

Health and Safety Commission Paper		MISC/06/13	
Meeting Date:	NA	Open Gov. Status:	Fully Open
Type of Paper:	Misc	Paper File Ref:	
Exemptions:	all		

HEALTH AND SAFETY COMMISSION

HSE EXPERT REPORT FOR THE GOVERNMENT'S ENERGY REVIEW 2006

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Names of Board Member leads: Giles Denham and Mike Weightman

Cleared by Giles Denham on 23 June 2006

Issue

1. Publication of the HSE expert report and what it will say.

Timing

2. The report will be delivered to Energy Minister Malcolm Wicks MP on Wednesday 28 June and published by HSE the same day. This is ahead of the Minister's 30 June deadline.

Recommendation

3. For information only.

Background

4. We discussed this project with the Commission in February. Arising from that discussion, we set out in MISC/06/03 further detail about the scope of the HSE expert report. Geoffrey Podger updated the Commission on progress in his Chief Executive's report for the May Commission meeting. Malcolm Wicks asked HSE to contribute an expert report to the Government's energy review on health and safety issues associated with a range of energy developments, and also specifically on the potential role of pre-licensing assessments of nuclear reactor designs (should there be a decision to look further into nuclear electricity generation). The Minister's commissioning letter is at [Annex A](#).

Argument

5. Broadly the report says that UK health and safety law is flexible enough to deal with any new risks/hazards from energy developments, achieving sensible risk management. The report shows how the existing regulatory framework may accommodate requests for prelicensing assessments of new nuclear reactor designs, for which, as the report notes, NII will need new resources (people).

6. The report is expert and thorough, running into some 150 pages. The key conclusions are in Annex B. An advance copy of the report is enclosed.

Consultation

7. With Mike Weightman and Giles Denham, HSE Board Directors. Agreed with HSE's Finance Division.

Presentation

8. HSE will hold an embargoed briefing for the specialist press the day before the report is published. Malcolm Wicks, if asked for any statement, will welcome the HSE document as an important input to the Energy Review.
9. Line to take: this is an expert and thorough report, fully meeting the commission given to HSE by the Energy Minister, Malcolm Wicks. It is a valuable contribution to the Government's Energy Review, demonstrating how worker and public health and safety can be fully safeguarded whatever decisions flow from the (Energy) Review.

Costs and Benefits

10. NA at this stage.

Financial/Resource Implications for HSE

11. HSE would incur additional costs, particularly in the event of any decision to look further into nuclear electricity generation, which in line with current arrangements we would look to the industry largely to cover. Those costs would, however, be small (£5-10m p.a.) relative to the total costs of the energy programmes being reviewed by the Government.

Other Implications

12. NA at this stage.

Action / Next Steps

13. None – this paper is for information only.

Contact

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ANNEX A: THE COMMISSIONING LETTER FROM MALCOLM WICKS MP

10 January 2006

Geoffrey Podger
Chief Executive
Health and Safety Executive
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2 Southwark Bridge
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In the context of the Energy Review, I am writing to request an expert report on some specific potential health and safety risks arising from recent and potential energy developments and on the HSE's approach to ensure that risks arising from these are sensibly managed by industry, including:

- An increasing need for gas storage in the UK;
- New demonstration projects for carbon capture and storage, and its potential in the UK;
- Increasing penetration of renewables and distributed generation in the UK;
- Consideration of a new generation of nuclear power stations and in the event of nuclear build, the potential role of pre-licensing assessments of candidate designs.

As you will be aware, the Prime Minister and the Secretary of State for Trade and Industry announced a review of energy policy on 29 November 2005. The Review will aim to ensure the UK is on track to meet the medium and long-term goals set out in the 2003 energy white paper.

The Review will be broad in scope, looking at both demand and supply aspects, including transport and energy efficiency. It will look at a wide range of options to help put the UK on track to deliver these goals, including the role of current technologies such as civil nuclear power, renewables, cleaner coal, carbon capture and storage, and gas.

In order to make a full assessment of these options in time for the Review to publish its recommendations, we need an assessment by the HSE of some of the risks associated with new developments in the energy sector and their approach to ensuring industry manage these risks. This report will help the Review to put forward workable policy recommendations that do not threaten public or workforce safety.

The Review needs an assessment of the potential health and safety risks arising from some recent and potential future energy developments listed below (although this list is not exhaustive) and the HSE's approach to ensuring these risks are managed sensibly by industry:

- An increasing need for gas storage in the UK;
- New demonstration projects for carbon capture and storage, and its potential in the UK;

- Increasing penetration of renewables and distributed generation in the UK;
- Consideration of a new generation of nuclear power stations and in the event of nuclear build, the potential role of pre-licensing assessments for candidate designs.

On nuclear, we would like an assessment from HSE of how they might go about the appraisal of reactor designs in advance of specific proposals for new build. This will be useful for the Review making a recommendation in taking the decision on whether there is a potential role for a new generation of nuclear power stations to help us meet our medium and long-term energy goals.

In order for the Review team to properly assimilate the report and make a considered assessment in advance of the Review making policy recommendations this Summer, we would need to have the final HSE report by end-June. Officials from the Review team have been working with HSE officials in preparation for this request and will remain in close contact throughout the process to share emerging findings.

We will be including a line in our Energy Review consultation document that will be published on 23rd January; both HSE and DTI officials have agreed the form of words. This would be the formal announcement of our request and until this date, the letter would be restricted. The HSE report will ultimately be in the public domain (as would any other consultation responses).

Any consultation or other engagement with the public that the HSE wish to carry out in preparing this report would help contribute to the Government's commitment to full public engagement throughout the process of the Energy Review and would have my support.

I am copying this letter to Lord Hunt (Parliamentary Under Secretary of State, DWP); Bill Callaghan, Chair of the Health and Safety Commission; Rt Hon Margaret Beckett (Secretary of State, Defra); Elliott Morley (Minister of State, Climate Change and Environment) and Lord Drayson (Parliamentary Under Secretary of State for Defence and Minister for Defence Procurement).

MALCOLM WICKS

ANNEX B

HSE EXPERT REPORT CONTRIBUTING TO THE ENERGY REVIEW: KEY CONCLUSIONS

- The report covers gas storage; carbon capture & storage; *some* renewables; distributed generation – including hydrogen; nuclear power; and clean coal technology. Renewables cover wind, wave, tidal & biomass – others not considered significant for safety.
- Broadly UK health and safety at work law is flexible enough to deal with any new risks/hazards from energy developments, achieving sensible risk management.
- Hazards of **gas storage** (including LNG terminals) are significant, but the hazards & risks are generally well understood and can be managed through existing arrangements and standards. Some review (tweaks) of the current legal framework is needed to ensure adequacy of major hazard controls.
- **Carbon capture & storage (CCS)** could be challenging – a large scale and new technology. But enough is known to conclude that the risks of CCS deployment are tolerable. This will depend on filling gaps in the knowledge base, developing new standards and (again) tweaking the regulatory framework.
- Current health & safety law is generally adequate to cover risks associated with wind energy. The main need is for more attention to safe design and integrity and (onshore) closer scrutiny at the land use planning stage. **Wave and tidal energy** are much less developed, but the risks are expected to be comparable to offshore wind.
- **Biomass** processes are not particularly novel and any expanded use is not likely to require change to current arrangements. The main need is for training and familiarisation of those operating the processes.
- **Distributed generation** (including hydrogen) involves a wide range of applications & associated risks. The risks are no different from those commonly encountered elsewhere, so can be adequately controlled through current arrangements. There is a greater need in future to isolate parts of network to ensure safe working.
- **Nuclear** risks are well known and understood. The new generation of reactor designs builds on extensive operational experience and research into engineering advances such as passive safety features to ensure that the risks of major accidental releases of radioactivity are lower than in earlier generations.
- **Nuclear prelicensing**: the report proposes a two-phase approach. Phase One would be a reactor design acceptance process; Phase Two would include site and operator specific assessments. Together they would form the basis upon which HSE would consider granting a nuclear site licence (needed by law in order to build and operate a nuclear facility). They would involve assessment of the plant, the site and the operating organisation. While Phase One may have a duration in the order

of three years if various conditions were satisfactorily addressed, Phase Two may take approximately six to twelve months if an applicant provides a detailed and adequate submission and other permissions (for example planning, Electricity Act) are forthcoming. This process is intended to provide a transparent, rigorous and robust regulatory approach to the safety of any new nuclear reactor build.

Any pre-licensing programme would need new resources (people) in HSE/NII, estimated at a cost £5-10m per year. The costs involved should be recoverable from the nuclear industry.

- **Cleaner coal technologies** are developed from well-understood techniques & present acceptable risks, which can be controlled under current arrangements. But there is a need for more information & close monitoring of critical areas, especially underground gasification.