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HEALTH AND SAFETY EXECUTIVE

Horizon Scanning

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Issue

1. Arrangements for horizon scanning in HSE.

Timing

2. Immediate, if HSE is to present convincing cases to the OST review team.

Recommendations

3. That the Board:
 - Agree the principles on horizon scanning described in annex 1.
 - Choose which of the options for implementing the principles it would like to take forward.

Background

4. Following the Phillips BSE inquiry, the Government's response¹ encouraged government departments to undertake horizon scanning² and to do so in a structured and auditable manner.
5. As part of the 'Modernising Government' programme a new horizon scanning 'centre of excellence' is being established in OST to support departmental horizon scanning and facilitate cross-departmental collaboration. In the context of health and safety, we define horizon scanning to mean:

Systematically anticipating, identifying and preparing for new or changing risks in workplaces, including those arising from socio-economic, workplace trends etc, to inform the delivery of strategic programmes.

¹ There was an initial and final response produced by DEFRA on behalf of the government

² This was a requirement of the Chief Scientific Advisor's Guidelines to identify potentially significant issues as early as possible

6. A recent stock take by SID on horizon scanning across HSE revealed that it is done in an essentially ad-hoc manner often reactively and with limited co-ordination or exchange of intelligence between directorates, except on sector specific issues. There were few examples of the contribution that proactive crosscutting horizon scanning made to decision-making. Notable exceptions were studies of the type done to support the development of the new HSC/E Strategy and the sort led by CoSAS into Nanotechnology (presented to the Commission at the April meeting (HSC/04/42)).
7. Effective horizon scanning has been identified by the Strategic Programme Directors as an essential ingredient of the support they need to manage the programmes effectively. The Delivery Board have also noted the need for a more coordinated approach to the subject if the organisation is going to manage its response to emerging issues and not just react to external pressures.
8. OST is due to review HSE's arrangements for delivering science, starting in the autumn of this year. It is unlikely that the current informal systems for horizon scanning will be seen as sufficient by the review team.

Argument

9. Some OGDs have contracted out their horizon scanning, using external suppliers to identify and evaluate issues that may impact on policy development and programme delivery. Generally these are related to a single or a few workplace sectors. Some have processes that are open to external input and scrutiny and can include proactive arrangements to involve the public e.g. DEFRA. However, until recently, DEFRA's arrangements were primarily focussed on research and appeared to produce results similar to HSE's 'competition of ideas', with few proposals looking to the future. HSE has recently reviewed EA's horizon scanning process in detail and a variant on this is one of the options for taking forward horizon scanning in HSE.
10. HSE, unlike some OGDs, has considerable numbers of experienced frontline operational and technical staff able to identify emerging issues and evaluate their likely impact (Policy Group has a similar but smaller capability). External contractors, and HSL, are used where appropriate to provide in-depth studies of emerging issues. Other external input is usually obtained through informal networks and Advisory Committees. The process is reasonably effective in identifying short-term sector or technology issues. But due to the largely directorate-focused approach the current arrangements are weak in identifying cross directorate and long-term issues. Also, corporate governance is weak and the arrangements are not sufficiently transparent or openly collaborative in the use of external input and expertise. As such they are unlikely to meet OST or Ministers' expectations.
11. A recent survey of key stakeholders, undertaken in support of the development of a new HSC Science strategy, identified that horizon scanning should:
 - continue to use HSE staff for horizon scanning, where high levels of technical and workplace knowledge are needed;
 - be carried out in a more structured manner, documenting the conclusions drawn;
 - be fully open, involving a broad range of external stakeholders and providing opportunities for public involvement;

- be placed within the governance structure for deciding priorities and the allocation of resources to strategic programmes and core (much horizon scanning is done in the latter);
- make the results available to the HSC/E early and contribute to the identification of strategic priorities;
- contribute to decision making and to support the delivery of HSC's strategy and HSE's programmes;
- encompass a broad spread of technical, social and policy issues relating to workplace health and safety.

12. Annex 1 describes the principles developed by a working group for taking forward horizon scanning within HSE. The aim is to systematically anticipate, identify and prepare for new or changing risks in the workplace and to consider the implications that new and emerging issues will have on the distribution of resources, existing policy, priorities and delivery. Horizon scanning will encompass the full range of political, technical, social and workplace issues and will focus on issues in the medium to long term. Annex 2 sets out the proposed arrangements for horizon scanning and the intelligence gained from it as centred around an 'Intelligence Group'. SID would be the ultimate HSE customer for the outputs of the horizon scanning system.
13. Two options are proposed to implement the principles described in Annex 1. Option 2 has 2 alternatives for sourcing the resource and managing the process. It is suggested that an option is selected and trialed for a period of 2 years and then reviewed.

Option 1 – HSE in-house arrangements

14. This relies on the operation of a number of communities of practice to gather the information, develop the intelligence, act as intelligent customer for further work and provide direction and oversight within a discipline or sector. The Intelligence group acts as the coordinator of all the information from the sub groups, provide a corporate overview of activities. The arrangements for implementation are described in Annex 2. Annex 3 shows how the arrangements in Annex 2 can be applied to a new horizon scanning study. The example on gene therapy would be at stage 2, the collection and collation of intelligence. The project described would be used to provide sufficient information for the intelligence group to be able to prioritise future work.
15. The advantages are:
- the process is intended to be simple and paper light requiring the minimum of detailed guidance and instructions;
 - capitalises on the breadth of expertise that exists across HSE;
 - auditable and integrated into the governance arrangements developed for the delivery of strategic programmes;
 - open and more collaborative approach with external involvement.
16. The disadvantages are:
- a widely expressed view is that horizon scanning is a good idea but someone else should put in the effort. This results in a lack of systematic information gathering and analysis (consistent/proportionate) and fragmented documentation;

- although many HSE staff are enthusiastic about horizon scanning, experience suggests they are easily diverted by higher priority or urgent work. This is likely to increase substantially as pressure intensifies to focus resources on Strategic Programmes and PSA delivery;
- resource expended is not easy to identify or control.

Option 2 – An in-house team based on EA’s approach

17. The EA’s current approach to horizon scanning is based on a dedicated horizon scanning team collating information. The team uses “intelligence tools” to search databases, the Internet and other sources e.g. colloquia. All the information is stored on databases. The team gathers information, identifying its significance, and producing regular reports for customers tailored to customer’s interests. The EA’s approach only covers science and technology although in principle it could be extended to address the full range of political, technical, social and workplace issues in line with the principles in Annex 1.
18. The HSE variant would use a small dedicated team to gather information and intelligence (including from HSE’s communities of interest) and to do the initial analysis. The Intelligence Group (Annex 2) would provide oversight of the team’s horizon scanning activities and input the strategic and organisational context into reports, which would go forward to the Resources and Delivery Group. Governance arrangements would be as per Option 1.
19. The advantages are:
- a systematic approach to horizon scanning based using purpose-designed tools to develop intelligence;
 - an in-house team with a clear understanding of organisational priorities;
 - develops a customer relationship with individuals/groups with information tailored to needs and includes a wide range of customers across the organisation;
 - explores wide ranges of possible information.
20. The disadvantages are:
- additional resources in dedicated team (3/4 staff) needed to implement. But this would be partially offset by reductions in resources spent in sectors, CTGs and Policy Group in collecting and analysing information;
 - cost of development of new database for storing intelligence;

There is a variety of ways such a team could be established and managed but the two most cost-effective options are:

Option 2A – HSL provides the dedicated team

21. The benefits of this option are it minimises the resource demands on HSE, whilst playing to HSL’s research strengths. (HSL may also be able to develop this as a commercial opportunity). This would be at the cost of diverting HSL resources from other work, but is in line with the Science Strategy. HSL recognises its current S&T focus and have made proposals on how they could ensure they address the broad

range of HSE's horizon scanning needs. HSL are less likely to be swayed by current issues when horizon scanning.

Option 2B – Internal intelligent customer/director of the HSL dedicated team

22. As Option 2A but with HSL working for a specified intelligent customer rather than reporting direct to the Intelligence Group and its constituents. The intelligent customer would act as the link between the HSL team and key customers in the Intelligence Group, and be proactive in overseeing/directing the HSL team (but not managing the day to day work of the team which would remain an HSL responsibility).
23. The logical home for the intelligent customer is CoSAS or SID. The marginal advantage of placing it in CoSAS would be the close links with the existing information and analytical support services in CoSAS and with OST and the proposed Horizon Scanning Centre of Excellence.

Consultation

24. Internal consultation has been carried out with operations directorates and Policy Group and HSL. Most preferred option 2. A number of issues were raised around the need for good intelligence analysis, ensuring adequate direction from HSE and preventing duplication of effort. The option which best addresses these concerns is option 2B. It is proposed that the Intelligence Group deals further with these issues during implementation of the agreed solution.

Resource Implications

25. The key issue is how best to reallocate resources to invest proportionately in HSE's medium/long term programme planning. Option 1 has the greatest impact in "diverting" HSE staff away from frontline and programme delivery. Option 2A uses existing programme money to provide delivery via HSL. Option 2B uses mainly existing programme money, with a small investment from HSE's resources to ensure that the horizon scanning process is broad based, balanced and not science and technology biased. If the Intelligent Customer role is given to CoSAS it will be resourced from the existing budget by adjusting priorities.

Environmental Impact

26. None

Actions

27. Board members discuss and:
 1. comment on the principles in Annex 1
 2. agree the arrangements HSE should adopt for horizon scanning.

Annex 1 - Horizon Scanning Principles

Aim

To improve health and safety in the workplace by systematically anticipating, identifying and preparing for new or changing risks in workplace activities.

Principles

1. Horizon scanning should be used to identify issues with the potential to change or present significant new or changed workplace risks over the medium to long term.
2. Horizon scanning should systematically anticipate, identify and prepare for issues with could affect the operation of and influence the reputation of the Health and Safety Commission and Executive.
3. Horizon scanning should include developments in:
 - Technology;
 - The workplace (industry);
 - Socio-economic trends which affect the labour market;
 - Trends in public attitude towards health and safety risks;
 - The UK political agenda;
 - The European Union; and
 - International developments (globalisation);

which could significantly affect workplace health and safety in the UK.

4. Horizon scanning should develop an understanding of the health and safety implications of cross-government activities (e.g. Foresight programmes) that could impact on health and safety in the workplace. HSE should contribute to such activities as and when appropriate.
5. The outputs from horizon scanning should be reviewed and used in the development of HSC's strategic priorities, policy objectives and HSE's core and programme development.
6. Where national security requirements permit the horizon scanning process should be open and involve all stakeholders. The outputs should be openly available.

Annex 2 - Horizon Scanning Process

The process has the following characteristics

- It will be paper light but will be rigorous and auditable
- It will operate almost entirely through existing management groups and use their communications arrangements.
- It will tie into the governance arrangements developed for delivery of the strategic programmes and core.
- It will require external involvement both in information gathering and review
- It should be integrated with the planning cycle

There are 4 key stages to the process, these are:

1. Information and intelligence gathering

Staff will gather primary information and intelligence as they go about their normal duties. Potentially all HSE staff and external stakeholders will be able to input into the process.

2. Collation and Collection of Information and Intelligence

Central to the process is the structured gathering and collation of the information generated at Stage 1. The responsibility for this will fall to existing groups, i.e. the Policy Divisions, CTGs, CoSAS and Sectors. These groups will gather the information using their communities of practice and interest (which will include external input) and they will apply their own knowledge and experience to evaluate the issues identified for their potential impact on H&S. This intelligence will be further collated into four broad subject areas: **socio-economic** led by the Social Science Unit, CoSAS, **policy** led by CEPS, **science and technology** led by CSKU with inputs from the CTGs, and **sectors** led by the sector forum, with additional inputs from the MH sectors. These four teams will produce reports for consideration by the Intelligence Group.

3. Review by the Intelligence Group To Produce HSE Picture

The Intelligence Group is new and will consist of a representative from each of the 4 groups (i.e. socio-economic, science and technology, sectors and policy), a representative from SID, one from HSL and [2] external members, and will be chaired by SID. It will meet no more than twice a year. Its task will be to draw together all the outputs from the four groups and from external sources e.g. government's strategic intelligence network. It will review all the issues, identify priorities from an HSC/E perspective and make recommendations supported by business cases for work that should be taken forward. The intelligence group may initiate further work on an issue in order to determine its priority.

The intelligence group is responsible for ensuring that HSE carries out horizon scanning appropriately. This will include exchanging and sharing information with other government departments and benchmarking HSE's process against other government departments.

4. Delivery Board and HSC

Stage four provides the link into HSE's governance arrangements. The Intelligence Group will provide the Delivery Board with a prioritised list of issues identified and make recommendations for further work to be done. *The recommendations will include where*

further horizon scanning is necessary, and where specific activities should be taken forward through programmes. Further *horizon scanning* work should only be done where the developments are of such a magnitude that they clearly merit further expenditure of resource to better understand the nature and extent of changes needed to inform policy *and programme* development. Before further work is started the endorsement of the HSC will sought as to the issues and priority afforded to them.

Annex 3 - Gene therapy

Introduction

This is an example based on an ongoing project, which under the proposed arrangements would now be at the second stage, the collation and collection of information and intelligence. The intent of the project described below would now be to provide sufficient information to the intelligence group to enable it to prioritise the issue.

Issue

Gene therapy is being developed as a new branch of medicine with the potential to treat inherited disorders, cancer and some genetic diseases. The technology may, however, have occupational health and safety implications. HSE/C need to consider their role in the regulation of this new technology, striking the right balance between protecting employees and others from harm whilst supporting innovation.

What is gene therapy?

Gene therapy was defined in the Government's recent White paper (Our Inheritance, Our Future - realising the potential of genetics in the NHS) as:

“ the deliberate introduction of genetic material into patient's cells in order to treat or prevent a disease. As well as replacing defective copies of genes, a variety of sophisticated techniques are being developed that will allow the activity of genes to be turned up or down.”

Potential therapeutic uses of gene therapy include: the treatment of inherited disorders such as cystic fibrosis, the destruction of unwanted cells such as cancers and the treatment of vascular and infectious diseases.

Potential risks

Successful gene therapy requires the delivery of genes to target cells and tissues using an appropriate vector or carrier system; the main approach is the use of genetically modified (GM) viruses. Most of the health and safety concerns about gene therapy arise from this use of GM viruses. As infectious viruses are used as the means of introducing genetic material, there is then a potential for spread to workers, other patients, and the wider community.

HSE/C role in gene therapy

HSE has had a long history of involvement in the regulation of work activities involving genetic modification, and already has regulatory control over aspects of gene therapy in the UK by means of the Genetically Modified Organisms (Contained Use) Regulations 2000. Although other legislation is in place covering patient safety, any other legislation or any other government department does not cover worker health and safety issues; the main regulatory focus is on product safety and patient safety issues.

HSE/C needs to be in a position to enable the development of the technology by appropriately informing and advising those involved, so facilitating the safe development and use of the technology in the workplace.

The project

The aim of the project that has just started, and is due to be completed by end of 2004 financial year, is to:

- review the state of knowledge and current state of play in gene therapy;
- identify what the potential occupational health and safety implications (including regulatory issues) there may be for the UK; and

- establish partnerships to facilitate the exchange of information with the aim of promoting a common understanding of roles and responsibilities to minimise duplication of effort.

Annex 4 – Comparison of EA with HSE’s proposed approach to horizon scanning

	HSE	EA
Overall approach	People oriented approach, links to delivery at a high level in HSE.	Generally more sophisticated, with a strong information gathering approach and delivery at a range of levels throughout the organisation.
Involvement of public	Proposed involvement via COPI’s and website	Currently no, but may have public face in future
Involvement of externals in review/forward strategy	Proposed involvement of external’s directly and via advisory committee’s	None, only in commissioned work.
Governance/direction of work	Governance proposed through the intelligence group and delivery board	No formal governance, framework set by EA’s strategic direction and priorities, supplemented by requests from customers at all levels in EA.
Information Gathering	Reliant on individuals, no systematic searching proposed	Systematic approach to gathering information, which is recorded. Use cognitive search tools to assist delivery.
Intelligence assessment	No formal arrangement proposed although it is likely that the groups/subgroups will develop these	
Trend development, scenario setting	Implied but not explicitly stated	History of developing scenario’s want to go to trend identification approach
Delivery	Proposed route is hierarchical although there may be some horizontal transfer	At various levels in the organisation or specific searches on request
Range	Proposed will cover, S&T, socio-economic, policy,	S&T in one group, socio-economic separate, other areas addressed indirectly. Does address agencies strategic direction and priorities
Resources	Resource light	More resource used, comprising 3 band 4’s and 3 band 2 equivalents from dedicated staff