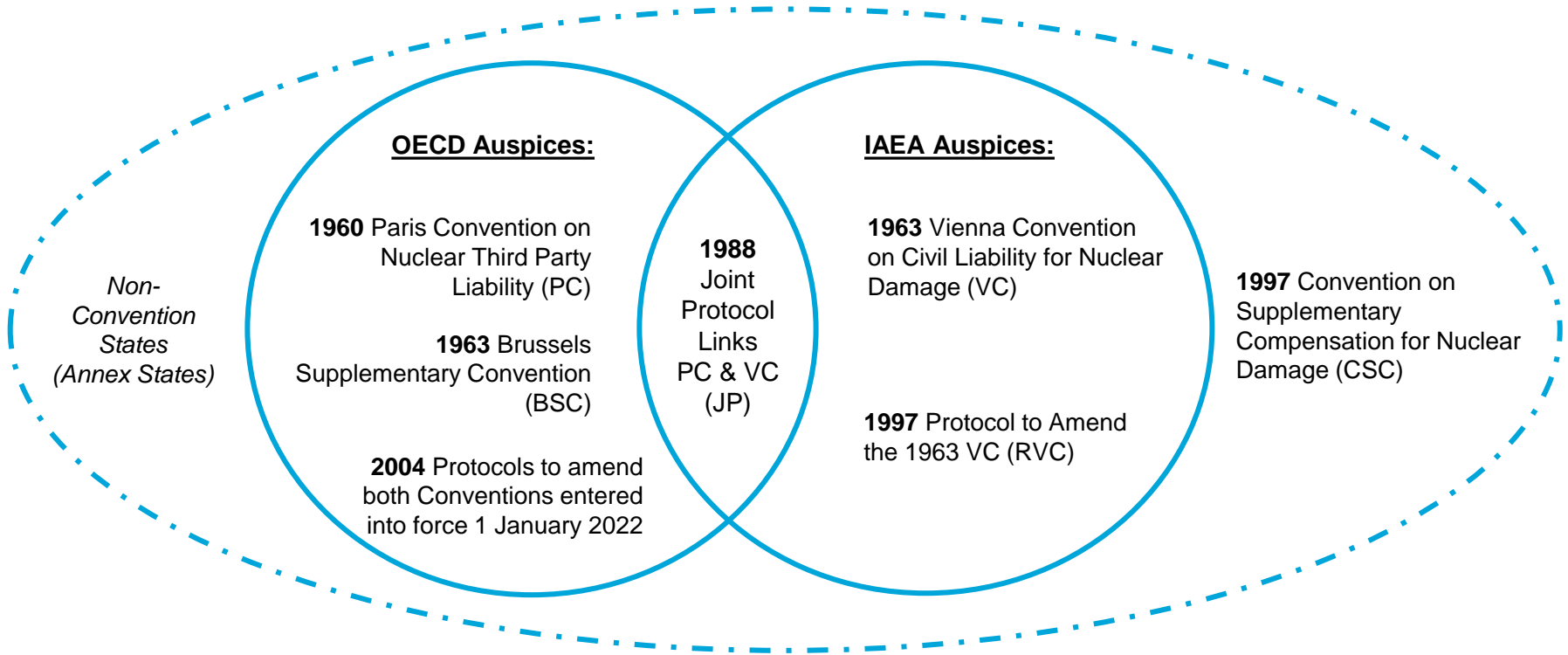


SMRs and Nuclear Liability

Ximena Vásquez-Maignan

15 September 2023

International Conventions



Nuclear liability basic principles

- **Operator's strict liability:** victims do not need to prove fault or negligence; but will have to prove the **causal link**
- **Operator's exclusive liability:**
 - all liability is **channeled** to the operator; no one else is liable (e.g. suppliers of services/goods)
 - no other law than nuclear liability law applies (e.g. tort law)
- **Operator's liability in amount:** usually limited to a specified amount, but few countries provide for unlimited liability (e.g. Germany, Japan, Switzerland)
- **Financial Security:** to ensure availability of funds; private insurance primarily but other means may be authorised by national law
- **Liability limited in time:**
 - 10 years from the accident (extended to 30 years for bodily injury)

Operator =
licensee or other
government
recognised
entity

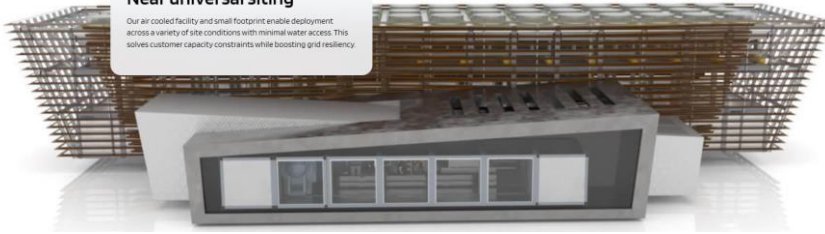
A wide range of designs

0.5 acre

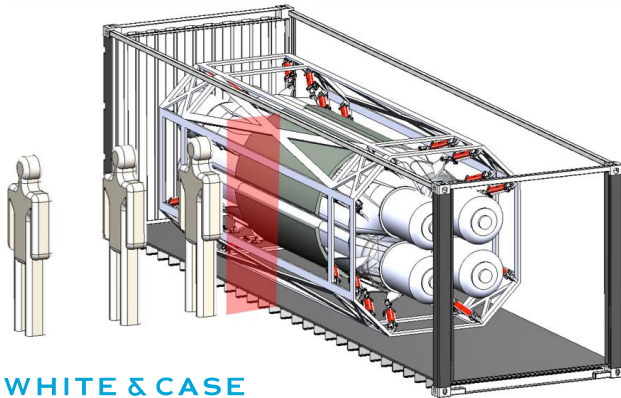
PLANT FOOTPRINT FITS WITHIN A FOOTBALL FIELD

Near universal siting

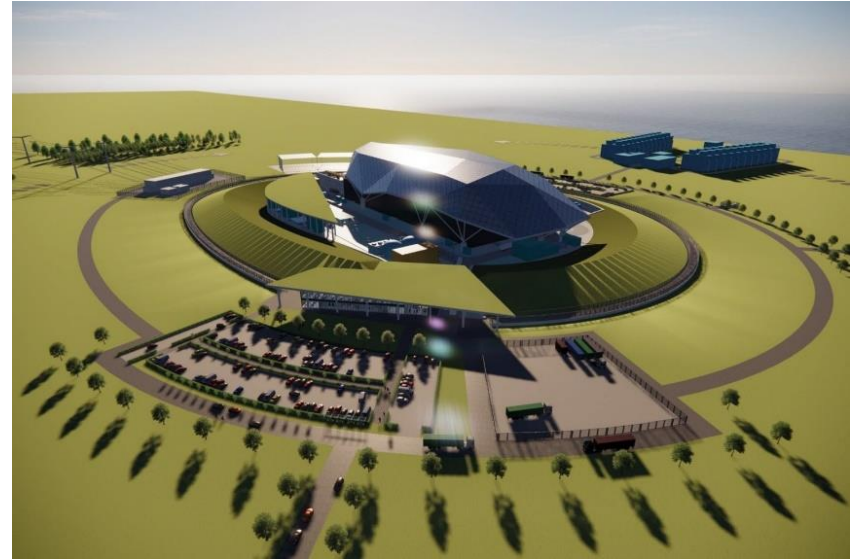
Our air cooled facility and small footprint enable deployment across a variety of site conditions with minimal water access. This solves customer capacity constraints while boosting grid resiliency.



Last Energy OPEN20
22 Mwe PWR



HolosGen HOLOS-QUAD
10 Mwe HTGR



Rolls-Royce
470 Mwe PWR
About 12 acres

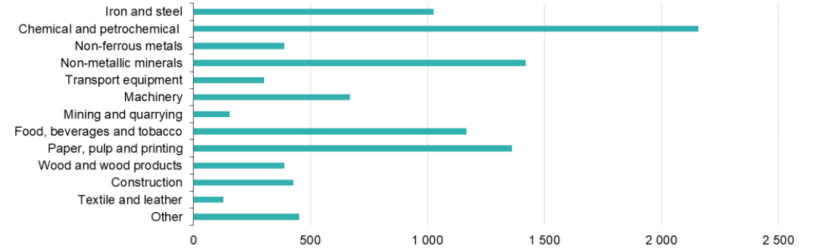
A wide range of use

Providing electricity to grids



Off-grid applications:
powering remote communities and
industrial sites

Total final energy consumption by industrial sector, EU, 2021 (PJ)



Source: Eurostat (nrg_bal_s)

eurostat

Figure 3: Total final energy consumption by industrial sector, EU, 2021 (PJ)

Source: Eurostat (nrg_bal_s)

Nuclear liability: ticking the boxes

- “Nuclear installation”
- “Nuclear incident”
- “Nuclear damage”
- A nuclear installation may be excluded if the small extent of the risks involved so warrants from the application of most Convention: requires the unanimous agreement of all the Parties to the Convention
- Obligation of the operator to have nuclear liability insurance or alternative financial security for off-site damage: need to define the “site”

Nuclear liability: determining the liable “operator”

- “Operator”: will depend on the project structure
- Authorities may determine that two or more nuclear installations of one operator located on the same site shall be treated as a single nuclear installation
- If nuclear damage gives rise to liability of more than one operator, they shall bear joint and several nuclear liability amount established for one nuclear incident
- If damage is caused jointly by a nuclear incident and by another type of incident, and it is not possible to reasonably separate the damage caused by each, all damage shall be considered to be nuclear damage caused by the nuclear incident
- Operator has a right of recourse against suppliers “if and to the extent that it is so provided expressly by contract”

Nuclear liability & insurance

- Having regard to the nature of the nuclear substances involved and to the likely consequences of a nuclear incident originating therefrom, a State may establish a lower nuclear liability amount, provided that in no event shall any amount be less than

	PC	VC	RVC	CSC
Minimum amount	€ 700 million	US\$ 5 million, based on US\$ gold value on 29 April 1963	SDR 300 million	SDR 300 million
Low risk installations	€ 70 million	/	5 million SDRs	5 million SDRs

- A safety assessment will need to be made
- If compensation amounts exceed the lower nuclear liability amount established by the State, the later will have to provide public funds up to the “normal” amount of nuclear liability
- Interest and costs awarded by a court are in addition to the amounts for which the operator is liable for nuclear damage

Structuring the project

- **Nuclear liability** and **nuclear safety/regulatory** issues impact the corporate and financial aspects of the project

100 (large) reactors in operation in the EU (source: [IAEA PRIS](#))

- 82 are owned and operated by the same entity
- 19 are owned by one entity and operated by another one

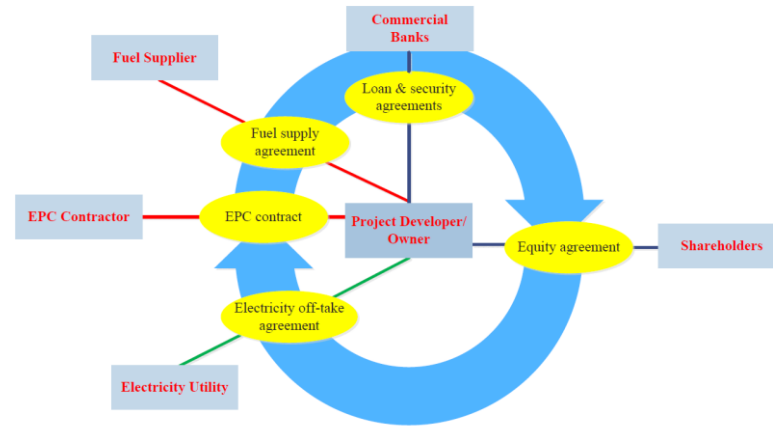


FIG. 1. Allocating risk and reward between stakeholders.

IAEA – [Managing the Financial Risk Associated with the Financing of New NPP Projects](#)



Questions?



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