A Business Management Systems Approach to Compliance

Lesson learnt from ELV Directive

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EPR Consulting

• Consultancy for Extended Producer Responsibility
  – Assessment & Planning
  – Training
  – Outsourcing
• Partner to Tetra Tech in US, CERC in P.R. China
• HP training partner on automotive International Material Data System UK, India, South Africa, Australia
• Managers of the IMDS Chemical Substance List
• Contracted to Granta Design supporting GRANTA MI: Restricted Substances Solution
• Member of the UK Automotive REACH Group
• For further information: www.EPR-Consulting.co.uk
Outline

• Overview of ELV & Cr6+ Phase out

• Key lessons learned

• Trends in Compliance

• Managing Compliance via a BMS

• Overview of the UK Automotive response to REACH

• Summary & Conclusions
The End of Life Vehicles Directive


- Manufacturers financially and legally responsible for product environmental impacts
  - Recycling targets
  - Hazardous substance content
    → Lead, Mercury, Cadmium & Hexavalent Chromium banned from July 2002 onwards, with exemptions provided in Annex II
  - Applies to materials present in the vehicle at point of sale, per homogenous material
**Timetable for phase out of Cr6+**

Phase out process in line with industry progress in finding alternative materials & processes – Process overseen by EC Technical Adaptation Committee

<table>
<thead>
<tr>
<th>Annex II Version</th>
<th>Exemption</th>
<th>Exemption Expiry Date</th>
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<tr>
<td>1(^{st}) Annex II (29/06/2002)</td>
<td>Corrosion preventive coatings</td>
<td>1(^{st}) July 2007</td>
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<tr>
<td>2(^{nd}) Annex II (30/09/2005)</td>
<td>Corrosion preventive coatings</td>
<td>1(^{st}) July 2007</td>
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<td>Corrosion preventive coatings related to bolt and nut assemblies for chassis applications</td>
<td>1(^{st}) July 2008</td>
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<td>3(^{rd}) Annex II (23/08/2008)</td>
<td>As spare parts for vehicles put on the market before 1 July 2007</td>
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Note: Hexavalent plating processes not banned, only amounts of unreduced Cr6+ that remain in the coating

→ Alternatives required to Cr6+ passivations (mainly Cr3+ processes)
How did Auto implement the phase out?

**OEM Trade Organisations:**
- ACEA, JAMA, KAMA, SMMT etc
  - Lobbying to ensure phase out timetable is feasible
  - Awareness raising in the supply chain

**Plating Trade Organisations:**
- R&D of alternative plating technologies
- Informing members of forthcoming legislation & key deadlines
- Lobbying regulators and other industry trade organisations in members' interests
- R&D of Cr6+ free alternatives – Cr3+
- Respond to new plating specifications received from customers
- Check Tier 1s have substitution plan
- Update of engineering standards
- Check Tier 1s have substitution plan

**Government bodies:**
- Awareness raising
- Plan for meeting requirements of automotive & non automotive customers (Cr6+ plating not banned in all their industries – only RoHS approval)
- Transposition of Directive into National legislation
- Regulation (Primarily at type approval)
- Audit of platers where necessary to check processes & forthcoming deadlines & key deadlines
- Audits of suppliers of OEM
- Awareness raising with Tier 1s
- Check Tier 1s have substitution plan
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Key Lessons Learned

• Planning & Awareness
  – Companies that are proactive and forward looking were well prepared for implementing change under ELV
  – Areas of weakness tended to be in lower tiers with less resource and who supply into other industries
  – Suppliers outside of the EU presented a higher risk where awareness is lower than the EU, and local markets do not ban Cr6+ deposits

→ Understanding your exposure to restricted substances, and planning ahead for compliance is key
→ Supply chain needs to work in concert, therefore:
  - Communication of requirements throughout supply chain is critical
  - As is, identifying areas of weakness and applying appropriate mitigation
Key Lessons Learned

• Commercial Impact
  – Cr3+ platings are generally more expensive than Cr6+ (and use more energy)
  – Some parts require requalification following a change
  – Cr6+ alternatives did not always perform as well resulting in commercial impact
  – PPAP of engineering changes on cross over parts can be costly

→ Commercial impact of implementing a phase out needs to be assessed:
  – Costs need to be negotiated between customer & supplier
  – How will the alternative impact on your business?
  – Changes need to be tailored into the production lifecycle as far as possible to minimise cost – plan future production to account for phase outs occurring during production lifecycle
Key Lessons Learned

• Technical issues
  – Alternatives often did not perform as well as the original (e.g. no self healing in cr3+ alternatives)
  – Change in plating often required requalification and redesign of the part to ensure fitness for purpose. (e.g. Different torque characteristics on fasteners)

→ Technical issues associated with a phase out need to be thoroughly understood and risk assessed:
  – Future product liabilities, recalls?
  – Requalification of part or material required?
  – What will the commercial impact be, how can this be mitigated?
Key Lessons Learned

• Reporting and Data Exchange
  – IMDS works well providing an industry wide centralised reporting tool for efficient supply chain communication - many suppliers share customers
  – But, many companies had conflicting deadlines creating inefficiencies in the supply chains response
  – Bringing the ban date forwards to avoid problems of redundant stock creates a concertina effect on the supply chain as each tier tries to avoid the same problem

→ Industries need to take a common consensus approach as far as possible:
  – Avoid duplication of effort within supply chain by developing industry standards for data exchange & reporting format
  – Lobby Government for point of sale and within supply chain deadlines to avoid stock redundancy
  – Provide practical guidance & support to supply chain to manage compliance & business risk in concert
Legislation Trend - Restricting Substances in Manufacturing

1978: US TSCA Section 6 bans CFCs

1976: EU Directive 76/769 ‘Marketing & Use’ – PCB’s, PCT’s, & vinyl chloride restricted → 58 groups by 2009 (now part of REACH)

1979: US TSCA Section 6 bans Asbestos (partially overturned 1991)

1987: CA Proposition 65 – 17 Substances → 866 substances & groups 2010

1989: US TSCA Section 6 bans PCBs (Polychlorinated biphenyls)

2002: EU ELV Directive Ban 4 heavy metals in vehicles

2006: EU RoHS Directive Ban 4 heavy metals & 2 flame retardants in EEE

2007: EU REACH Regulation enters into force risk assessing substances across all industry currently 30 SVHCs, 7 proposed for authorisation

2007: CA RoHS – 6 substances

2007: China RoHS – 6 Substances

2008: Korea ELV (4) / RoHS (6)

2009: US TSCA Section 6 bans penta & octa BDE

2006: Canadian Chemical Challenge – 200 substances prioritised for assessment in products

2007: US TSCA Section 6 bans PCBs (Polychlorinated biphenyls)

2008: Japan Chemical Control Law- Type 1 Substances (36 Substances)

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Trends in Compliance (Continued)

• Management of Restricted Substances legislation is a relatively new phenomenon
• Growing worldwide as regulators seek to reduce environmental impacts of products
• New Business Risks need to be assessed and mitigated
  – E.g. PTBBA re-classification as a CMR → will not be registered at the end of 2010 under REACH
• Companies need appropriate systems to manage compliance and minimise business risk!
• Industries need to work as a whole – a supply chain is only as strong as its weakest link!
Managing Restricted Substances within your BMS

Your Company

- Quality Engineering
- Materials, Toxicology, EH&S
- IT
- Purchasing
- Legal
- Sales & Marketing
- Design

Management

- Assessment & Planning
- Aspects register
- Company Strategy
- Reporting to Stakeholders

- Augmenting existing systems for compliance & risk management
- Identification of appropriate systems to support compliance strategy

- Communication of corporate restricted substances strategy to stakeholders for business advantage
- Implementation of legal obligations e.g. Consumer information on SVHC content

- Design for Environment
- Legal compliance of future products

- Quality systems integration
- Supplier Audit
- Substitution planning
- Requalification of material and parts

- Legislative monitoring
- Materials compliance
- Legal & voluntary initiatives
- Material & substance inventory

- Supplier rating & risk assessment
- Enforcement of reporting requirements
- Cost negotiations with suppliers

- Customer & supplier contract
- Future stock liability issues
- Corporate liability
- Due diligence defence
Managing Restricted Substances Across an Industry

Customers & Other Stakeholders (e.g. Regulators, consumers)

Communication of requirements

Reporting on compliance & risk management

Materials Trade Organisations & Key materials manufacturers
- Monitoring future legislation
- R&D of alternatives ahead of phase out dates
- Dissemination of guidance and information to members / customers
- Lobbying & cooperation with Regulators

Your Company

Management

Quality
Engineering
Materials
IT
Purchasing
Legal
Sales & Marketing
Design

Communication of requirements

Reporting on compliance & risk management

Suppliers

Industry Specialist Groups
- Development of industry standards for reporting & communication
- Common data exchange formats
- Awareness raising and development of practical guidance
- Lobbying & cooperation with Regulators
Automotive Preparations for REACH

Global Preparations

UK Preparations
-Awareness raising by UK Automotive REACH Group seminars throughout 2007 / 2008

Supply chain communication / declaration tool for pre Registration

Practical guide for Compliance Strategy
Summary & Conclusions

- Managing Restricted Substances is essential for doing business in manufacturing
- Compliance & Risk Management needs to become part of everyday workflows
- Integrating compliance into an existing business management system can be an appropriate means to deliver this in a robust, auditable manner
- Many companies have limited resource, and understanding compliance & risk management is not easy
- Industry, trade organisations, Government and specialist groups need to work together to provide support & guidance, and develop efficient means of compliance & risk management
Questions?