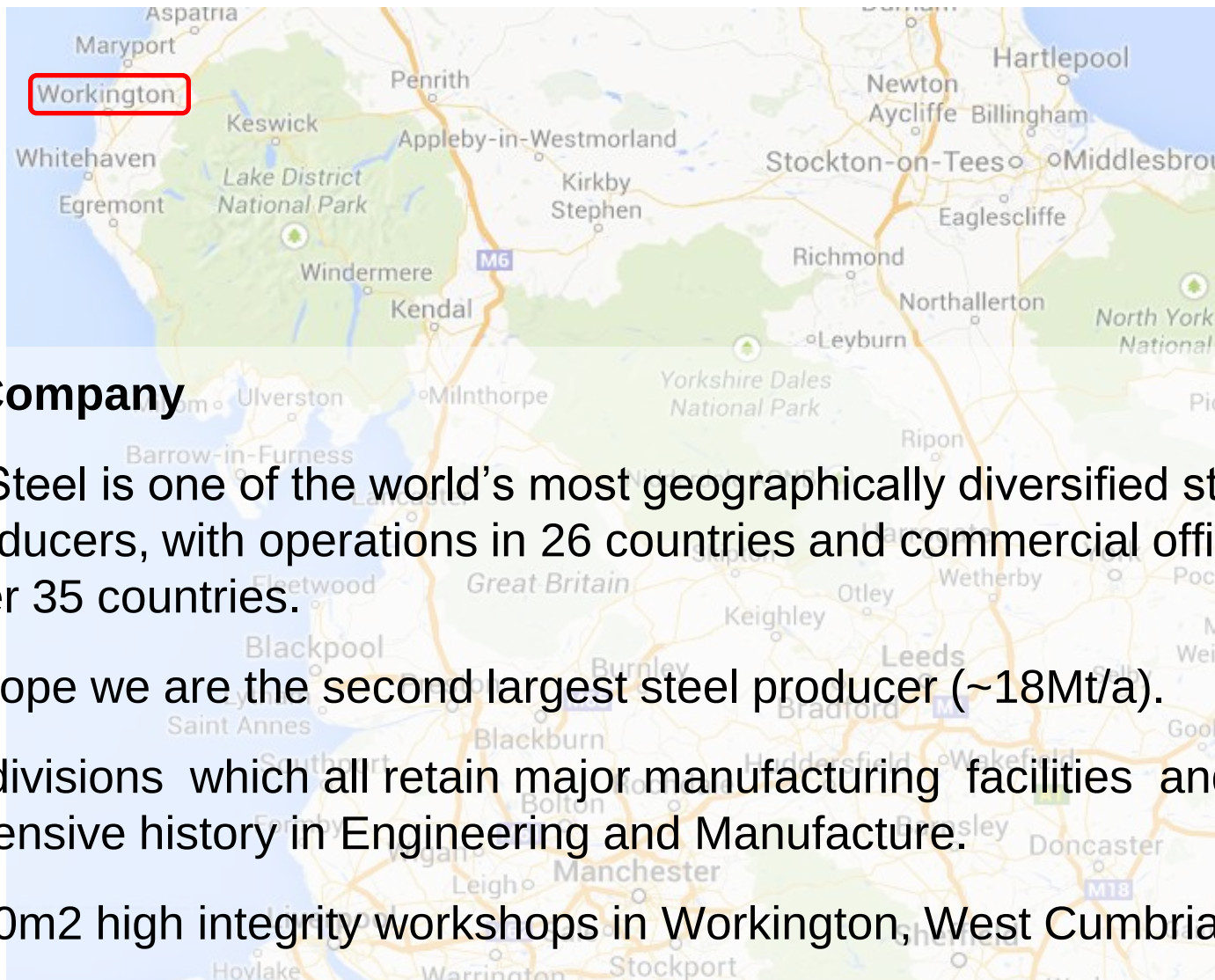


SMR - Impact on Tata Steel and the Supply Chain

Alan Thompson

25/09/2014



The Company

Tata Steel is one of the world's most geographically diversified steel producers, with operations in 26 countries and commercial offices in over 35 countries.

In Europe we are the second largest steel producer (~18Mt/a).

Four divisions which all retain major manufacturing facilities and an extensive history in Engineering and Manufacture.

20 000m² high integrity workshops in Workington, West Cumbria

Tata Steel Projects



TSP offer a multi-disciplinary design and engineering consultancy service across all main markets including nuclear decommissioning.

We offer depth and breadth of experience in:

- Test rigs
- Gamma gates
- Control panels
- Shield doors
- Bespoke systems
- Handling equipment



Heavy Engineering Pit

We have 60 years' of experience supplying the nuclear industry with waste transport and spent fuel flasks



History of waste storage manufacture



We design, manufacture, test, commission & install waste storage, handling and decommissioning equipment, shield doors and gamma gates to industry quality standards



Extensive fabrication, machining, welding, assembly and Non-Destructive Testing capabilities (Workington)

Isolated and decontaminated nuclear assembly bays

Heavy Engineering pit with max 130 te crane

Assembly pit with a 65 tonne crane

Indoor, weather proof, frost and condensation free and well lit storage areas

Tata Steel is a member of the Nuclear Industry Association (NIA)
and a founder and Tier 1 member of the Nuclear AMRC

Renewed activity in the Nuclear Sector demands a greater attention to ensure world class manufacturing capability of a wide range of products within fully quality assured complex supply chains.

- Decommissioning values of around £2Bn pa
- New build including:
 - Hinkley Point, Somerset
 - Wylfa, Anglesey
 - Moorside, Cumbria
 - and of course **Small Modular Reactors**

Understanding the Challenge

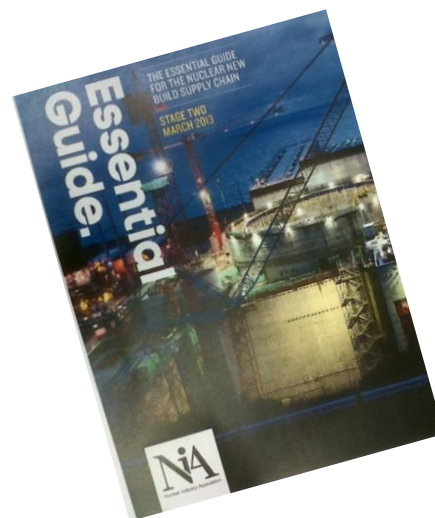


Reviewing where we currently operate and where we need to be, using tools such as:

- Fit 4 Nuclear
- CNSiG
- Sellafield Quality Manual

Listening to the nuclear community:

- E.g. The Essential Guide for the Nuclear New Build Supply Chain – March 2013 by the Nuclear Industry Association



Meeting the Challenge – Nuclear Safety Culture



Nuclear Safety Culture:

“An organisation’s values and behaviours – modelled by its leaders and internalised by its members – that serve to make nuclear safety the overriding priority” World Association of Nuclear Operators



Quality is not only paid for by the customer but actively pursued by them and is one of the strongest criteria for supplier selection (unlike many other industries).



Supply chain

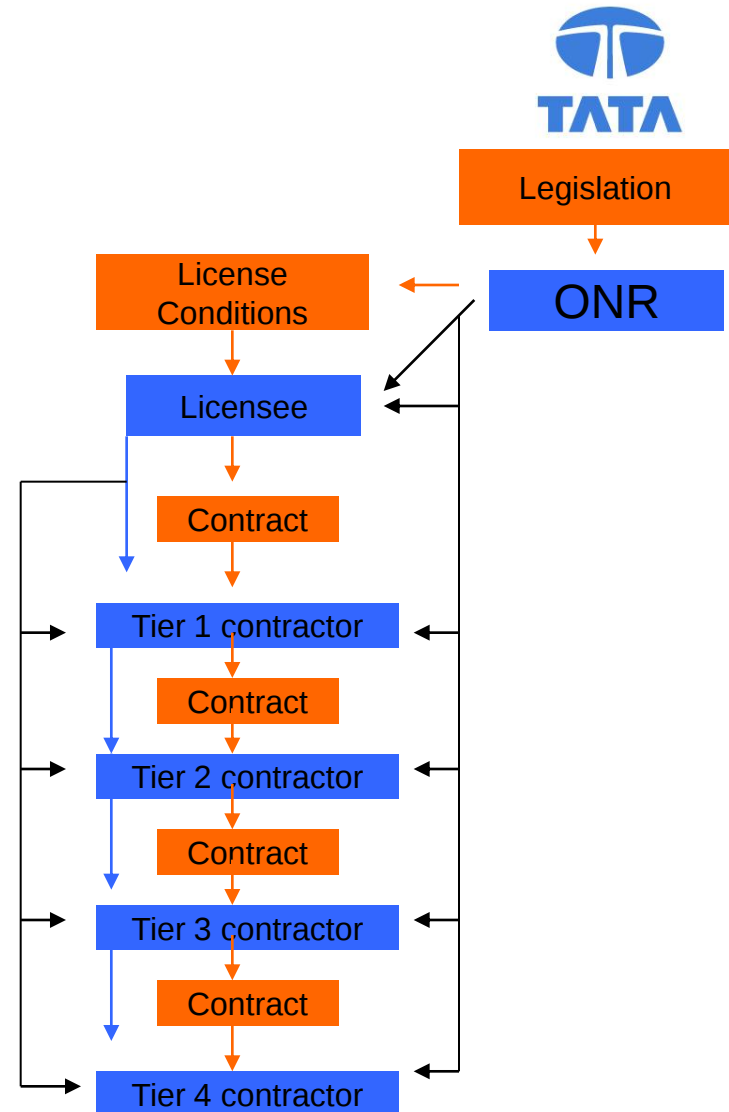
Quality Control

- **Objective 1:** Development of a robust Quality Management system, which is aligned to the nuclear industry.
- **Objective 2:** Development of Quality Control systems to enable the voice of the customer to be heard throughout TSP and the supply chain
- **Objective 3:** Development of systems to enable the voice of the process to be heard throughout TSP.

Determination of each individual to benefit from the framework

Meeting the Challenge – Supply Chain

- **Objective 1:** Achieve best in class Supply Chain Management Systems that allow successful integration of all relevant business systems (CMP, SAP, QMS etc) both downstream into the supply chain and upstream through the TSP business and into their customer base.
- **Objective 2:** Achieve optimum efficiency in terms of visibility and accuracy of supply chain performance status metrics, including but not limited to quality, schedule, cost, capability and strategic importance.



Meeting the Challenge – Codes and Standards

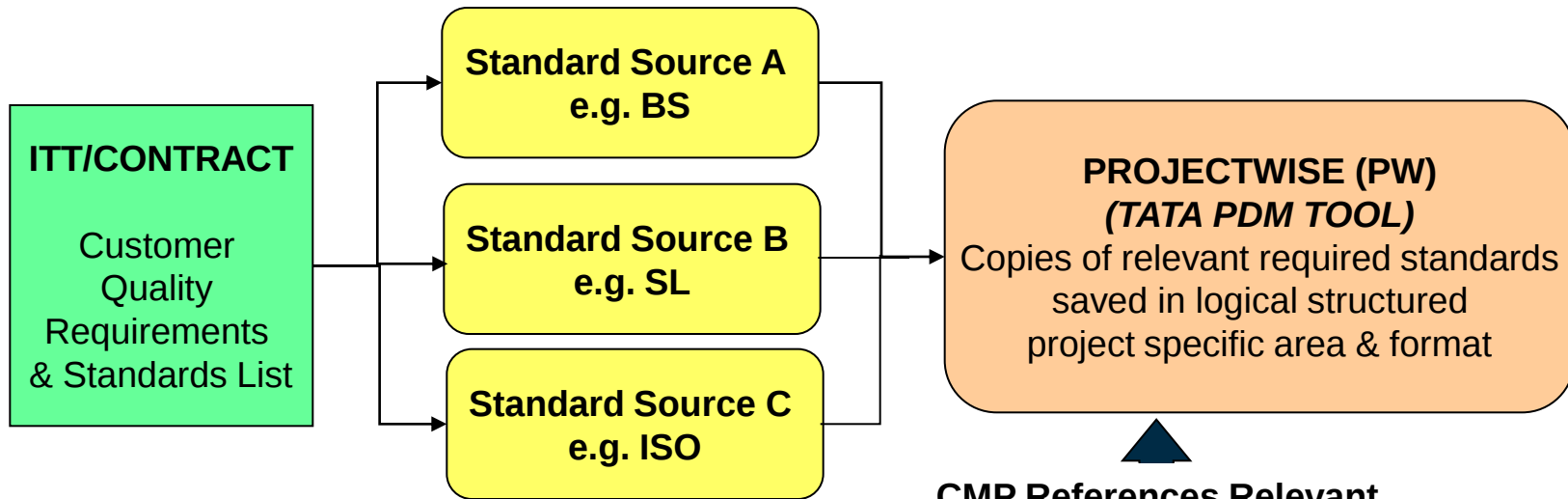


Live codes and apply depending of Class of component:

- ISO 9001, ISO 3834, BS 11000 for all activities.
- Class1, Class2 - ASME III, ASME IX, RCC-M, (French law enhancements),
- EN codes, National standards for “no class”

TSP's Contract Manufacturing Plan allows the customers quality requirements (voice of the customer) to flow effectively (and traceably) directly into the project deliverables even down to the last nut, bolt and washer and all associated documentation requirements.

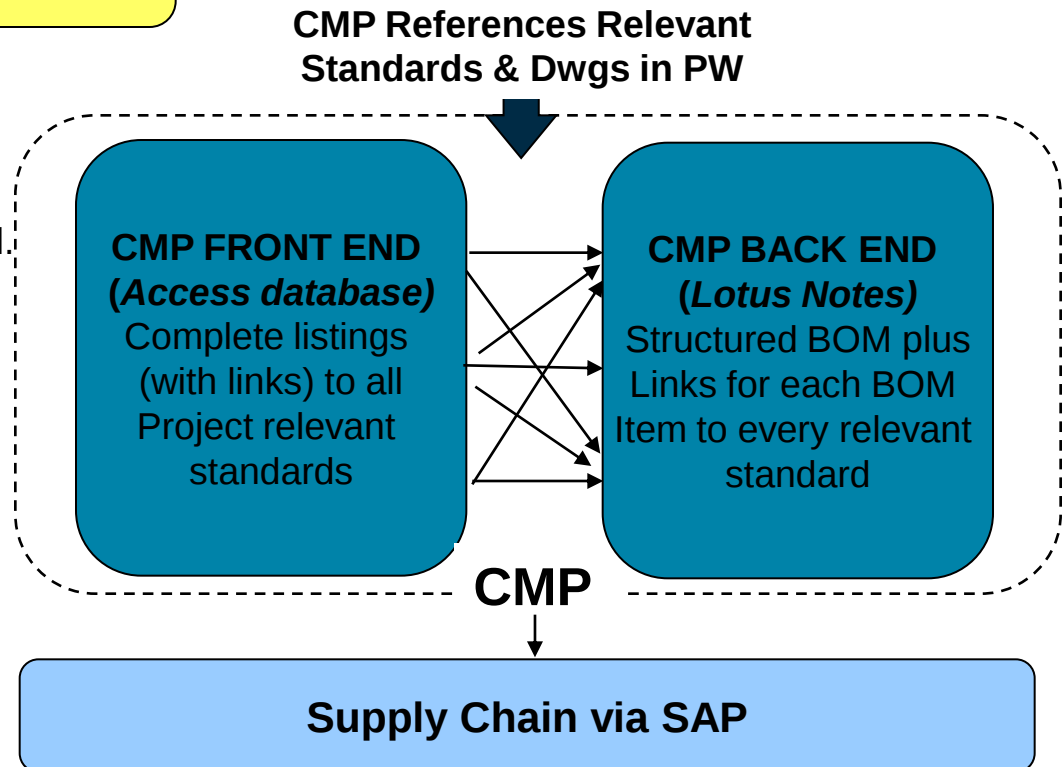
Meeting the Challenge – Contract Manufacturing Plan (CMP)



Example: Applicable Standards to a Nuclear Bolt:

- Ore traceability for parent material.
- Red Stamp Mill Cert for batch material.
- Tensile test results for representative sample from batch.
- Material hardness result,.
- Chemical composition certification for coating.
- Go no go test witness certificate.
- CMM dimensional report.

TATA STEEL



Meeting the Challenge – Manufacturing Excellence



TSP understand that:

- Successful delivery of high Quality Engineering and Manufacturing projects are the backbone of success and secure future safety of Cumbria and the UK.
- The SMR challenge will create some of the most technically challenging problems requiring development and manufacture of advanced complex technologies and systems.
- Long term approach: Strategic partnerships highly valued will create an effective supply chain and benefit locality and UK.

Tata Steel is a member of the Nuclear Industry Association (NIA) and a pro-active founder and Tier 1 member of the Nuclear AMRC (Advanced Manufacturing Research Centre)

Achieving Success



Understand requirements

+

Embrace Nuclear Safety Culture

+

Achieve Technical Excellence

+

Enhance supply chain competence

+

Welcome SME collaboration

+

Continually improve ...

=

