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A Transportable and Subsea SMR: Early Considerations on Safeguarding the Flexblue System

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The Flexblue system is an innovative concept that consists in a small size transportable nuclear power plant to be sited on a flat sea bottom together with on shore command and control as well as fuel loading/unloading facilities.

Although it is only at an early design phase, it seems appropriate to share some considerations on the specificities that this model may entail from an international safeguards perspective.

This presentation will first describe the main features, both technical and organizational of the concept, as well as the milestones and schedule envisaged for its development.

It will then outline some safeguards relevant characteristics of TNPPs in general and of the Flexblue concept more particularly and investigate both implementation issues and legal aspects based on IAEA/INPRO's preliminary study (2013).

It will assess to what extent these characteristics should facilitate safeguards from the operator or from the importing state point of view but also from the IAEA's perspective.

It will point out some possible technical challenges that may arise and stimulate exchanges on the ways to overcome such situations.

In the course of the presentation some more general issues will be discussed. For instance a case study of export from a NWS to a NNWS will illustrate the need for strengthened cooperation between States and with the IAEA, the prospect for broader cooperation with the industry to better integrate safeguards friendly features in the design and contribute to alleviate the burden of safeguards while preserving their effectiveness.

Launching the reflection on safeguards issues at this early stage not only responds to the Agency's call for safeguards by design attitude but it will also allow the IAEA to take into account needs for innovative technical solutions and provide for R&D efforts within the long term R&D plan.

Country or International Organization

DCNS

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