

Science Advisory Council

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Quality assurance and peer review in press releases and contingency/emergency situations

-Advice to the CSA

Background

This paper focusing on science in Defra press releases and contingency plans was developed by the Science Advisory Council Governance sub-group (SAC-G) as a continuation of its earlier work on quality assurance and peer review.

The paper is the final version of the report approved at the SAC meeting on 26 April 2006. It has now been submitted as advice to the Chief Scientific Adviser.

Summary of recommendations

Press Releases

Recommendation 1: We recommend that the Chief Scientific Adviser should ensure there are adequate processes in place to assure the science content of Defra's press releases. This must be done with care to ensure that any process does not create undue restrictions on the operation of the press office.

Recommendation 2 : The CSA and his secretariat should be copied into all draft press releases which contain a science element and be given time to comment on or challenge the content before release.

Recommendation 3: As a matter of course, the press office should ascertain whether any science that is being reported has been peer reviewed and whether the critical evaluation has been done outside of Defra.

Recommendation 4: Information on the peer review status of any science reported should be stated in the press release, as should any key uncertainties in this science.

Recommendation 5: The CSA should look to pro-actively publish research (and non R&D science) results on a more frequent basis. Particular attention should be paid to raising the profile of results that have been produced in collaboration with trusted and prestigious partners.

Contingency plans

Recommendation 6: We recommend that procurement and quality assurance of the science used to underpin contingency plans is ultimately the responsibility of the planner and they are therefore responsible for ensuring that the quality of the science used is assured (by for example, peer review) and kept up to date to reflect the current status of scientific understanding.

Recommendation 7: We recommend that the planner takes responsibility for ensuring that the scientific evidence used to underpin a contingency plan is made explicit, including detailing whether it has been peer-reviewed or quality assured by other means. If a science element is not required then this must be a conscious decision and the rationale for not drawing on science should be made apparent.

Recommendation 8: We recommend that the need for scientific expertise to underpin Defra's contingency plans must be emphasised more strongly in the Emergency Planning Guide, preferably in the same vein as the legal, human resources and IT needs.

Recommendation 9: We recommend that the Contingency Planning and Security Division routinely seek comment from representatives of the Science, Economics and Statistics Directorate General before final submission of all of its contingency plans and during subsequent reviews.

Vote of thanks

The SAC-G sub-group would formally like to thank Defra's Contingency Planning and Security Division and Communications Directorate, in particular Robert Farmer, Zonia Brown, Jean Ward and Warwick Smith for their assistance and without whom the objectives of the sub-group could not have been achieved. They would also like to thank Melanie Smallman (Science, Economics and Statistics Directorate General) and Bob Ward (The Royal Society) for their contributions to sub-group discussions.

Members of the Sub-Group**SAC Members**

Prof. Christopher Gaskell	Professor of Small Animal Studies and Pro-Vice Chancellor, University of Liverpool
Prof. Philip Lowe	Director, Rural Economy and Land Use Programme of the UK Research Councils, University of Newcastle
Prof. Thomas Meagher	Professor of Plant Biology, University of St Andrews
Prof. John Beddington	Science Advisory Council, Chair (<i>in ex-officio capacity</i>)

Secretariat

Dr. Tim Bradshaw	SAC Secretary
Mr. Amar Sangha	Science, Economics and Statistics Directorate General, Defra

1. Introduction

- 1.1. The SAC Governance sub-group (SAC-G) produced a report on quality assurance and peer review in Defra which was accepted and submitted to the Chief Scientific Adviser (CSA) as paper **SAC(05)24** in October 2005.
- 1.2. A report back from the CSA on how recommendations in the report are being addressed was presented at the SAC meeting on 26 April 2006.
- 1.3. Following the submission of their final report in October 2005, the SAC-G sub-group continued its evaluation of Defra's quality assurance processes, specifically looking at how science in press releases is peer reviewed and the quality assurance mechanisms in place for science used in emergencies and to underpin Defra's contingency plans.
- 1.4. These issues were discussed briefly by the sub-group at its meetings on 20 December 2005, 1 February, 6 March and 31 March 2006. The following comments and recommendations are made for the CSA and Defra as a result of our discussions.
- 1.5. For information, the original full terms of reference for SAC-G's work in this area were:

"To consider Defra's quality assurance processes for science, including peer review; to identify and endorse good practice in Defra and advise the Department on how it could develop its programme further. The sub-group will:

- Evaluate Defra's current peer review and quality assurance processes, including:
 - Peer review of research proposals and reports;
 - Quality assurance of the research; and
 - Audits of the laboratory agencies
- Consider Defra's processes when dealing with emerging findings or emergency situations where rapid use of research results is required.
- Consider how Defra's quality assurance programme might be developed further."

- 1.6. The sub-group decided to continue its work on quality assurance because members felt that they had not completed the second bullet point of their terms of reference and believed further investigation would result in added value to the work conducted so far.
- 1.7. In the course of completing its work on quality assurance and peer review, the sub-group met and heard from representatives of Defra's Science Quality and Priorities team, Defra's Contingency Planning and Security Division (CPSD), Defra's Communications Directorate and Defra's Chief Scientific Adviser's secretariat. In addition, the sub-group spoke to a member of The Royal Society's Press and Public Relations office to discuss how other organisations

and Governmental Departments check the scientific accuracy of their press releases.

- 1.8. The sub-group understands that the Science Quality & Priorities team, in conjunction with relevant Defra scientists, have been involved in the commissioning and quality assurance of science, specifically reviews of existing knowledge or new information from outside Defra, where this has been required urgently by the Department. Given their expertise and experience this seems an appropriate response and use of resource, and the sub-group endorsed this approach. Others have emphasised the importance of a mechanism for rapid response and the need for a directory of expertise available for comment at short notice¹. In addition to a Departmental directory of experts, learned societies and research councils can be approached as a source of peer reviewers that can provide a rapid response.

2. Quality assurance and peer review of press releases

- 2.1. One of the key long-term problems for Defra – stemming from issues faced by its predecessor, MAFF – has been how to build trust in the science that it uses to underpin policy. Defra has also recognised the need to *demonstrate* that its policies are underpinned by quality science and other evidence as appropriate. It is important therefore that Defra engages effectively with the public and other key stakeholders; for example, the learned societies, academia and interest groups. One aspect of that engagement ('telling and informing' as opposed to 'listening and learning') is through the reports and press releases that the Department publishes.
- 2.2. Specific attention was given to press releases by the sub-group because of the possible dangers associated with the release of inaccurate or inappropriate scientific information. In addition, members felt relatively uninformed about the mechanisms in place to assure the quality of science placed in the public domain.
- 2.3. The sub-group has already commented on the peer review of science projects and other reports (see **SAC(05)24**). Given the current state of peer review and quality assurance in Defra, we recognise that it is almost inevitable that some poor science will sometimes find its way into press releases and that this may not be recognised until after the event.
- 2.4. Clear communication about the level of confidence in the science used to underpin policy is thus essential if trust is to be built in Defra's science and the policies underpinned by this science. In our discussions with Defra's Communications Directorate it was apparent that there is a lack of appreciation of the role and value of peer review. Press officers, we were told, and in some senses understandably, typically take the science they are presented with at face value and prepare press material accordingly. They do not routinely ask if the science being reported has been peer reviewed, nor is the scientific content of the press notice necessarily checked.
- 2.5. The quality of the science in any public statement is enhanced, and is seen to be enhanced, by the use of peer-review or other quality assurance process.

¹ Royal Society (2005) *Response to CSA's consultation on guidelines on scientific analysis in policy making (RS policy document 16/05)* Available from <http://www.royalsoc.ac.uk/document.asp?tip=0&id=3819>.

The sub-group recognise the professionalism of the Press Office, and also that it is not the role of the press officer to conduct peer reviews, nor to have the specific scientific expertise themselves to make judgements on the science presented. However, an approach where no acknowledgement is made of the quality assurance processes involved risks confusion between validated and more speculative scientific findings. Similarly, where the presentation of science is not subjected to the oversight of a relevant scientist there is an inevitable risk of unintentional misrepresentation of that science.

- 2.6. We recognise that there are issues around timeliness with press releases and that any additional quality assurance structure imposed could restrict the ability of the press office to operate effectively. However, we believe that this needs to be balanced with need for greater assurance. The ultimate responsibility for the public representation of Departmental science should lie with the Chief Scientific Adviser and he should establish a chain of responsibility for this, as is common practice in The Royal Society. For Defra, this chain should involve the Department's science co-ordinators.
- 2.7. **We recommend that the CSA should ensure there are adequate processes in place to assure the science content of Defra's press releases. This must be done with care to ensure that any process does not create undue restrictions on the operation of the press office.**
- 2.8. From discussions with Defra's science co-ordinators during the sub-group's latest piece of work (an 'end to end' review of how science feeds into policy in Defra -for terms of reference, please see **SAC-G (05) 22**), members are aware of the different roles that each science co-ordinator performs within their Directorates. We appreciate that each science co-ordinator has had to adapt their role based on the size, structure and history of each Directorate General (DG) and, as a result, the level of knowledge that each has of their DG's scientific activities varies. However, we suggest that the CSA put forward his science co-ordinators, wherever feasible, as the nominated individual to peer review the scientific content used in press releases originating from their DGs.
- 2.9. In order that the CSA can maintain oversight and exercise his/her responsibilities in this area we recommend that **the CSA and his secretariat should be copied into all draft press releases which contain a science element and be given time to comment on or challenge the content before release.**
- 2.10. Building trust: Defra is still building levels of trust in its science from a fragile base, and errors made now are likely to have a disproportionate effect on how the Department is perceived. Even relatively minor lapses could have a major impact, so we were pleased to hear how the Communications Directorate takes pro-active steps to anticipate how news stories may develop. In this way timely briefing and publicity can be arranged to 'head off' issues before problems arise. To build on this, it is important that press officers should be made aware of any uncertainties in any science (including science advice) they receive for publication and whether or not this science or science advice has been peer reviewed. In the spirit of openness and transparency, this information should then be communicated in the press notice.
- 2.11. **As a matter of course, the press office should ascertain whether any science that is being reported has been peer reviewed and whether the critical evaluation has been done outside of Defra.**

- 2.12. In addition, **information on the peer review status of any science reported should be stated in the press release, as should any key uncertainties in this science.**
- 2.13. Given the low level of public trust in Defra's predecessor, the sub-group appreciates the high proportion of reactive press releases that Defra currently publishes. However, there are benefits to be gained from being more pro-active and open about the use of science in Defra, and we suggest that the more regular publication of informative science information and background should be adopted to raise Defra's scientific profile. Over time, we anticipate that this would increase public confidence, and the confidence of Defra's other key stakeholders, in Defra's science. It would also help to allay any suspicions about Defra selectively choosing the science stories that it releases to fit policy aims.
- 2.14. The possibility will always exist that scientific information in Defra press releases is misinterpreted or is misrepresented once in the public domain, but Defra's responsibility should be to ensure that what it places in the public domain to start with is both accurate and fair. Where research has been conducted with other bodies that may be more 'trusted' by the public than Defra, the Department should seek to build on this to demonstrate that its position is robust and trustworthy.
- 2.15. In order to raise the profile of Defra and its science, the sub-group recommends that **the CSA should look to pro-actively publish research (and non R&D science) results on a more frequent basis. Particular attention should be paid to raising the profile of results that have been produced in collaboration with trusted and prestigious partners.**

3. Quality assurance and peer review of contingency plans

- 3.1. The sub-group examined the processes that Defra has in place to quality assure the science used to underpin the Department's contingency plans and the processes that ensure this science is kept up to date. This examination was prompted by previous work undertaken for the SAC by the Science Advisory Council's Epidemic Diseases (SAC-ED) sub-group. The SAC-ED sub-group (on which all three members of SAC-G also sit) has reviewed and made recommendations on the science underpinning Defra's Foot and Mouth Disease contingency plan. SAC-ED is currently reviewing the science underpinning the Avian Influenza contingency plan. However, it is not the role of SAC to provide a regular science audit function for all contingency plans.
- 3.2. Defra has been designated as the Lead Government Department for the overall management of Central Government's response to a crisis in 9 areas (the highest number for any Government department –the next being the Department for Transport with 5):
- Animal Disease & Welfare
 - Reservoir Inundation
 - Overseas Nuclear Emergencies

- Pollution of Controlled Waters
 - Drinking Water Supply & Contamination
 - Plant disease
 - Flooding (coastal and rivers)
 - Chemical, Biological, Radiological, Nuclear (CBRN) consequence management
 - Food supply
- 3.3. In addition to having plans for the emergencies listed above, Defra also has approximately 30 supporting emergency plans for the so-called 'commodity areas' (e.g. an emergency plan for the disruption of milk, which feeds into the disruption of supply chains).
- 3.4. With this level of responsibility, there is clearly a need to ensure that any science underpinning these contingency plans is robust, fit for purpose and up to date. If a science element is not required then this must be a conscious decision and the rationale for not drawing on science should be made apparent.
- 3.5. Recognition of science: We believe that contingency planning is mainly perceived as an operational issue by Defra, as plan development usually takes place after a policy decision is made. The Contingency Planning and Security Division (CPSD) have a variety of mechanisms to quality assure the Defra emergency plans (e.g. planning events, internal audits, etc), which the sub-group recognise as being appropriate. However, it is apparent that these focus on the *operational* aspects of *implementing* plans, not on the science, modelling and other inputs that underpin the plan itself.
- 3.6. In addition, the science that feeds into the policy-making process (usually at a national level, though increasingly more at a European level), and therefore guides contingency planning, may not be explicit. In order to allow experts to constructively review the scientific evidence base for contingency plans, the evidence base and how it has been used to underpin the plan should be made explicit, and the planner should identify which areas of this science have been subjected to independent quality assurance. The need for such assurance is clearly as important as for all other science within Defra, and the mechanisms available, such as peer review, are similar (see SAC-G final report on quality assurance and peer review, **SAC(05)24**).
- 3.7. Ultimate responsibility for the science used to underpin contingency plans, for keeping this science under review and ensuring that it is up to date, should rest with the planner². The CPSD should remain the centre of best practice for contingency planning and should provide a conduit for advice to planners. Specific advice on the handling of science and on how to meet the expectations for science review and quality assurance can be provided by the Science Quality & Priorities team.

² The term 'planners' can refer to the Senior Responsible Owners (SRO) for contingency plans or the person responsible for writing the plan, who is responsible for reporting to the SRO.

- 3.8. **We recommend that procurement and quality assurance of the science used to underpin contingency plans is ultimately the responsibility of the planner and they are therefore responsible for ensuring that the quality of the science used is assured (by for example, peer review) and kept up to date to reflect the current status of scientific understanding.**
- 3.9. **We recommend that the planner takes responsibility for ensuring that the scientific evidence used to underpin a contingency plan is made explicit, including detailing whether it has been peer-reviewed or quality assured by other means. If a science element is not required then this must be a conscious decision and the rationale for not drawing on science should be made apparent.**
- 3.10. CPSD Emergency Planning Guide: In response to Defra ‘owning’ so many contingency plans, the CPSD has produced a contingency planning strategy, the first of its kind across Whitehall. The CPSD are also responsible for the creation and maintenance of an Emergency Planning Guide, which sets out the best practical advice on planning and exercising, and Central Government Policy. The document is split into two parts – one which sets the background and focuses on policy and one which gives operational guidance. The guide is aimed at the ‘planners’ of the individual emergency plans, who then tailor the guide to fit their own context.
- 3.11. Currently the planning guidance appears to down play the role of science, stating that, ‘science advice *can* be used to better inform the response to emergencies’³. Other support areas in Defra, e.g. legal, human resources, IT and estates appear to be given higher status. They are flagged up as areas that contingency plan owners ‘will need to’ or ‘must’ consult.
- 3.12. The sub-group welcome the production of the Emergency Planning Guide, but have serious reservations about the status that is accorded to science. **We recommend that the need for scientific expertise to underpin Defra’s contingency plans must be emphasised more strongly in the Emergency Planning Guide, preferably in the same vein as the legal, human resources and IT needs.**
- 3.13. Interaction with Science, Economics and Statistics Directorate General (SESDG): Members welcomed the principle of the engagement matrix published by the CPSD (see annex 1)⁴ as part of contingency planning. The purpose is to promote interaction between lead and support divisions for Defra’s key emergency plans. The sub-group commend CPSD for regularly updating the matrix and believe this should continue. The sub-group point out that the matrix is a voluntary agreement and therefore relies on the Emergency Planning Guide to advocate which support divisions should be consulted. Recommendation 7 (see section 3.12) addresses the issue of seeking further interaction with the SESDG. In order to develop a constructive dialogue CPSD should ensure that all contingency plans should be sent for comment before final submission, or following review, to the Science, Economics and Statistics

³ Taken from Defra Emergency Planning Guidance: Part 2 – Planning: Working with Others (Section 13).

⁴ The rows across the page indicate the plan owner’s view of input into their plans and the state of agreement whilst the columns running down the page indicate the state of interaction between plan owners and colleagues in plans they are likely to support.

Directorate General; submission should include a cover note or other mechanism to clearly set out the scientific evidence base.

- 3.14. **We recommend that the Contingency Planning and Security Division routinely seek comment from representatives of the Science, Economics and Statistics Directorate General before final submission of all of its contingency plans and during subsequent reviews.**
- 3.15. To summarise, we advocate the following changes to practice in relation to contingency plans:
- All Defra contingency plans to explicitly state that they are underpinned by science or not, and if not why not (we do not advocate that all plans must have a science element, but if they do not an explanation should be given as to why it was not deemed appropriate or necessary).
 - If a contingency plan is underpinned by science, it is the responsibility of the planner to highlight where it has been used and what form of quality assurance mechanism has been used (if any), either in the plan itself or in a separate cover note.
 - Before final submission, it should then be the responsibility of the CPSD to ensure that the CSA has an opportunity to comment on the science used.

SAC 9/5/06

