Contribution ID: **18** Type: **oral**

Plant Information Models: Supporting the Management of Design Knowledge throughout the Nuclear Power Plant Life Cycle

Tuesday, 8 November 2016 14:00 (15 minutes)

In 2014, the IAEA's Department of Nuclear Energy launched a new initiative aimed at strengthening design knowledge management throughout the life cycle of nuclear facilities, and as a part of this initiative, set out to publish a series of IAEA technical reports and guidance on information modelling of nuclear facilities, and to develop a generic prototype Plant Information Model (PIM) for demonstration purposes.

New nuclear facilities are being designed and constructed using modern computer-aided design and engineering systems, multidimensional modelling and design information sources such as data, databases, and electronic documents. As a result, new facilities can be delivered with a computer-based information environment that is able to be transferred, integrated and interoperable with the computer-based information environments of the organizations that own and operate them. The opportunity exists to radically improve knowledge capture, integration and transfer between stakeholders, however, these computer-based information environments typically consist of one or more plant information models with minimal standardization and information interoperability between them. A Knowledge-centric Plant Information Model could be developed and leveraged to better support, manage and enable seamless exchange and transfer of sustainable design and design knowledge information throughout the nuclear facility life cycle.

Country or International Organization

IAEA

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Session Classification: Technical Session 4

Track Classification: Track 3: Managing knowledge for operating nuclear facilities