



Industry Forum

Business Excellence Through Inspired People

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Developments in the UK Nuclear Supply Chain

In Russia, India and China some 45 reactors are under construction. Across Europe there are 140 nuclear reactors that are either under construction, in the planning process or under consideration in a total of 23 countries.

If NNB Generation, the joint venture between EDF Energy, Centrica and Areva, decide to build new nuclear reactors at Hinkley, some 25,000 jobs could be created in the nuclear supply chain. EDF, along with their partners, plan to make their final investment decision by the end of 2012.

The cost of a new reactor currently is of the order of £5bn. Competing energy technologies are generally less capital intensive and so discipline in cost estimation and construction performance are key factors in getting the go-ahead on projects. In Japan, time compression has pushed reactor construction time down to 37 months. The scale of these projects is enormous. It has been estimated that constructing a typical nuclear station is three times as complex as building an Olympic park.

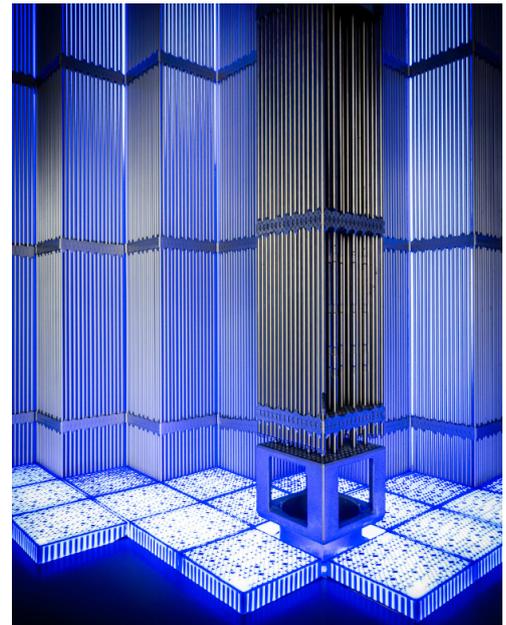
A critical element in successful project completion is collaborative and integrated working. This is built around three principles:

1. vision and leadership
2. cultures and behaviours
3. processes and tools

Cultural change is an issue in many organisational fields and in nuclear construction the elements are the same as elsewhere – behaviours that promote trust and fairness, openness, a no-blame approach to problem solving, honesty and transparency. Equally important are the proper use of common processes and tools and an agreed approach to the measurement of performance to achieve mature and effective supply chain relationships.

The creation of an appropriate baseline at the start of the project is also essential. This should cover project governance, reporting and review processes, KPIs and a clear statement of requirements with a comprehensive risk analysis. All of this has to be underpinned by a single comprehensive information system which enables clear visual management.

An interesting practical case study of developing the nuclear supply chain is to be found in the Sellafield Supply Chain Coalition (SSCC) which started life in March 2008. The initiative was driven by a desire to achieve global standards



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set by the World Association of Nuclear Operators. These standards apply throughout the supply chain down to local suppliers at tiers 3 and 4. SSCC adopted an over-arching mission statement: to operate more effectively in order to improve performance through mutual support, exchange of information and emulation of best practices.

Following the precedent set in the automotive and aerospace sectors, SSCC developed the SSCC Improvement Tool. This is based on a continuous improvement workbook that requires self-assessment against a number of standards across 17 modules. Performance against each objective is rated against an eight point scale.

The development phase on the improvement tool started in 2010 and the pilot organisations completed the improvement tool process by April 2012. Their next step was to enter the Verification and Validation phase. This is being done by pairing SSCC members who examine and test the score of their partner. Participants in SSCC regard it as a landmark in supply chain cross-fertilisation within the sector. Currently SSCC is recruiting the next tranche of suppliers to go through the improvement process.

Industry Forum has a depth of experience in supply chain development and has been involved in major projects in the automotive and aerospace sectors which combine global standards with a coherent approach to measurement, improvement and collaboration. It is currently participating in major projects under Advanced Manufacturing Supply Chain Initiative. It also has significant experience in transferring its approach to other sectors such as food and drink and retail. Industry Forum is actively looking for opportunities to collaborate with the UK nuclear sector as it moves into the next phase of its commercial development.

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