Horizon Scanning in HSE

Peter Ellwood, HSL Futures Team

27 October 2008
Agenda

- Introduction to HSL
- Horizon Scanning Definition
- HSE’s Horizon Scanning System
- Our Findings
- Making Use of the Information
- HSE Scenarios 2017
What are HSE/HSL?

DWP
Department for Work and Pensions

Central Government

HSL
Health and Safety Laboratory

HSE
Health and Safety Executive
Where are we?
HSL’s Services

- Specialist scientific advice and consultancy
- Incident investigations
- Scientific support including environmental and biomedical analyses, projects, feasibility studies
- Research & development
- Technical support to Standards making
- Training
- Specialist photography and technical services
Summary

• HSL offers a wide range of scientific and technical services

• Multidisciplinary approach brings together appropriate skills to meet customer needs

• Committed to providing a quality service for both public and private sector customers
Horizon Scanning

‘Horizon scanning is defined as the systematic examination of potential threats, opportunities and likely future developments, including (but not restricted to) those at the margins of current thinking and planning. Horizon scanning may explore novel and unexpected issues as well as persistent problems or trends.’

*Definition of Chief Scientific Adviser’s Committee, September 2004*
HSE’s Horizon Scanning Aims

To:
• inform strategic thinking, planning and target setting, including the development of future strategies and priorities;
• identify possible changes of direction and emphasis for strategic programmes; and
• assist in formulation and delivery of strategic programmes.

By:
• systematically anticipating, identifying and preparing for new or changing risks in workplaces and work activities; and
• taking into account wider socio-economic, technical etc trends, and changes in public attitudes towards risk and its control, that have implications for workplaces and work-centred activities.
HSE Horizon Scanning System

HSE Senior Management Team
  Science Sub-Group
  Chief Scientific Adviser's Group
    HSL Futures Team
      HSE Staff
      Internet, journals, press etc
      External networks, conferences etc
Dedicated Scanning Team

Initial Composition

• Team Leader (Chemist)
• Chemist
• Microbiologist
• Information Specialist
• Psychologist/Ergonomist
HSE Scanning Categories

• Social
• Technical
• Economic
• Environmental
• Political
Horizon Scanning Steps

• Define the scope
• Gather information
• Analyse information
• Identify trends, issues
• Consider implications
• Disseminate the findings
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<th>Social</th>
<th>Economic</th>
<th>Political</th>
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<td>• Demographics</td>
<td>• Effects of Environmental &amp; Other Legislation on H&amp;S</td>
<td>• Public Perception of New Technology</td>
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<td>- Ageing</td>
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<td>- Gender</td>
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<td>- Workforce by Sector/Occupation</td>
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<td>- Living Arrangements</td>
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<td>- Shape of Industry</td>
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<td>• Obesity</td>
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<td>• Flexible Working and Employment Patterns/Blurring of Work and Life</td>
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<td>• Complex &amp; Ambiguous Occupational Health Issues</td>
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Horizon Scanning Current Issues 2

Technological
- Nanotechnology
- Molecular Manufacturing
- Human Performance Enhancement
- Pervasive Computing
  - Cyber Security
  - Terahertz Technology
  - Robots and Artificial Intelligence
  - Keyboards
  - RFIDs
  - Surveillance Society
- Rapid Manufacturing
- Biotechnology
  - Genetic Testing
  - Synthetic Biology

Energy Topics
- Nuclear New Build
- Clean Coal
- Hydrogen Economy
- Wind
- Wave
- Methane Gas Hydrates
- Solar
- Gas
- Biomass
- Carbon Capture
- Compressed Air Energy Storage
- Microgeneration/Combined Heat and Power
Horizon Scanning Outputs

- Short Form Reports
- The Scenarios
- Workshops
- ‘Science and Research Outlook’ items
- Presentations
- Commissioned Reports
- ‘Challenges and Opportunities’ Document to HSE Board
- Minister’s Speech on ‘Tomorrow’s Health and Safety World’
Proposed Additional Outputs

- Targeted Alerts?
- Newsletter?
What do you do with the information?

- **Individual Topics**
  - Stimulate research, eg nanotechnology, hydrogen
  - Input to Science Plans
  - Alert specialists, eg synthetic biology
  - Alert inspectors, eg rapid manufacturing
  - Inform policy staff, eg biomass

- **Combined Topics**
  - Feed into big picture via other futures techniques, eg scenarios
  - Brief Senior Management, strategy
  - Workshops – internal and external
HSE Scenarios for 2017

- Personal responsibility, pro-active adoption of technology, management of risk
- Decreased UK global competitiveness
- Increased UK global competitiveness
- Blame culture, resistance to new technology, rejection of risk

An Agency of the Health and Safety Executive
HSE Scenarios for 2017

A Virtue of Necessity

Digital Rose Garden

Personal responsibility, pro-active adoption of technology, management of risk

Decreased UK global competitiveness

Increased UK global competitiveness

Blame culture, resistance to new technology, rejection of risk

Tough Choices

Boom and Blame
Research vs Scanning

• Research
  - Credible
  - Documented
  - Authoritative
  - Statistically significant
  - Coherent
  - Consensus based
  - Theoretically grounded
  - Monodisciplinary

• Scanning
  - Questionable credibility
  - Difficult to document
  - Fringe sources
  - Statistically insignificant
  - Incoherent
  - Experts disagree
  - Demands new theories
  - Multi-disciplinary

Wendy Schultz 2007
Observations

- Two distinct tasks – research and dissemination/utilisation
- Periodic or continuous scanning?
- Horizon Scanning alone doesn’t give you the big picture
- Can be difficult to demonstrate impact
- Need to get the top people on board
Thanks To

• Sam Bradbrook
• Richard Snodgrass
• Bronwen Ley
• Elizabeth Hoult

• Roger Brentnall
• Linda Heritage
• Zara Whysall
Summary

- HSE has established a Horizon Scanning system to identify emerging issues likely to have an impact on the health and safety system
- Many areas of interest have been identified and scenarios for the ‘Future of Health and Safety in 2017’ prepared
- Contributions and suggestions welcome:

  www.hse.gov.uk/horizons/index.htm
  Horizon.scanning@hsl.gov.uk
And Finally

- “Prediction is very difficult, especially about the future.” – Niels Bohr

- “The best way to predict the future is to invent it.” – Alan Kay, Apple