

Written evidence submitted by Dr Stan Schofield

(C190012)

I am a major hazard safety specialist with over four decades of experience in the analysis, management, and independent assessment of major hazard safety in the nuclear, onshore petrochemical, and offshore oil & gas industries, including 16 years as a safety regulator in the UK's Health & Safety Executive.

I have a particular concern about the current arrangements in place for COBR receiving scientific advice from SAGE, and the purpose of this submission is to raise that concern with the Select Committee. I am raising the concern now in view of some controversies surrounding the scientific advice from SAGE to COBR during the current COVID-19 pandemic.

The concern is that those arrangements do not appear to currently include a particular form of independent assessment of the advice from SAGE by persons experienced in the established approaches which the UK takes to assessing other forms of major hazard threats to public safety.

Such independent assessment is good practice within the UK and globally, and helps ensure that scientific advice is based on a rational consensus and is consistent with some central principles of public safety. In the UK particularly, it helps ensure that those responsible for safety are doing all that can reasonably be done to make the public safe from identified hazards.

In the UK, both the best practice for health and safety and the regulatory system for ensuring it are based on the principle of 'reasonable practicability', where measures to protect people are required to be taken 'so far as is reasonably practicable'.

In this system, an acceptable approach to safety involves those responsible for safety asking the basic question, "Have we done, or are we doing, all that can reasonably be done, in the current circumstances, to ensure that people are safe from the relevant hazards?"

In order to answer 'Yes' to this question, it is important that any scientific advice which influences decisions on safety be scrutinised by independent persons experienced in established approaches to assessing major hazard risks, particularly HSE's Cautionary Approach to safety and the hierarchy of Avoidance, Prevention, Control and Mitigation.

Such scrutiny would provide essential checks and balances on the scientific advice, helping achieve a rational consensus on what measures should be put in place, and when, to ensure public safety 'so far as is reasonably practicable'.

In the case of the controversies surrounding the scientific advice about COVID-19, if such independent assessment had been performed, then less contentious decisions might have been made by the UK Government. This is for two reasons:

(1). HSE's Cautionary Approach is a driver towards identifying measures for safety that are proportionate (reasonable and timely). The Cautionary Approach would be particularly important when there are uncertainties in any models being used by SAGE, such as mathematical models, because it provides a bias towards safety where a focus on measures that are *prima facie* reasonable and timely takes precedence over unvalidated theoretical models.

(2). The hierarchy of Avoidance, Prevention, Control and Mitigation helps identify measures that tend towards avoiding or preventing escalation of a sequence of events, such as early intervention in the spread of a virus, over measures to control or mitigate once valuable time has elapsed and the

situation has already escalated.

It is established good practice that those carrying out such independent assessment are experienced in forming judgements on the validity and accuracy of any scientific analyses (including any mathematical modelling) that inform the scientific advice being assessed. Such assessors should be independent of those individuals and organisations carrying out the analyses being assessed, in order to ensure that their scrutiny is impartial and free of potential conflicts of interest.

During the COVID-19 pandemic to date, it is apparent that such independent assessment has been absent from the process of SAGE providing scientific advice to COBR, with potentially adverse effects on the effectiveness of decisions which the UK Government has taken in attempts to control the spread of SARS-CoV-2. That this is so could be considered ironic given that the UK is a global leader in approaches to the assessment of other major hazards such as nuclear and petrochemical, whilst the handling of COVID-19 appears to be lagging in the face of what has been a reasonably foreseeable threat to public safety since the beginning of the outbreak in China.

I recommend that this situation be remedied as soon as possible, so that the current arrangements for SAGE providing advice to COBR are augmented to include an independent assessment function as described above, in order that the UK Government reach reasonable, timely, and ultimately defensible decisions going forward.

Such action to remedy the apparent current absence of independent assessment would of course be important for decisions reached by the UK Government in any future epidemics in which SAGE provides scientific advice to COBR.

I can of course provide further information on the points made above about the UK approach to major hazard safety, and in particular about the role of independent assessment, if required.

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