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HEALTH AND SAFETY EXECUTIVE

Science, Evidence and Innovation - taking HSE forward

A paper by Patrick McDonald, Chief Scientist and Director, CoSAS

Issue:

1 Update on actions to improve HSE's approach to science, evidence and innovation.

Timing

2 Immediate.

Recommendation

- 3 That Board is invited to:
- Agree that the way forward set out in this paper will serve to meet all its current concerns in relation to HSE's science;
 - And, if not, provide a clear steer on alternatives or additional activities;
 - And, in particular, agree the propositions in paragraphs 7, 9 (the terms of reference at Annex 3), 10, 13, 16, 20, and 22.

Background

4 The Board has agreed that the way HSE specifies, manages, procures and disseminates the knowledge created by its 'science' needs to be improved. Our aim is to ensure that HSE has the science to meet its business needs and develops the skills, used in the right framework, to make better use of science. This paper informs the Board of the actions in hand, those planned and seeks agreement that the work programme will meet its current concerns.

- 5 The paper brings together the actions arising from:
- Implementing the relevant actions from the FR/MBUS workstream, already agreed by the Board;
 - The OSI review of HSE's science (draft Executive Summary at Annex1) which is broadly positive about HSE's science – our performance, as seen from the centre, is as good as any in Whitehall and we are not seen as needing to 'catch up' but we must not be complacent, our aim is to do better than others; and

- c. Work already under way in CoSAS.

Managing Science budgets

6 We are weak in the way we ensure we do the right science and how we use it. The systems we employ to manage our science projects are seriously sub-optimal. We are expending considerable effort to compensate for this and the wider inadequacies in our management and governance of science. Short-term we need an accurate forecast for this year's budget outturns (Board members will recall Vic Coleman's note of 2 November, at Annex 7). In the medium-term we must improve our organisation, arrangements and systems.

7 It is prudent to negotiate a delay in delivering work in projects where there are significant risks of slippage, or uncertainty, late in the year. This will reduce the final forecast for 2006/07, but will increase the size of the forward commitment on the 2007/08 indicative budget. This deferred expenditure (likely to be less than £1m) should be added to the current indicative allocation for science in 2007/08 to avoid the significant (perverse) incentive to hold onto delivery dates in 2006/07 because of the fear of losing funding in 2007/08. This policy is consistent with the Board's decision to manage a two-year budget 2006 to 2008. It would not affect indicative budgets for spend with HSL. **Does the Board agree that we work on the assumption that where delivery is deferred to 2007/08 by prudent management action the unspent funds from the 2006/07 budget can be applied to increase the indicative budget for 2007/08?**

Project to implement the FR actions

8 Annex 2 sets out the salient features of the project, which is being managed by John Hampton with Justin McCracken as S.R.O. There will be a further Board paper on this in due course.

The approach to improving science governance

9 The FR/MBUS Project Board wants the new Board sub-group set up as quickly as possible. **Does the Board agree the draft remit at Annex 3.** (We have taken the Board paper B/06/98 on Board sub-group structures and governance into account)

10 There is a need to improve governance right across our specification, procurement and management processes at all levels. We need to integrate science into our core business. This work will be part of the FR/MBUS project but it would be helpful for **the Board to agree, in principle, that:**

- a. **We should simplify our arrangements;**
- b. **Responsibilities and accountabilities must be well defined, communicated across the organisation and reflected in individual performance agreements;**

- c. **Getting good science will involve closer working between key parties, e.g. policy and science providers; and**
- d. **The governance arrangements will effectively hold those with responsibilities to account.**

Science planning & strategy development

11 We will have 3 different science planning streams which will be integrated by the Board sub-group. Annex 4 shows related timelines for science planning.

12 Planning (now over a very short timescale) for 2007/08. The CSA has decided that there is no alternative but to take a pragmatic approach. An Ad Hoc group of Directors has been set up to help the CSA finalise the draft Plan for 2007/08, necessarily based on historical spend, for HSE Board approval. It had been hoped to include an actual draft science plan for 2007/08 with this paper, but planning generally within HSE is not yet at the point where this can be done.

13 There will be a more considered corporate approach to producing a new Science Strategy and Plan for 2008 to 2011 based on the new 4-year HSC/E Business Plan and informed by the need to engage with partners in OGDs and elsewhere. This will respond to changes arising from the FR; take account of our substantial investment in horizon scanning, and to integrate nuclear research and technical support into a coherent HSE picture. The third planning stream will produce a more tentative plan for the longer term (i.e. beyond 2011) look at likely trends, exigencies, directions etc. The new HSE Board Science sub-group (see proposal below and draft remit in Annex 3) will assist the CSA in taking forward planning for 2008 and beyond.

Does the Board agree that:

- a. **The new Board Science sub-group should take a longer term view of evidence, innovation and technical support requirements; and that**
- b. **More involvement is needed at senior management levels to ensure that science proposals are properly justified and prioritised?**

Improving the approach to evaluation & 'what works' evidence

14 We are tackling this issue on a wider front than the two specific issues raised in the FR. Our aim is to produce a clear picture of the current state of evidence underpinning HSE's work: the principal gaps and weaknesses, the priorities for research to fill those gaps and to strengthen the evidence where necessary. We have agreed (within CoSAS) how to take this work forward (Annex 5) and now need a steer from the Board (and key policy and operational teams) whether this model looks fit for purpose.

15 The Board has expressed serious concern about HSE's evaluation work and has asked for current evaluations to be rationalised with a more strategic approach introduced. Our review of recent evaluations by extra-mural contractors endorses

the Board's concern; most do not comply with the guidance in GAP 6 (Programme, Policy and Project Impact Evaluation) and often the evidence does not support the conclusions drawn. We need to raise our game and avoid the temptation to always find ways to deem projects 'a success'. We are also concerned by recent examples of project owners being selective when using evidence from evaluations in their project reports. We have the 'double whammy' of poor evaluations, poorly used – a position admittedly not unique in central government.

16 Our proposals for a new approach to improve HSE's evaluation work will include:

- a. **Stopping all new small-scale evaluations; and**
- b. **Requiring all formal evaluations¹ to have CSA sign-off.**

To allow us to get a grip on the situation quickly **the Board is asked to endorse these points**. We are also keen to fund evidence-gathering, including for impact evaluation, as a proportion of programme spend (and to be included in programme budgets) rather than from the research budget – this will have the effect of transferring resources between budgets and effects on the quantum of that resource will depend on how well the business case for the programme stands up against overall affordability.

17 We are working with Operations Group (principally FOD) to collate knowledge about the effectiveness of interventions. The vehicle for this is the development of a Guide for Regulators². The Guide's purpose will be to interpret the body of evaluation evidence and help regulators and others with their decision-making about interventions. Progress with this is slower than we had hoped because, as mentioned above, the quality of evidence in much of our evaluations is too weak to reliably inform decisions. The focus may now have to be on a kind of salvage exercise to go through the body of evidence, extract what useful findings exist and bring them together in an intelligible way. Whatever model initially drives the Guide, its refinement will be supported by the proposed strategic approach to evaluation.

Improving Knowledge Management in HSE

18 A workshop with wide representation from across HSE was held at the end of October 2006. CoSAS has also recently completed a major investigation of knowledge management initiatives within the S&T community of HSE. Some key issues from both these are at Annex 6.

19 We need also to recall the outcome of Linda Derrick's work on information needs. It is a truism that a collection of data is not information; a collection of information is not knowledge; and a collection of knowledge is not wisdom – but it contains an important point – knowledge management is not simply about data or information management. Improving access to information is something to tackle

¹ To be defined but to exclude simple 'programme steering' activity.

² Stems from a Strategy 2010 commitment. This subsequently became one of the guiding points in 'Sensible Health and Safety', endorsed by the Commission in September 2005.

(and there can be some quick wins) but improving knowledge management in HSE is more about changes to behaviours and culture, in particular in how we capture appropriate and relevant 'tacit' knowledge which may only exist in people's heads. We must also consider how we get the valuable knowledge we have to those outside HSE who can benefit from it.

20 We have some way to go in developing communities of interest and practice whose members routinely share such knowledge. Making improvements must be seen as a long term, necessarily continuous, process – hence the need to see this proceed outside of the framework of the MBUS Project. Changing behaviours to get routine engagement in, say, intranet/internet communities will need a lot of effort and visible support from senior management. **Does the Board agree that CoSAS, working with RPD/Information Management Unit, should take this work forward and report back to the board in Spring 2007?**

Embedding the HSE/HSL partnership

21 This is part of the FR/MBUS Project and the aim is to agree the way the partnership will work by 1 April 2007. The current aim is:

- a. to get a new draft Framework Document to the next meeting of the HSE/HSL Ownership Board on 17 January; and
- b. restructure the work HSE commissions with HSL into a small number (say, 3-6) packages, as yet unspecified, in order to reduce transaction costs.

22 In doing this we must ensure that there is no disruption to HSL's income streams from non-HSE customers. A set of principles on which the partnership should run (see Annex 8) has been tentatively agreed between Patrick McDonald and Eddie Morland. **Does the Board endorse the Principles?**

Communications & Presentational issues

23 These are mainly internal HSE issues but getting our science wrong carries significant operational and reputational risk. A key element of the FR/MBUS Project will be the Communication Plan. Our communication partners have advised that we should avoid possible confusion and so we will combine communication requirements on science developments more generally into a single plan. Consistent with this plan, this paper and the Board minute will be disseminated to the HSE Science Community.

Financial implications

24 We are spending considerable resource on managing our inadequate systems for science – a full business case has already been circulated to Board members in relation to replacing current IT systems with Upside and it is not necessary to repeat it here. Setting up new Governance arrangements (including resource implications of embedding the HSL Partnership, Strategic approach to evaluation and Comms) will cost some £30-50k p.a. in staff costs for the new Board

sub-group and we will have to expend £50-100k (estimated staff costs) to recast our science governance and management arrangements – we will need to do more work to evaluate the options but we would only need to achieve a small improvement in resource expended to recoup the costs in under 3 years on a worst case scenario.

25 Work on developing our knowledge management will utilise some 1+ staff years per annum but the cost overall of better behaviours in a better culture will be cost-neutral while leveraging improved access and, as yet un-costable, efficiencies.

Consultation

26 This paper has involved consultation and some discussion with Comms. Directorate, PEFD, HSL, and key HSE Board stakeholders. We are considering holding a workshop early in 2007 to run the rule over our emerging plans (to involve HSE stakeholders and perhaps some Commissioners and other externals).

Extracts from the OSI report on HSE's Science (advanced draft but unpublished as at 21 Nov. 2006)

Main Findings and Recommendations

1. The main findings and recommendations of the Review are summarised below. Detailed information on HSE's performance against each key of the criteria is discussed in the main 'Findings and Recommendations' chapter of this report.
2. The Review found that HSE's performance against the ten key attributes that underpin good practice in the use and management of science by Government departments to be good.
3. In particular, the Review identified a number of areas of good practice that might be adopted elsewhere (either more widely across HSE or in other Government departments). These included:

Strengthening management systems for commissioned research

4. The rigour of HSE's science procurement and governance arrangements has been increased by introducing new requirements to link the knowledge gap to be addressed with HSE's strategic and business needs and identifying the responsibility and arrangements for monitoring and assessing the utility and impact of completed work. The recent introduction of an electronic science commissioning system (PROMIS) should also facilitate improved project management and knowledge sharing across the organisation by introducing electronic records that can be accessed by all staff.

Publication

5. HSE has an open publication policy and, across the organisation, good practice exists on actively promulgating research results to wider audiences and generating scientific debate of findings. External stakeholders value HSE's research reports and other science publications and dissemination activities.

Challenging established orthodoxy

6. Where appropriate, HSE is prepared and able to challenge established orthodoxy regarding the science supporting health and safety issues, both nationally and internationally. It develops, conducts and uses high-quality, groundbreaking, well-reviewed scientific evidence to support its position, and engages in external debate of the findings and implications.

Use of scientific expertise

7. A broad range of scientific and technical expertise exists within HSE and HSL, which is used to inform and add value to HSE work. Many of these specialists are world-class experts in their respective fields. HSE also makes effective use of external expertise (both national and international) to complement its internal resource.

Use of Advisory Committees

8. HSE also makes extensive use of advisory bodies – including Scientific Advisory Committees – to inform its work. HSE's establishment of Scientific Advisory Committees to address specific, tightly framed questions is a highly efficient and effective use of advice.
9. The Review also identified some areas of weakness, which are outlined below. These are to be viewed against the background of a generally good performance and in the spirit of improvement, rather than as major criticisms of the organisation.

Scientific expertise

10. HSE has access to a substantial resource of scientific expertise, both internally and through its in-house agency HSL. However, the size and balance of expertise across both organisations needs to be strategically reviewed on a regular basis so that changing needs can be accommodated more easily.
11. HSE faces considerable challenges in recruiting and retaining scientific staff, more so in some areas of expertise than others. Gaps in scientific expertise impact on HSE's ability to perform well against all criteria that underpin the good practice in the management and use of science in Government departments.
12. HSE is alive to the short- and long-term challenges it faces regarding the maintenance and development of its scientific expertise; however, the Review considered that the pervasive impact of this issue is such that HSE's focus on it should be intensified. In particular, the Review recommends that:
 - Internal capacity in social science (e.g. human behaviour, human motivation) should be developed further;
 - Specific plans should be set out for succession planning, including recruitment plans;

- HSE should consider and plan for the career development of scientists and, in particular, those specialists who bridge the gap between scientific and policy expertise, alongside the Professional Skills for Government initiative;
- HSE's scientific staff should continue to be deployed flexibly and in different configurations to make best use of resources available and share knowledge better across the organisation;
- HSE should explore innovative ways to maintain access to (internally or externally) specialist capability; and
- Future requirements for scientific expertise should continue to be reviewed in parallel with facilities.

Knowledge Management

13. HSE has a number of processes and initiatives in place to facilitate knowledge management within the organisation, most of which are working well. However the overall effectiveness of HSE's knowledge management was found to be impaired by:

- A lack of standard policy or guidance for systematically reviewing scientific literature on issues relevant to HSE's work; and
- Poor capture of science and of scientific advice and debate in some parts of HSE, with the result that knowledge sometimes resided in individuals rather than the organisation.

14. Weaknesses in knowledge management leave departments exposed to unnecessary risk due to gaps in knowledge that was either lost or never captured. HSE should therefore:

- Assure itself that it has (and will continue to have) sufficient systems in place to enable it to collate, critically appraise and update emerging scientific evidence consistently and appropriately across the organisation's range of interests; and
- Ensure that key knowledge is formally captured on an ongoing basis.

Strengthening systems

15. In addition to the knowledge management issues discussed above, the Review identified some weaknesses in HSE's systems for reviewing existing science, publishing research and seeking and recording scientific advice:

- HSE has no standard policies or guidance for: reviewing scientific literature, peer reviewing its science, or obtaining scientific advice.
- When publishing research reports on its website, HSE makes no distinction between the quality of the science and scientific advice presented. The Review considers that urgent thought should be given to the handling of poor quality or controversial research, as there remains a quasi-endorsement of published work by virtue of it being made available by HSE.

16. In order to ensure the quality of its use and management of science – and the perception of this by the outside world – HSE should:

- Provide guidance for systematically reviewing (and updating) scientific literature on issues relevant to its work;
- Provide guidance on what level of peer review is appropriate to particular circumstances; and

Guidance should be provided for identifying and using scientific experts who are demonstrably up to speed with the existing evidence.

**Project to take forward the recommendations of the Fundamental Review,
Making the Best Use of Science workstream (FR/MBUS)**

The HSE Board adopted the recommendations of the Fundamental Review Science workstream in September and agreed to a project to take the proposals forward. The Making Best Use of Science (MBUS) Project Board has been established to implement the HSE Board's decisions with a target date for implementation of April 2007.

The work falls into four key areas:

- 1 GOVERNANCE and FINANCIAL ARRANGEMENTS
- 2 PLANNING
- 3 ORGANISATIONAL DELIVERY
- 4 COMMUNICATIONS

GOVERNANCE and FINANCIAL ARRANGEMENTS

a) **High level governance** - the aim of this work is to set up a new HSE Board Science sub-group under the chairmanship of the Chief Scientist. This group will oversee HSE's S&T planning and delivery, giving it strategic direction and aligning it with HSE's overall strategy. It will advise the HSE Board on effective use of S&T and maintain the balance between S&T demands arising from mandatory work, programme work and mid-long term research

b) **Lower level governance and financial arrangements** - the aim of this work is to establish improved structures and procedures for commissioning, managing and evaluating S&T work in each of the main S&T blocks. This will help secure better management of HSE's S&T spending making sure that accountability of budgets goes with the authority to commit. It will help ensure that our S&T is seen as part and parcel of delivery and is focused on business need.

c) **Defining the HSE/HSL partnership** - the aim of this work is to develop a new framework under which HSL will operate within HSE, reflecting its role as S&T provider of choice. The framework will simplify the arrangements by which HSE procures S&T from HSL, reducing the management overheads associated with operating the partnership. It will improve the financial forecasting for S&T spend and help assure value for money. It will help HSL grow its external business.

PLANNING

The aim of this workstream is to ensure that HSE has a shared, clear understanding of its S&T needs in the medium term (2008 - 2011) and in the long term (2011 and beyond). Planning for 2007/08 is outside the scope of the MBUS project and will be progressed separately. By integrating S&T planning into wider corporate business plans we will help improve both strategic planning and delivery of the business. There will be more clarity about the type of work needed from the three areas of S&T; embedded, corporate S&T and from external providers. We will be able to use the plans as a basis for resources management identifying mismatches between our S&T and business needs and dealing with them in a timely way. The next HSC/E Science Strategy will be an important product of this work.

ORGANISATIONAL DELIVERY

The aim of this workstream is to improve our flexibility to deploy S&T resources to meet our current and future business needs. By bringing together as much of the S&T resource in HSE/HSL as possible we will be able to increase flexibility, simplify management chains and develop better professional and career management of S&T staff through a Head of Profession/Head of Discipline function. The work will identify which S&T resources need to be embedded with the delivery functions and which should be managed corporately. The work will define the management arrangements for HSE and HSL staff and to what extent there needs to be a distinction between these staff. The evaluation of the Pilot Pools Initiative will be incorporated into this workstream.

COMMUNICATIONS

The aim of this workstream is to ensure that all staff in HSE, particularly the S&T community, are well informed about the project; its objectives and its progress, and know how they can make their views known. The Project Board has set out their vision for the project and the key messages for staff. A Communication Plan is being developed

Leaders have been identified for each of the workstreams and they are putting together the detailed plans which set out how they will take their work forward. These plans include the arrangements for the wider involvement of key S&T stake holders in developing the way forward.

John Hampton

HSE Board new Science Subgroup

Proposed Terms of Reference

Helping HSE achieve its business objectives by delivering the right evidence, innovation and technical support, at the right time, in the right amounts in ways which are cost-effective

This is to be a subgroup of the HSE Board chaired by the Chief Scientist who will report directly to the HSE Board on the work of the committee. It will meet [3or 4?] times a year at the invitation of the Chief Scientist who will invite membership to achieve a judicious mix of Board and other senior staff and some non-HSE members.

The HSE Board's sub-group on Science will, through the Chief Scientist, **advise the Chief Executive and HSE Board** on:

- Development of the HSC/E Science Strategy and the Corporate science Plan(s)³;
- Ensuring that HSE's in-house scientific expertise is well utilised;
- The criteria for commissioning science and technical support;
- The acceptability of science plans emerging from individual HSE delivery functions;
- Funding options and criteria/proposals for indicative allocation to main programme blocks and to the intra/extramural balance;
- The adequacy of procedures for commissioning and managing science procurement and delivery;
- The key facilities/capabilities/competences (at HSL and elsewhere) which HSE needs to resource against perceived future needs and medium/long term affordability;
- The quality and value-for-money of HSE's science spend, including oversight of work commissioned through HSL;
- Management of the science budget and the adjustments to be made between 'blocks' in year;
- The criteria for prioritisation of spend in and between budget/programme blocks;
- HSE's needs from (and the approach to management of) the HSE/HSL partnership; and
- The application of the criteria for the science contribution to HSE's balanced scorecard and on how well these are met.

³ The subgroup will not consider detailed science plans but will provide high level oversight to ensure that plans are based on clearly identified priorities and sound science with line of sight to HSE business need.

The HSE Board remains the ultimate decision-making body and is free to reject the advice of the Chief Scientist and the Science sub-group

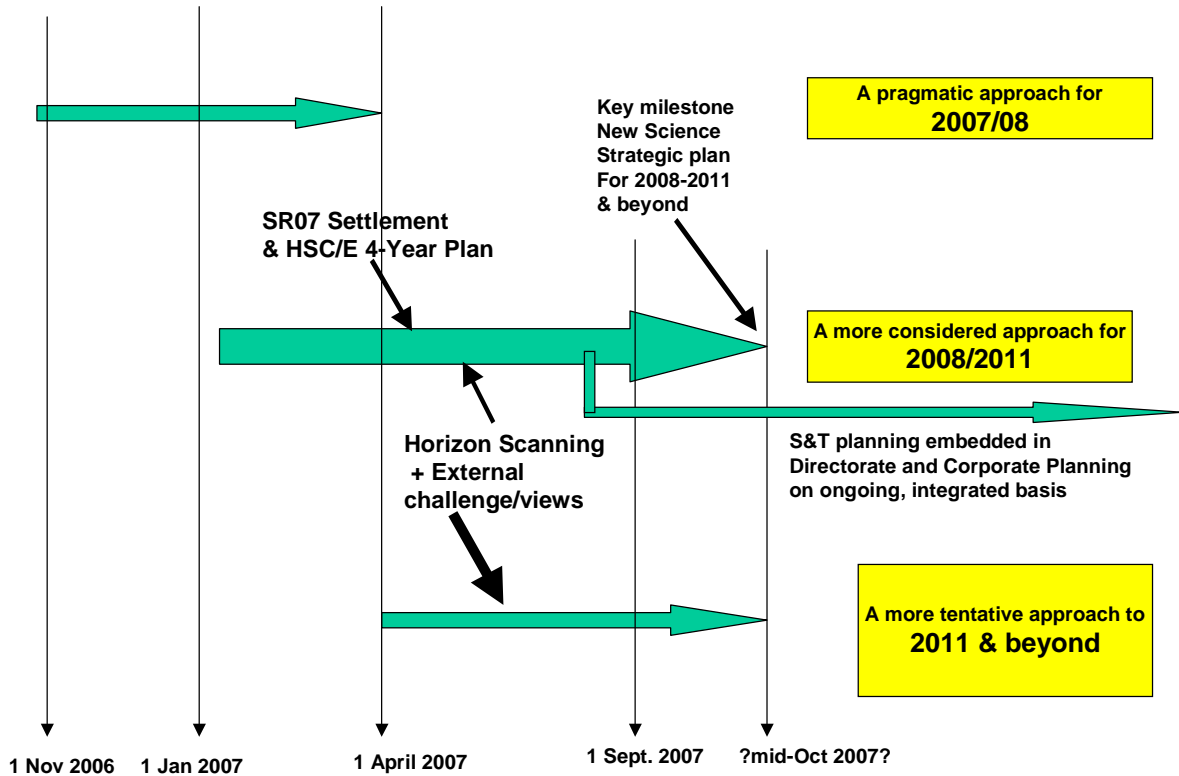
Note:

This formulation should effectively avoid conflict or incoherence with the role and responsibilities of the Chief Scientist, who (in addition to having a personal role as HSE's Chief scientific adviser and a commissioner of research) has responsibilities for acting as:

- Manager of CoSAS;
- A Main Budget Holder;
- Champion for science in HSE at Board level;
- Champion for HSE in wider Government circles and across the British economy; and
- As part of the pan-Government arrangements to promote good science in the UK.

Timelines for Science Planning

Science Plans - Planning workstreams — (working assumption at 9 Nov.)



DEVELOPING A CLEAR PICTURE OF HSE'S EVIDENCE BASE

CoSAS proposed way forward

We need to create a clear and fairly simple picture along 'where are we now', 'where do we want to get to' and 'how do we get there' lines. The table below summarises the approach we plan to use.

Issue	Main contributory elements	Links & outcomes
Are we aiming at the right problems?	<ul style="list-style-type: none"> What causes ill health, injury and absence? How prevalent and severe are they? How tractable to HSE activity? 	Needs to consider how to link in the Harm Index
	<ul style="list-style-type: none"> What causes major hazard risks? How prevalent and severe are they? How tractable to HSE activity? 	
	<ul style="list-style-type: none"> What hazards/risks do we most need to, and can we most effectively, address? 	
	<ul style="list-style-type: none"> Historical picture and high level trends in injury, ill health and major hazard events Emerging issues with potential to cause harm 	Statistics web pages Horizon scanning & epidemiology
Do we know who needs to do what to address these problems?	<ul style="list-style-type: none"> How can risk of ill health, injury and absence be reduced? <i>(Focus here is on physical precautions and systems of work and NOT behavioural, attitudinal or management aspects)</i> 	Leads to the 'Destination statement' in 4 year plan framework
	<ul style="list-style-type: none"> How can risk of major hazard events be controlled/reduced? <i>(Focus here is on physical precautions and systems of work and NOT behavioural, attitudinal or management aspects)</i> 	
<p><i>Do we know how to effect these changes?</i></p> <p><i>(Encompasses 'What works?' question from FR and 'What works in influencing SMEs?' from SME advice meeting.)</i></p>	<ul style="list-style-type: none"> Why do people, individually or collectively, make decisions about and behave towards risks in the way they do? How can we change peoples' decision-making, behaviour and attitudes? What interventions are most cost-effective at individual duty holder level? What interventions are most cost-effective at programme/sector level? Who do we need to, and can most effectively, engage with? 	In combination with the above this leads to a high level plan and resource allocation in 4 year plan framework
<p><i>How do we ensure HSE has the capacity to collect, analyse and make effective use of robust and reliable evidence?</i></p>	<ul style="list-style-type: none"> What can HSL realistically handle and deliver to an acceptable standard? Do we have the necessary funds for extramural evidence gathering and which budget should they come from? Does HSE have the will and ability to listen to and act on the evidence? Do we have the right research planning, methodologies and analysis tools? <p>Are we sufficiently 'joined-up' with OGDs on evidence and data-sharing?</p>	Needs to embrace evidence to support design, management and impact evaluation of HSE activities Needs to lead to a coherent 'evaluation plan'

We should structure the 'where are we now' and 'where do we want to get to' picture around the evidence chain – the first three 'issues' in the left hand column cover this. This structure should align quite well with the four-year plan framework as indicated under 'links & outcomes'. The fourth issue deals with 'how we get there', including

the two critical issues of working with HSL and funding for extra-mural research/evidence-gathering.

We don't want to include much, if any, detail of the evidence itself. But we need to make an assessment of how we are doing in each area. This should be broken down at about the level of the main contributory elements in the second column so that we can provide a 'traffic light' indication for 'what we know' on each one. We should also be able to summarise 'what we need to know more about', whether because of inadequate evidence or inadequate analysis, for each element. We also need to be clear about significant links to evidence held/used by OGDs and whether the links are effective.

Our proposals for a new approach to improve HSE's evaluation work are still being developed but will probably include:

- a. Formal evaluations needing Chief Scientific Adviser sign-off; and
- b. The need for evaluation of particular projects, interventions etc being informed by gaps identified above;
- c. Evaluation reports authored independently (from those responsible for the related project, intervention etc);
- d. A review of GAP 6 and production of simpler guidance on other evidence-gathering for project design and management and so-called 'temperature-taking';
- e. Proposals to the Board for a strategic decision on funding evidence-gathering, including for impact evaluation, i.e. as a proportion of programme spend rather than from the research budget, and
- f. CoSAS to run periodic seminars for policy and operational staff on "Gathering and using evidence for effective decision-making".

Knowledge Management in HSE

The cross-HSE workshop on 25 October concluded:

- There is no need to spend a lot of money on knowledge management or to try and achieve everything at once. Rather, an organisation can accumulate knowledge over a period of years until the amount of knowledge reaches a critical mass becomes a valuable resource for the organisation to exploit. The approach to capturing knowledge should be systematic informed and targeted with the lead starting at the top of the organisation
- There are many knowledge management tools being used in HSE with many examples of good practice (and some providing bad experiences). However, they are not supported by an HSE 'end goal'. The roles and responsibilities for staff throughout the organisation, with respect to knowledge management, are not always well defined and this creates a lack of accountability.
- The culture of the organisation reflects in some respects this lack of a clear understanding of roles and responsibilities.
- Overall, managing our knowledge well is seen as crucial for HSE's immediate operational activity and for longer-term strategic direction. It is also important if we are to counter criticism of the organisation from external stakeholders, not least OSI.
- There was a broad consensus supporting the analysis presented of the current drivers for improvement; the essential nature of the problem and the broad, representative picture of issues around Knowledge Management in other organisations.
- Knowledge management is for the whole of HSE not just the S&T community. Principles need to be active concepts that will define knowledge management and set out some of the benefits and barriers to being successful. An important point is that knowledge management is an ongoing cultural commitment and not a single project with an endpoint.
- HSE has a set of core values and competencies that capture knowledge management behaviour. There is no point trying to change the core framework to better capture knowledge management behaviours, as it would simply be a rewriting of what already exists. These need to be embedded into staff work practices through illustrations with examples of good practice that emphasise the practical application of the good behaviours.
- Any work aimed at improving the management of knowledge requires the involvement of partners from across HSE.
- That the way forward should *inter alia*:
 - Articulate the vision of what good knowledge management looks like
 - Identify examples of good practice as part of the picture of where HSE is now
 - Articulate the gaps and identify a plan of work to address them.

In addition, a major investigation of knowledge management initiatives within the HSE S&T Community by CoSAS has concluded that:

- Characteristics when we manage our knowledge well are:
 - Clear understanding of corporate and personal roles, responsibilities and accountability in knowledge creation, sharing and use
 - A nurturing and trusting environment;
 - Vision, informed leadership and good management;
 - Closely communicating teams;
 - Individual and team competency addressed;
 - Specified resource made available;
 - Knowledgeable, persistent and enthused individuals;
 - Processes and procedures meet immediate and future individual and corporate needs;
 - Where offering clear business benefits, appropriate technology accepted and adapted to business need;
 - Individuals demonstrate necessary supportive core behaviours;
 - Individuals are recognised and rewarded. And

- Characteristics when we don't manage our knowledge well are;
 - Unspecific allocation of roles and responsibilities;
 - No clear vision of what is required;
 - Localised focus;
 - No clear leadership or confusing governance arrangements;
 - No clear understanding of what to do or how to do it;
 - No coordinated management of individual or team competency;
 - Limited sense of identity or community;
 - Knowledge resides within the individual;
 - Not seeing it as my job to share;
 - Too busy doing other things - low down list of priorities;
 - Processes and procedures poorly aligned, chaotic or absent;
 - Not wanting to engage with technology;
 - Limited demonstration of necessary supporting core values;
 - No tangible recognition or reward.

Note to Board Members – sent 2 Nov. 2006

Managing the mainstream extra-mural science budget

Status – for information – but if you have concerns to advise me quickly please

I am taking the view that it is vital that we have adequately accurate profiling of science budgets to inform the crucial December forecast. I am not currently satisfied that we have as good a handle on this as we should.

I have initiated some work over the coming weeks to improve the information we hold on anticipated progress with extra-mural science contracts and, in particular, to get as good information as we can on the profiling of milestone dates and the associated anticipated costs/accruals.

This will involve Science Coordinators, Project Officers and/or the relevant Technical Clients contacting contractors where we believe that there is a risk that milestones may not be met. We are also asking that they (working together) take a view of the confidence they have in the profiled dates being met. Where confidence is low (and hence risks are thought to be significant) we are asking for consideration of amending contracts to ensure that at-risk milestones do not fall in the Feb. to April 2007 period. I do not anticipate that this will be particularly onerous for the people concerned.

The purpose of this note is to ensure that you are aware of the potential call on staff in your commands and the urgency. It would also be helpful if you were to endorse the level of priority to be afforded to this work to relevant managers in your teams.

HSE/HSL Partnership

Principles on which the Partnership will be built and managed – draft as at 21 Nov. 06

1 HSE recognise HSL as its preferred supplier of research. It is in both HSE's and HSL's interests to ensure that:

- HSL's activities as commissioned by HSE lever the best possible impact on achieving HSC/E's strategy, vision, Mission and Corporate Plans;
- HSL's capacity is used to the full
- HSL is able to build a viable business providing high-quality science to both HSE and external customers; and
- Management overheads are reduced, while simplifying and strengthening planning and performance management

2 HSE will enter into a limited number of [between 3 and 6] agreements (contracts) to deliver packages of work to advance certain areas of HSE's business (as set out in HSE's Corporate Plans) and to enable HSL to invest in research and other activities to provide and maintain key facilities and capabilities.

3 These agreements will set out what is to be done in some detail over a one-year horizon but with a view also of likely needs over a further two years (at least). We will not, however, seek to specify in detail at the outset what each and every strand of work will deliver and when. The value of the work will be specified and profiled at the package level allowing flexibility on the actual content and timing (to be agreed on a real time basis between HSL and the nominated HSE 'client'). We will aim to ensure that the quantum and quality of work done, in the round, on each package is in accordance with the plan agreed before the start of the year and that this will enable payment streams to be cleared in accordance with the profile.

4 The agreements will include how HSE and HSL will seek to measure the quality and impact of work done.

5 Agreements will be reviewed and refreshed annually.

6 HSE's new Board Science sub-group (to include as members the HSE Chief Scientist and the Chief Executive of HSL) will provide an oversight of the delivery of HSE's science including from HSL.

7 Adjustments to the accepted package of agreements can be made in-year by mutual consent of HSE's Chief scientist and HSL's Chief Executive - and in circumstances agreed by them by designated SCS managers.

8 These principles will be endorsed and owned by the HSL Ownership Board and captured in HSL's Agency Framework Document.