Clare McMullan

From: Robert Westaway
Sent: 10 November 2014 11:34
To: Ross Barker; Paul Younger
Subject: RE: University of Glasgow energy engineers call for new regulatory framework for fracking

Ross

I just replied separately, but copied you in.

RW

Dr Rob Westaway
Senior Research Fellow

From: Ross Barker
Sent: 10 November 2014 11:32
To: Paul Younger; Robert Westaway
Subject: RE: University of Glasgow energy engineers call for new regulatory framework for fracking

Hi Rob –

I've also had the same message from [redacted] – happy to help frame the response if required.

Let me know if there's anything you need.

Best regards,
Ross

From: Paul Younger
Sent: 10 November 2014 11:04
To: Robert Westaway
Cc: Ross Barker
Subject: Fwd: University of Glasgow energy engineers call for new regulatory framework for fracking

Rob

You had better respond - be aware that this guy records conversations and tries to provoke you saying unguarded things - but it is the Times, so worth doing.

P

Sent from my iPhone

Begin forwarded message:

> **From:** [redacted] <[redacted]@thetimes.co.uk>
> **Date:** 10 November 2014 10:16:40 GMT
> **To:** Paul Younger <Paul.Younger@glasgow.ac.uk>
> **Subject: Fwd: University of Glasgow energy engineers call for new regulatory framework for fracking**
>
> Hi Paul, is this suggesting that earthquakes up to magnitude 3.6 could be permitted, with compensation for any minor damage?

Thanks
[redacted]

Sent from my iPad

Begin forwarded message:

From: Ross Barker <Ross.Barker@glasgow.ac.uk>
Date: 10 November 2014 09:26:43 GMT
Subject: University of Glasgow energy engineers call for new regulatory framework for fracking

STRICTLY EMBARGOED UNTIL 0001hrs TUESDAY 11 NOVEMBER 2014

News Release

Tuesday 11 November 2014

Energy engineers call for new regulatory framework for fracking

Leading energy engineers are suggesti ng t hat UK regulations on the surface vibrations c aused by s hale gas fracking are unnec essarily restrictive.

University of Glasgow academics st ate in a new paper that widely applying restrictions similar to thos e currently in force on fracking would require a ban on heavy vehicles from passing houses or walking on wooden floors.

They also state that the threat of serious earthquakes caused by fracking activity is considerably lower than commonly feared.

The report, written by Dr Rob West away and Professor Paul Younger of the University of Glasgow's Sc hool of Engineering, is published today (Tuesday 11 November) in the Quarterly Journal of Engineering Geology and Hydrogeology.

They suggest that adopting a new fracking regulatory framework closer to the rules which gov ern activities such as quarry blas ting would be a clear improvement on the current guidelines.

Dr Westaway said: "Currently, the Department of Ener gy and Climate Change's regulation is that any fracking oper ation whic h in duces surface vibrations greater than m agnitude 0.5 on th e Richter scale should be shut down immediately.

"That level of vibration is extremely low. To put it in perspective, if regulations for other vibration-c ausing activities were similarly restrictive you'd have to prevent buses from driving in built-up areas or outlaw slamming wooden doors.

“By analysing the seismic waves which travel through the earth as a result of fracking activity, we’ve been able to determine a scale of activity which will create surface vibrations within those already allowed for by quarry blasting regulations. For example, induced earthquakes of magnitude 3 from fracking activities 2.5km below the earth’s surface will create surface vibrations similar to the limits allowable from quarry blasting.

“Conversely, induced earthquakes at the current UK regulatory limit of magnitude 0.5 would be expected to produce vibrations in a person’s home that are smaller than those typically caused by the movement of buses or lorries past the end of their garden and comparable to many other widely-accepted forms of ‘nuisance’ vibration”.

The authors state that the largest possible fracture which could conceivably be created by current drilling processes on properly-surveyed land would be 600 metres long. The maximum length of fractures is determined by the amount of fracking fluid used in the process, which would be used up before any fracture could reach more than 600m.

Professor Younger said: “We’ve determined that a fracture of that length created in a single rupture, which is very unlikely, would likely correspond to a maximum quake of magnitude 3.6. That might be sufficient to cause minor damage on the surface such as cracked plaster. Again, however, there is already regulation in place for compensation for similar incidents caused by RAF fly-bys or mining operations and we’d suggest it would make sense for similar schemes to be put into place for fracking.

“From the knowledge we’ve gained from tens of thousands of fracking operations elsewhere in the world that by far the biggest cause of serious seismic incidents isn’t the drilling or the fracking process itself. Instead, it’s the practice of disposing of waste water back into the borehole once the process is finished. This washes away particles of sand holding open the fractures created during the process, which can cause earthquakes.

“In Britain, we’ve adopted longstanding EU groundwater regulations which bar subsurface disposal of wastewater completely, meaning there is no danger of this sort of event happening here. Instead, the water would be treated and disposed of safely elsewhere.”

Dr Westaway and Professor Younger’s paper, titled ‘Quantification of potential macroseismic effects of the induced seismicity that might result from hydraulic fracturing for shale gas exploitation in the UK’, is published in the Quarterly Journal of Engineering Geology and Hydrogeology.

ENDS

For more information contact Ross Barker in the University of Glasgow Media Relations Office on 0141 330 3535 or email ross.barker@glasgow.ac.uk

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