Science Advisory Group (SAG) for the review of potential environmental contamination in Grenfell and North Kensington

Advice to Grenfell Tower Fire Ministerial Recovery Group

Minutes of Meeting #5 – 6 June 2019

Overview

At its fifth meeting, SAG: (i) received an update on the Tier 1 assessment and timeline (ii) discussed a range of scientific and technical issues, including issues raised at April's community engagement workshops, and (iii) discussed the timeline and next steps for review and scientific interpretation of results ahead of their communication to the public.

Conclusions and recommendations

1. SAG received an update on the sampling and Tier 1 assessment and agreed that the procurement process for Tier 2 should begin as soon as possible, with planning commencing before Tier 1 has concluded so as to ensure that everything can be conducted as quickly as possible with all due rigour.

2. SAG discussed the advice it has provided to Ministry of Housing, Communities and Local Government (MHCLG) on data integrity, reproducibility and sampling reanalysis (See Annex A). SAG agreed that reanalysis of samples for third party assurance purposes is not necessary from a scientific perspective (provided the initial analysis follows the defined protocol). SAG agreed that MHCLG should be reminded to communicate to anyone who is considering reanalysing stored samples that they would need to do so within 28 days of sampling for some analytes, if results are to remain compliant with sample storage periods defined in UK accreditation processes.

3. SAG agreed with advice provided by Health and Safety Executive (HSE) that an appropriate and precautionary strategy has been used for bagging materials that might contain asbestos in line with the Control of Asbestos Regulations 2012. In addition, because, as a precautionary measure, the contents of the bags have been treated as if they contain asbestos and labelled accordingly, there is no additional benefit in testing to find out if they contain asbestos or not: if they did then all necessary precautions have been taken, if they didn't then there is nothing to be gained in knowing this (environmental monitoring is in place to test for any asbestos fibres that might pose a continuing hazard). This advice has been provided to MHCLG and the Grenfell Site Management Team.

4. SAG discussed reports that soil replacement was taking place close to the tower and agreed that such action could compromise the scientific integrity of the investigation if not monitored and documented carefully. The Royal Borough of Kensington and Chelsea (RBKC) is continuing to replace soil at the request of the community and will ensure records are made available to AECOM. SAG recommended that RBKC ensure that imported soil is certified at the British Standard (BS 3882 Specification for topsoil) and fit for purpose and the evidence of this certification is kept and made available on request to the Multi Agency Partnership (MAP), the Suitably Qualified Person (SQP) or AECOM.

5. SAG has recommended that MHCLG commission a more detailed academic literature review on fire chemistry/fire effluents following their review of AECOM's

Technical Note 4. The review should be done in time to feed into Tier 2 of the investigation. The purpose of this would be to ensure that all key studies and evidence have been considered for Tier 2, given the rapid pace of literature review in Tier 1.

6. SAG discussed issues raised at community engagement events in April, including:
   (i) Open data repository: SAG recommends that MHCLG plan for and oversee set up of an open data repository containing data and metadata from the investigation to allow researchers and other interested parties efficient access to the data from the sampling. SAG agreed that this would need to be easily accessible using open data formats and standards[1], curated and maintained long term.
   (ii) Health support programmes: SAG agreed that this was beyond SAG's remit, but that Chris Whitty, Deputy CMO should liaise with NHS England and Public Health England (PHE) to understand any feedback the community have given on the health support programmes.
   (iii) Sampling of indoor dust and fruit/vegetables: SAG agreed that indoor dust and fruit/vegetables grown in soils in the area do not need to be sampled in Tier 1 since the purpose of Tier 1 is to understand concentrations of contaminants in soil, to inform the design of Tier 2. However, SAG recommends that a proposal for indoor dust testing and testing of fruit/vegetables is drawn up by the Multi-Agency Partnership (MAP) for consideration for Tier 2.
   (iv) Wind dynamics in the vicinity of the tower: SAG noted that Met Office deposition plume modelling had not included the area within 300 metres of the tower or considered downdraughts and other local turbulence effects. SAG agreed that the most important consideration was to ensure that the sampling strategy rigorously assessed potential impacts within 300 metres of the tower. SAG agreed the AECOM plans appear to have addressed this.

7. SAG discussed the timetable and process for receipt of results, their interpretation and subsequent communication to the public.
   (i) SAG agreed that the MAP should provide a document for SAG to review before the end of June (and ahead of receipt of any results), setting out the methodology for interpretation of results. This should include a brief description of what has been done (the methods), how results will be interpreted and what method will be used to assign risk. It should include contextualisation and definitions of any terms proposed to help describe levels of risk. This document should be made public as soon as possible and should set out the process which will be followed.
   (ii) SAG agreed that an ambitious but realistic timeline is required from MAP and AECOM for how long it will take to deliver initial results and conduct the subsequent interpretation. Following the interpretation of results by AECOM and MAP, there should be time for SAG to review, in order that SAG can provide assurance that there is scientifically sound interpretation of results and that this is consistent with the prespecified analysis plan, or to provide feedback where this is not clear. Following this step, the results and associated interpretation can be communicated publicly. This timetable should be made public as soon as possible.

[1] AGS (Association of Geotechnical and Geoenvironmental Specialists) Data Format is one possible option https://www.ags.org.uk/data-format/

8. SAG agreed that the raw data contained in the laboratory certificates of analysis is comprehensive and recommends that these should be made public as part of the results.

9. SAG reiterated its objective to be transparent in its working and deliberations. SAG considered possible options (e.g. observers, public meetings) and will discuss further in the next meeting.

10. A letter containing research recommendations concerning human safety from fire, including proposals from SAG members, will shortly be finalised and sent to UK Research and Innovation (UKRI) to consider potential research funding options.

11. SAG requested detail on the monitoring proposals and results from Hammersmith and Fulham soil sampling activity.

List of actions
ACTION 5.1: SAG secretariat to share travel expense forms with all SAG members.
ACTION 5.2: SAG secretariat to ask MHCLG for an urgent update on progress against SAG's recommendations.
ACTION 5.3: SAG secretariat to amend Paper 2 to reflect SAG's position that reanalysis of samples is not necessary from a scientific perspective provided the initial analysis follows the defined protocol, and reissue this to MHCLG.
ACTION 5.4: SAG secretariat to remind MHCLG of the tight timeframe for accreditation compliant reanalysis of samples and the need for transparency with the community on this point.
ACTION 5.5: SAG secretariat to track MHCLG progress on the academic literature review recommendation.
ACTION 5.6: SAG secretariat to recommend MHCLG plan for and oversee set up of a long term open data repository containing data and metadata from the investigation.
ACTION 5.7: Chris Whitty to provide feedback from NHS England and PHE about the take up of health support by the community and any further requirements.
ACTION 5.8: SAG secretariat to recommend that a proposal for indoor dust testing and fruit/vegetables is drawn up by the MAP for review by SAG and that MHCLG put this in scope for Tier 2 procurement planning purposes.
ACTION 5.9: SAG members to review Paper 5 on SAG Key Questions Stock Take and provide comments to the secretariat
ACTION 5.10: SAG secretariat to ask MAP for a document setting out their methodology for interpretation of results, to be received for SAG review by the end of June.
ACTION 5.11: SAG secretariat to ask for an ambitious and realistic timeframe from MAP/AECOM regarding their timeline for the interpretation of results, to include necessary review time for SQP and SAG to fulfil their scientific assurance roles.
ACTION 5.12: SAG secretariat to recommend publishing lab certificates to the public alongside results.
ACTION 5.13: SAG secretariat to circulate information on community transparency to SAG members.
ACTION 5.14: SAG to discuss community transparency at SAG meeting # 6.
ACTION 5.15: SAG secretariat to reiterate requests for detail of monitoring proposals and results from Hammersmith and Fulham soil sampling activity.

In attendance
Sir Patrick Vallance, chair

Dialling in:

Dr Lindsay Bramwell
Prof Len Levy
Dr James Rubin
Prof John Warner
Prof Robert Mokaya
Prof Sir Munir Pirmohamed
Prof Sir Anthony Newman Taylor
Dr Paul Nathanail (Suitably Qualified Person)

Apologies
Prof Ragnar Löfstedt
Prof Chris Whitty (in his capacity as Deputy Chief Medical Officer)
Prof Anna Stec
Dr Alexandra Freeman

Others
Government Office for Science secretariat
Andrew Curran, Health and Safety Executive (in his capacity as Chief Scientific Adviser)

Annex A

SAG advice on approach to Data Integrity, Reproducibility and Sample Reanalysis[2]

SAG has considered the following aspects of data integrity, reproducibility and sample storage:

1. Confidence in AECOM's methodology through compliance with relevant standards.
2. Assurance of AECOM's approach through external laboratory accreditation for all methods of analysis, sampling handling and sample preparation.
3. Future analysis of specific contaminants at a later date by appropriate splitting and storing of unused samples.
4. Independent sample reanalysis commissioned by a third party for trust and assurance purposes.

SAG recommendations for Tier 1

Sample splitting and repeat measurements:

1. Duplicate tests should be made on a minimum of eight samples or 10% of the samples whichever is greater, for the given analyte, in line with advice in Code of Practice BS10175. These results should not be averaged but should be compared in order to demonstrate the reproducibility of results.
2. Samples should be split at an appropriate stage in the analysis process depending on the analyte – for example, for metals splitting after the sample is dried and pulverised, and for organics, samples could be split after the solvent extraction stage. AECOM should present a detailed proposal for review.

Duplicate or closely spaced samples are referred to in Standards as having at least two distinct purposes – understanding small scale heterogeneity, including the nugget effect, and for quality assurance purposes. The above recommendation to take a minimum of eight samples or 10% of the samples whichever is greater, would be for the purpose of quality assurance. AECOM has suggested the purpose of the pilot study is to understand small scale variability. SAG notes the advice in ISO 18400-104:2018: Soil quality – Sampling – Part 104: Strategies which says that duplicate samples can be used either for QA purposes or for studying small scale heterogeneity. The contractor's approach should consider how to use duplicates to meet the requirements of both of these objectives, separately.

3. Such split samples should be stored appropriately depending on the medium and analyte. This could allow reanalysis of the sample at a later date either for the purpose of testing for additional contaminants, or by other laboratories for community reassurance purposes. However**, SAG does not consider that reanalysis of samples, as requested by some community members is necessary scientifically, nor would it add scientific value.**

If samples are to be stored for reanalysis by a third party, it must be noted that the results may be marked "non-compliant" because the storage period (28 days for some analytes) for compliance with UKAS could be exceeded. This may not be an issue for the third party but should be understood in the context of any reanalysis as it could affect data quality. In addition, analysis by different laboratories may give different results, for example if different methods are used so it may not be possible to reproduce analytical results using independent facilities. In addition, for some contaminants, AECOM have identified only one UK laboratory with the capability to provide the tests.

Further recommendations on transparency, communications and community reassurance:

[2] Advice originally provided to MHCLG on 10/05/2019

1. The chain of custody for samples and data handling should be clear to the community including the details of laboratories and their independence from AECOM.
2. All data should be reported in full in raw form rather than as a summary or interpretation. SAG requests sight of example laboratory analysis certificates to review whether there is sufficient detail contained within them.
3. Analytical methodologies, references to standards and associated accreditations should be made public including detailed information from the laboratories where necessary. AECOM should consider inviting community representatives to tour relevant laboratories and facilities involved with soil sample analysis.
4. The soil sampling process should be filmed and shared with community members, as has been proposed by MHCLG for the site walkover. Furthermore, community representatives should be invited to observe the soil sampling process in person if possible.