Workshop on
" International Workshop on Application of Advanced Plant Information Systems for Nuclear Decommissioning and Life-cycle Management "

3 – 5 December 2018
Hotel Scandic Lillehammer, Norway

Group Discussion Summary

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The question we initially addressed in our group was:
"Can digital twins and VR change and simplify the relations with the regulators, and if yes, how?

The first analogy we made referred to the shipbuilding industry where customers are invited to be involved from the design of the virtual twin, so that they can make their comments, modifications at an early stage.

Along this line, the group said that sharing a virtual twin with the customer (the decommissioning fund owner is seen as the client) would definitely be beneficial, for instance, for establishing waste inventories and waste costs, and enabling a shared planning process.

There was a consensus on the fact that such tools can only be beneficial in the relation between customer and contractor.

The situation is different with the regulator in the sense that he is not a customer, but rather an authorization provider and controller.

We first evaluated to which extent virtual scenarios made on digital twins could reduce and simplify the paperwork required for approval of decommissioning activities.

This immediately raised the question that the regulator may not be in capacity to judge the relevance/quality of the digital tools used to establish the scenario, in which case they could not commit to provide a validation.

A first solution could be that the regulator might call upon an independent entity that would be in charge to validate the tools/method used on behalf of the regulator.

In fact this is what happens in France and UK to some extent where regulators use independent expert groups to validate certain technical aspects of safety cases. This could thus be a solution.

Another alternative would be to provide a certification process for the tools and methods used.

This may also lead to a degree of standardization that would later simplify the regulator's challenge.

In order to provide this validation/certification process, it was suggested that one way could be to develop an international "virtual Model for decommissioning", against which tools would be

benchmarked/tested.

This virtual model would be a nuclear facility made available for actors to test their approaches/tools on, and have them approved.

Remark made after the working session: Software certification exists in other industries. How applicable is it to decommissioning, is a question to investigate.