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SMEs in the Nuclear Supply Chain in Cumbria

Professor Frank Peck

Presented to the Wales Labour Market Summit II: Comparing policy interventions to challenge ‘business as usual’
14th September 2016 - Bangor University
SMEs in the Nuclear Supply Chain: Structure of presentation

- Policy context (local versus national)
- Local impacts of changes in procurement
- SMEs in the supply chain: barriers and enablers to engagement in the supply chain
- SME competitiveness in nuclear supply chain
Sellafield Ltd

• Sellafield activities
  – Reprocessing of nuclear fuels (THORP, MOX plant (closed in 2011)
  – Nuclear waste treatment (facilities for encapsulation, vitrification)
  – Waste management – long term storage
  – Decommissioning of nuclear facilities

• Sellafield site
  – Civil nuclear industry since 1950s - nuclear legacy
  – 1,300 buildings within 6 sq km
  – Circa 10,000 workers employed directly
Nuclear Decommissioning Authority (NDA)
Non-departmental public body
Owner of UK nuclear liabilities and assets

SELLAFIELD LTD
(Site License Company)

- Multidisciplinary decommissioning services
- Design and installation of specialist equipment
- Decontamination and waste management
- Fabrication and construction
- Consultancy and outsourced business services
Policy context - local scale

- Long-standing association between nuclear industry and West Cumbria in particular;
  - Decades of commitment to policies designed to foster the socio-economic future of communities
  - Investment in urban redevelopment (Whitehaven)
  - Investment in economic diversification – Westlakes Science and Technology Park
  - Investment in community facilities and social life
  - Still very significant economic, social and political influence on operations at Sellafield
The Importance of Socio Economic Contribution

- Sellafield Ltd and its tier 2 contractors responsibility
- Creation of a thriving local economy
- Attractive environment to live and work
- Self sustaining growth
- Responsive capable pool of skills, suppliers and people retention
Our Driving Force to Support Socio Economics

- Over 10,000 direct jobs
- Several thousands of indirect jobs
- 30% of our supply chain spend is retained in Cumbria
- Skilled pool of local labour
- Our commitment to enhanced support to socio economics

- Long Term Frameworks create stabilisation and long term planning
- Engagement process to align our contractors with key stakeholders to deliver approved socio economic plans with accountable KPIs

We all have a role to play in delivering joint values aligned to Britain's Energy Coast

A Nuclear Management Partners company operated under contract to the NDA

Sellafield Ltd
Change in the supply chain

Diagram:
- Sellafield LTD (Tier 1)
- Tier 2 suppliers
  - (Consortia)
  - Tier 3 suppliers
- Tier 4 suppliers
- Bundling or "consolidation"
CRED Research on supply chain

• 2011-12 study - 23 in-depth interviews with senior managers of selected national and international firms (9) and SMEs (14).

• Conducted May-July 2011 mostly at premises in West Cumbria - themes covered:
  – Company structure and specialisms
  – Nature of contracts with Sellafield
  – Knowledge assets and competitive advantage
  – Organisation and method of delivery
  – Supply networks and supplier relations
  – Non-Sellafield contracts and diversification

• Follow-up study 2014 – In-depth interviews with 12 SMEs very experienced in nuclear industry – design engineering, decommissioning, specialist equipment
## 2011-12 Survey firms by type of business

<table>
<thead>
<tr>
<th></th>
<th>MNCs and subsidiaries</th>
<th>UK National firms</th>
<th>Local suppliers</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>Tier 2 firms</td>
<td>6</td>
<td>1</td>
<td>5</td>
<td>12</td>
</tr>
<tr>
<td>Tier 2/3 suppliers</td>
<td>0</td>
<td>0</td>
<td>3</td>
<td>3</td>
</tr>
<tr>
<td>Tier 3/4 suppliers</td>
<td>1</td>
<td>1</td>
<td>6</td>
<td>8</td>
</tr>
<tr>
<td></td>
<td>7</td>
<td>2</td>
<td>14</td>
<td>23</td>
</tr>
</tbody>
</table>
Table 4: Survey firms by product/service

<table>
<thead>
<tr>
<th>Service</th>
<th>Tier 2 firms</th>
<th>Tier 2/3 suppliers</th>
<th>Tier 3/4 suppliers</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>Multidisciplinary decommissioning</td>
<td>6</td>
<td>1</td>
<td>0</td>
<td>7</td>
</tr>
<tr>
<td>Design and installation of specialist equipment</td>
<td>4</td>
<td>0</td>
<td>2</td>
<td>6</td>
</tr>
<tr>
<td>Decontamination and waste management</td>
<td>2</td>
<td>0</td>
<td>0</td>
<td>2</td>
</tr>
<tr>
<td>Fabrication and construction</td>
<td>0</td>
<td>1</td>
<td>5</td>
<td>6</td>
</tr>
<tr>
<td>Consultancy</td>
<td>0</td>
<td>1</td>
<td>1</td>
<td>2</td>
</tr>
<tr>
<td></td>
<td><strong>12</strong></td>
<td><strong>3</strong></td>
<td><strong>8</strong></td>
<td><strong>23</strong></td>
</tr>
</tbody>
</table>
Experience of SMEs 2011-14

• Impacts of recent changes in Sellafield supply chain
  – Varied experience – some still winning nuclear work
  – Increased challenge in getting contracts at Sellafield
  – Procurement systems “overwhelming” for SMEs
  – Contracts not packaged for SMEs – large/complex
  – Collaboration? Belief that this negates a key competitive advantage of SMEs – flexibility and innovation
Experience of SMEs 2011-14

• Relationships with T2 Suppliers
  – Some firms engaged in Consortia – unique products or specialist knowledge that cannot be found elsewhere in a timely fashion
  – Others experience difficulty – closed off
  – Belief that T2s prefer to internalise work or share it with other large firms – assumption that capability is related to size
  – Perception that high value-added work leaks to other regions while local spend is mainly low value
Experience of SMEs 2011-14

• Diversification: nuclear and non-nuclear
  – Nuclear markets – examples of effective diversification to other NDA estate, France, Japan and optimism about India and China
  – Some SMEs have not pursued diversification – “enough work at Sellafield”…. “Sellafield knowledge too specific to West Cumbria”
  – Non-nuclear diversification now a higher priority than before – oil and gas, renewables, chemicals
Impacts of Change in Procurement for SMEs: Summary

- Geographical - T2 clients may have local base but not necessarily local decision-makers.
- Social - networks disrupted with consequence for levels of trust; also job-rotation in MNCs.
- Organisational – Complex negotiations to form consortia. Some SMEs feel excluded; technical / commercial / capacity reasons.
- Institutional - norms, customs, behaviours differ - attitudes to risk, project management, understanding of innovation, entrepreneurship
- Cognitive - increased segmentation of knowledge and understanding between firms in the supply chain.
Recent National Policy Context and SME Growth

• Concerns over “value to taxpayer” and efficiency of procurement – process of consolidation of procurement implemented since circa 2000-2005.

• More recently, UK Coalition SME Growth Agenda to increase spend channeled through SMEs to 25% (Cabinet Office 2011).

• Direct spend only – DECC very low (1.9% in 2012-13).

• So, interest in indirect SME spend – estimated at 11.1%

• Target for 2015 set at 19%
Table 9: Local SMEs Knowledge assets and competitive position (a)

<table>
<thead>
<tr>
<th>Knowledge Asset</th>
<th>Significance for competitive position</th>
<th>Sources and strategies to acquire</th>
</tr>
</thead>
<tbody>
<tr>
<td>Scientific</td>
<td>Type A SMEs with technical specialism (electrical equipment design/supply power engineering) Type B either not relevant or considered useful; to know but not essential</td>
<td>Type A SMEs – in house expertise graduate recruitment</td>
</tr>
<tr>
<td>Technical</td>
<td>Vital for most SMEs. Skilled trained and certificated workers (available and on-site)</td>
<td>Major efforts to hoard key workers to retain skilled and certificated people Apprentice schemes and significant ongoing investment in technical training and industry standards</td>
</tr>
<tr>
<td>Commercial</td>
<td>Major area of change: Shift from informal to formal Move away from trust-based to system-based tendering Move towards larger and longer contracts</td>
<td>Can no longer rely simply on track record and past relationships Acquire skills by engaging consultant, recruiting new specialists and internal reorganisation and training</td>
</tr>
</tbody>
</table>
### Table 9: Local SMEs Knowledge assets and competitive position (b)

<table>
<thead>
<tr>
<th>Knowledge Asset</th>
<th>Significance for competitive position</th>
<th>Sources and strategies to acquire</th>
</tr>
</thead>
<tbody>
<tr>
<td>Networking</td>
<td>Vital but subject to reconfiguration</td>
<td>Meet new challenge by networking with new T2 MNCs</td>
</tr>
<tr>
<td></td>
<td>Formerly, relationships with Site</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Licensee (Sellafield Ltd) and local</td>
<td></td>
</tr>
<tr>
<td></td>
<td>business partners/suppliers</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Latterly, engagement with existing</td>
<td></td>
</tr>
<tr>
<td></td>
<td>and new T2 MNCs</td>
<td></td>
</tr>
<tr>
<td>Site</td>
<td>Vital but needs to be embedded in key workers and certificated work-force on site</td>
<td>Labour hoarding on-site at Sellafield and in key areas of the firm</td>
</tr>
<tr>
<td>Community</td>
<td>Important due to special nature of relationships in the industry. A useful though not critical determinant of competitiveness</td>
<td>Recognised as a useful lever in securing subcontracts from T2 MNCs</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Built into some tendering processes</td>
</tr>
<tr>
<td>Legal</td>
<td>Industry specific (nuclear sites)</td>
<td>Important part of skill base that needs to be retained by investment in training and induction and for some, maintenance of in-house health and safety managers</td>
</tr>
<tr>
<td></td>
<td>necessary but not sufficient;</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Sellafield-specific requirements a</td>
<td></td>
</tr>
<tr>
<td></td>
<td>vital source of advantage</td>
<td></td>
</tr>
</tbody>
</table>
Widening the discussion

• Interactions between local SMEs and global companies in large scale infrastructure projects (energy, transport, utilities).

• Overcome information gaps / marketing deficits – directories, one-off events.

• Organisational barriers – appropriate procurement for SMEs; regulation of consortia.

• Institutional gaps – short term compliance with socio-economic requirements; longer term behavioural change in both SMEs and MNCs.
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