



Oil & Gas Authority

21 Bloomsbury
Street
London WC1B 3HF

Richard Parker

By email to: request-524655-5f40482c@whatdotheyknow.com

Our ref: FOI-2018-0067

3 January 2019

Dear Mr Parker

Thank you for your email of **3 November 2018** in which you requested:

"Thank you for the provided information.

I understand from this information that the OGA is independently responsible for approval of the Hydraulic Fracture Plan and that the OGA is responsible for the approval of this plan with respect to aspects that relate to induced seismic activity.

You have mentioned that the BGS provided a consultancy role on the traffic light seismic monitoring array but did they provide any role in the review of the Hydraulic Fracture Plan especially with regard to the induced seismicity?

"Please advise as to why no signatory appear on either the hydraulic plan 'pnrz1 hydraulic fracture plan' or the technically sparse approving review 'PO3 Approval compliance acceptance report 020718'.

Please confirm or otherwise, that two separate, identified and qualified 'senior geophysicists' cited as originators of the plan by Cuadrilla have been recorded.

Could you please publish or indicate the whereabouts of the full recorded technical review details of the hydraulic plan for the public to peruse. There is no evidence of any review of the detailed technical aspects of the geology interpretation by Cuadrilla, traffic light seismic monitoring scheme and the envisaged frack stage progression in the compliance acceptance report

Similarly could you please confirm that the individuals that have reviewed and authorised the hydraulic plan have been recorded."

"I am disturbed that the schema for traffic light monitoring of seismic events at Preston New Road for the two development wells does not appear to have any contingency for fracking to be completely suspended if seismic levels reach a certain level.

Please could you advise what seismic levels and frequency are needed for fracking to be halted rather than simply paused?

Is there no schema in place to ensure that Cuadrilla cannot frack after significant trailing events are detected without your authority? It would appear that Cuadrilla are permitted to continue fracking if any number of trailing events are detected at any amplitude. They appear to have to only wait for a fixed duration of 14 hours after any event that occurs during fracking before fracking recommences.

On Sunday 4th November a trailing event of 0.7 occurred. This appears there seems to a potential latency of the micro earthquakes to the fracking process that is not deterministic. Please advise as to what the safe limits are for stopping the fracking whilst regulators review the events before fracking can recommences.

Please advise what procedures the OGA and BGS are following to ascertain these scenarios."



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1. We have considered your request under the Freedom of Information Act 2000 (**FOIA**) and, where relevant, the Environmental Information Regulations 2004 (**EIR**). We address each one of your requests in turn below. As most of your requests (aside from question 3) are not requests for information held by the OGA, as the requests ask for confirmation or explanation of policy or procedure, they are being dealt with as ordinary business.

REQUEST ONE: *I understand from this information that the OGA is independently responsible for approval of the Hydraulic Fracture Plan and that the OGA is responsible for the approval of this plan with respect to aspects that relate to induced seismic activity. You have mentioned that the BGS provided a consultancy role on the traffic light seismic monitoring array but did they provide any role in the review of the Hydraulic Fracture Plan especially with regard to the induced seismicity?*

2. In response, the BGS, in their OGA-commissioned observer role, provided the OGA with a view on the seismic monitoring as described in the Hydraulic Fracture Plan ('HFP'), and provided advice on the faulting in the vicinity of the PNR1-Z well.
3. Please note that a HFP must also be agreed by the Environment Agency.

REQUEST TWO: *Please advise as to why no signatory appear on either the hydraulic plan 'pnrz1 hydraulic fracture plan' or the technically sparse approving review 'PO3 Approval compliance acceptance report 020718'. Please confirm or otherwise, that two separate, identified and qualified 'senior geophysicists' cited as originators of the plan by Cuadrilla have been recorded.*

4. The PO3 report you reference is an Environment Agency document, not an OGA document –(a link to which has been provided for your reference - https://consult.environment-agency.gov.uk/onshore-oil-and-gas/information-on-cuadrillas-preston-new-road-site/supporting_documents/PO3%20Approval%20Compliance%20Assessment%20Report%20%20020718.pdf).
5. In relation to the 'pnrz1 hydraulic fracture plan', this was a document provided by Cuadrilla to the OGA.

REQUEST THREE: *Could you please publish or indicate the whereabouts of the full recorded technical review details of the hydraulic plan for the public to peruse. There is no evidence of any review of the detailed technical aspects of the geology interpretation by Cuadrilla, traffic light seismic monitoring scheme and the envisaged frack stage progression in the compliance acceptance report.*



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6. Please find attached the OGA's "summary note for the OGA interpretation of Bowland-12 3D seismic", which formed part of the OGA's consideration of Cuadrilla's application.

Section 40(2) FOIA and Regulation 13(1) EIR (personal information/data)

7. This document contains names of individuals. This information is being withheld under *Sections 40(2) and 40(3A) FOIA* and *Regulation 13(1) EIR*. *Section 40(2)* provides that personal data is exempt from if one of the conditions in *40(3A)* is satisfied. One of the conditions in *Section 40(3A)* is a breach of any of the data protection principles in the *Data Protection Act 2018*. The data protection principles include that any processing of personal data must be fair and lawful. The provisions of *Regulation 13 EIR* mirror those of *Section 40(2) FOIA*.
8. The OGA considers that disclosure of the names of individuals would breach the principles of fairness and lawfulness. The individuals whose details have been withheld have and are entitled to an expectation of privacy. In any event, the relevant individuals have not consented to their personal data being disclosed.
9. As such, disclosure would meet neither the fair nor lawful processing principles. In light of this, this is being withheld under *Sections 40(2) and 40(3A) FOIA* and *Regulation 13(1) EIR*.

REQUEST FOUR: *Similarly could you please confirm that the individuals that have reviewed and authorised the hydraulic plan have been recorded.*

10. I confirm the above, though note that the OGA's technical review, while undertaken by OGA staff members, is the review of the OGA as a public authority, such a review being undertaken in accordance with the OGA's statutory role.

REQUEST FIVE: *I am disturbed that the schema for traffic light monitoring of seismic events at Preston New Road for the two development wells does not appear to have any contingency for fracking to be completely suspended if seismic levels reach a certain level.*

11. The well completion approval that the OGA has given Cuadrilla for PNR1Z provides the OGA with a broad discretion to extend the pause in operations, if it is not satisfied that seismic events accord with the HFP.
12. If an event is not in line with what is anticipated in the HFP, the OGA will require further analysis of the cause of the seismic activity before injection operations can continue. If that further analysis were to conclude that operations could not be conducted in a way that minimises disturbance and the risk of damage to property, then a prolonged pause may be needed.



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REQUEST SIX: *Please could you advise what seismic levels and frequency are needed for fracking to be halted rather than simply paused?*

13. See answer at paragraphs eleven and twelve above.

REQUEST SEVEN: *Is there no schema in place to ensure that Cuadrilla cannot frack after significant trailing events are detected without your authority? It would appear that Cuadrilla are permitted to continue fracking if any number of trailing events are detected at any amplitude. They appear to have to only wait for a fixed duration of 14 hours after any event that occurs during fracking before fracking recommences.*

14. In brief, the HFP takes a cautious approach and stipulates that any trailing event recorded at magnitude 0.5 or above requires an 18-hour monitoring period.

REQUEST EIGHT: *On Sunday 4th November a trailing event of 0.7 occurred. This appears there seems to a potential latency of the micro earthquakes to the fracking process that is not deterministic. Please advise as to what the safe limits are for stopping the fracking whilst regulators review the events before fracking can recommences.*

15. It is widely recognised that induced seismic events can take place after fracturing ceases – which is called a “trailing event”.

16. The HFP takes a cautious approach and also stipulates that any trailing event recorded at magnitude 0.5, or above, requires an 18-hour monitoring period which could be extended as described above.

17. Under the OGA’s traffic light system and the operator’s HFP, if a seismic event of magnitude 0.5, or above, is detected, injection must pause and pressure in the well be reduced, followed by monitoring for a minimum of 18 hours to determine the cause of the seismic event and to allow time for the OGA and the operator to confirm if the event is in line with the HFP.

REQUEST NINE: *Please advise what procedures the OGA and BGS are following to ascertain these scenarios.”*

18. As described at paragraphs 16 and 15, the traffic light system makes provision for a pause in activities and analysis of data following a magnitude 0.5 or above event and resumption of operations would not take place if the OGA were not satisfied that the operations were conforming to the HFP.

19. This concludes the OGA’s handling of your request.

Appeals Procedure



Oil & Gas Authority

If you are unhappy with the way the OGA has handled your request, you may request an internal review. A request for an internal review should be made within 40 working days of the date of receipt of the response to your request and should be addressed to: FOI Manager, Oil and Gas Authority, 21 Bloomsbury Street, London, WC1B 3HF Email: foirequests@ogauthority.co.uk

Please quote the reference number above in any future communications with regard to this request.

If you are unhappy with the outcome of the internal review, you may contact the Information Commissioner at www.ico.org.uk or at Information Commissioner's Office, Wycliffe House, Water Lane, Wilmslow, Cheshire, SK9 5AF.

Yours sincerely

FOI Officer.