

From:
Sent: 19 December 2012 14:52
To:
Subject: RE: Shale gas - monitoring fugitive methane
Importance: High

Sorry for the delay in getting back to you but many of those I needed to speak to appeared to be attending a parties for some reason.

Further to our conversation last week I can offer the following:

The work that we have recently published 'Monitoring and control of fugitive methane from unconventional gas operations' looked at the current methods and techniques for detecting and monitoring methane releases. The report is based on a review of current practices, recent research and regulatory developments. It draws on published information including experience of hydraulic fracturing operations in North America. A copy can be found on the following link.

<http://www.environment-agency.gov.uk/business/topics/134508.aspx>

We are now looking at a second stage where we can draw up a series of "monitoring packages" for fugitive methane that can be cited in our technical guidance for shale gas exploration, and potentially promoted via our permitting activities. The packages would form a hierarchy of monitoring methods and activities. Approaches are currently being made to AEA to follow up the report above for delivery by April 2013.

While this work tackles the detection and remediation of operational fugitive releases it is my understanding that figures currently used to describe the climate impact of shale gas exploration (known as 'loss factors') are derived from US scenarios, being based in part on a November 2010 report from the EPA, and which may not be directly transferable to the processes and controls to be applied in the UK.

In order to address this gap in the UK the most direct route would be to carry out, as research as sites come forward, real time assessments using remote sensing technique e.g. LIDAR or DIAL systems to quantify the total site release of methane. The Environment Agency would not be in a position to do this type of work and it would require a significant research budget from such as DECC for the UK or given the small numbers of exploration sites generally, at a european scale the EC Commission.

This could be delivered by the National Physical Laboratory (NPL) centre for carbon management who have been conducting similar work on landfill gas and agricultural methane. What needs to be identified as a matter of priority is what are the emissions at the various points in the process of exploration using the UK best practice and where are the largest emission losses taking place. This will then provide details of losses through the process, critical loss points and a value for the overall losses, enabling the establishment of baselines, loss factors, points of intervention and facilitate appropriate comparison with other oil and gas activities, much of which NPL already possess. This process would need to be repeated as exploration becomes development and the introduction of gas management infrastructure for export to the gas grid or other uses.

Although the scope and capacity to deliver this programme of work is very specialised, I am also aware that Manchester University (Dr Grant Allen) has access to similar surface and

airborne equipment which they have been using under NERC funding to carry out the London Plume model validation work.

Sorry we don't have many options to offer but they appear to be very limited, I do hope this provides an answer.

Regards

E&B Climate Change Mitigation

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From:
Sent: 19 December 2012 10:49
To:
Subject: Shale gas - monitoring fugitive methane

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Hello

We spoke last week, and you agreed to send me across some initial thoughts/options on how we might go about monitoring fugitive methane, and what the process would be for putting something in place (e.g. what would roles and responsibilities be).

Do you know when I might see something? I'm being pressed for information, so it would be helpful to know how this is going.

Thanks,

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