

**Minute of 2nd SAGE Meeting 19 February 2014**  
**35 Great Smith Street, London**  
**11.30 to 13.30**

**List of Attendees:**

**Chair**

Mark Walport                      GCSA

**Attending**

Ken Allison	Environment Agency (in place of David Rooke)
Gian Anat	CLG
Jeremy Benn	JBA Consulting Engineers & Scientists
Ian Boyd	CSA, Defra
David Boorman	Centre for Ecology & Hydrology
Hannah Cloke	University of Reading
Andy Croxford	Environment Agency
Jim Hall	Oxford University
Miranda Kavanagh	Environment Agency (in place of Paul Leinster)
Ian Johnson	DECC
Sam Jones	DfT
Owen Lewis	Environment Agency (in place of Doug Wilson)
Paul McCloghrie	CCS
David Mackay	CSA, DECC
Matthew Sellick	Drinking Water Inspectorate
Julia Slingo	Met Office
Rod Smith	CSA, DfT
Ian Townend	HR Wallingford (on telecom)
Colin Thorne	University of Nottingham (on telecom till 12:55)
Rob Ward	British Geological Survey
Jeremy Watson	Director of Global Research, ARUP
Bryan Wells	MoD

**Secretariat**

Ben Edmonds	GO-Science
Nicholas Moiseiwitsch	GO-Science
Giles Robertson	GO-Science
Andy Ryan	GO-Science
Elizabeth Surkovic	GO-Science
Elizabeth Warham	GO-Science

## **Detailed Note**

### **1. Welcome**

The Chair welcomed participants who introduced themselves around the table and on the teleconference. He reminded participants that the purpose of the meeting was to establish a reasonable worst case scenario for COBR, and better understand the increasing risks of sinkholes.

### **2. Update since Previous SAGE**

GO-Science provided a progress update on the actions from the previous SAGE meeting; clarifying where actions had been completed, and the timescales for those which needed further input (namely the modelling work with a further meeting planned this week). A key issue outstanding related to the improvement of water flow models, as identified at the 1<sup>st</sup> SAGE meeting.

Key points on other actions not addressed in other agenda items, to note were:

- a) Relating to whether there are concerns regarding shipping through the Thames Barrier, EA considered on balance that introducing shipping restrictions in this area was low priority;
- b) Drinking Water Inspectorate confirmed they were in close communication with CCS; and
- c) BGS have provided data on landslide risks to CCS but uncertain whether it has been received by Gold Command.

### **3. Situation Report and Risk Analysis**

Brief reports on the current weather and flooding situation were provided by the Met Office, CCS and the Environment Agency.

### **4. Update from Bridge Scouring Technical Cell**

Experts discussed the benefit of accessing the recent satellite and remote sensing images of flood areas, and establishing a small group (BGS, CEH and EA) within the week to discuss whether the data was available from current monitoring systems to better predict the likely impact of groundwater.

BGS explained their briefing note outlining the characteristics and occurrence of sinkholes and subsidence hollows. Those appearing in recent weeks were a result of heavy and persistent rain. It was agreed that there was a longer-term piece of work looking at sinkholes, considering both a formal register, and overlaying likely locations with the BGS working database of mines.

The BGS information on landslides was considered really useful, but it was imperative that asset owners are aware of the information available.

BGS made the group aware of a major EPSRC project looking at a river banks.

## **5. Critical Analysis of Worst Case Scenario**

EA introduced the temporal and spatial map looking at meteorological, hydrological and geological worst case scenarios prepared with the Met Office, BGS and CEH. Discussion focused on refining this as the reasonable worst case scenario to the end of March for submission to CCS ahead of the COBR meeting in the afternoon. The final agreed slides are attached.

## **6. Concluding Remarks**

The Chair thanked everyone for attending and acknowledged the hard work in preparing briefings for the meeting.