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REGULATION

Campaigners accuse regulator of failing to assess fracking risk to nuclear station

BY RUTH HAYHURST ON OCTOBER 12, 2019 • (13 COMMENTS)



Hinkley Point C construction site. Photo: EDF

The safety regulator for the nuclear industry has no information about the risk of earth tremors from fracking near the Hinkley Point power station, a campaign group has revealed.

Frack Free Exmoor, Quantocks and Sedgemoor (FFEQS) has also shown that the Office for Nuclear Regulation (ONR) has had no correspondence on the subject with either the oil and gas industry regulator, the power station operator, local exploration companies or Somerset County Council.

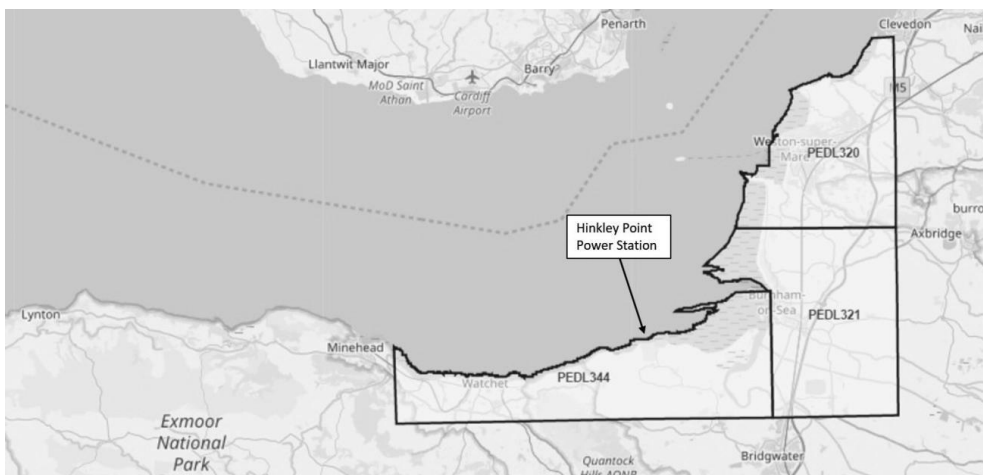
FFEQS has described the failure to assess the risk of fracking on the nuclear station, which includes the new Hinkley Point C facility, as “a gaping hole” in the safety case.

In August 2019, fracking by Cuadrilla near Blackpool caused more than 130 earth tremors, including the UK’s largest fracking-induced seismic event, measuring 2.9ML. This tremor led to formal complaints of cracks to walls, windows and doors to about 100 properties, DrillOrDrop understands.

Hinkley Point is a few miles from an area where the exploration company, South Western Energy, has indicated it is interested in drilling for hydrocarbons (DrillOrDrop

(<https://drillordrop.com/2019/02/08/driller-seeks-land-access-for-somerset-surveys-and-prepares-for-stock-market-listing/>) report).

Opposition to fracking appears to be growing in the region. Sedgemoor District Council voted unanimously on 9 October 2019 to be a Frack Free zone. This follows previous similar votes in Somerset West and Taunton councils.



PEDL licences near Hinkley Point Power Station in Somerset. Map: Oil & Gas Authority

“Cause for concern to local communities”

The issue of seismic risk to the Hinkley nuclear station came to light following a response by the ONR to a freedom of information request (<https://investigatingbalcombeandcuadrilla.files.wordpress.com/2019/10/foi201909026-hinkley-power-station-seismicity-onr-response-letter-3-october-2019-002.pdf>)

FFEQS founder Kevin Ogilvie-White, who made the request, said:

“The ONR’s response makes it is clear that they have not considered the impact of induced seismicity from potential onshore oil and gas development activity.

“Perhaps the ONR deem the risk to be negligible, but from my perspective a failure to assess this risk represents a gaping hole within their safety case.”

Mr Ogilvie-White said it “seemed absurd” that there had been no correspondence on the subject between the ONR and the company or regulators:

“Should an application be made by South Western Energy, the planning authorities only have 16 weeks to approve or reject the application. The lack of information on this subject should be a cause of concern to councillors, planning inspectors and local communities.”

He said he made the FOI request to find out whether the ONR had revised the probabilistic seismic hazard assessment for the nuclear power station after three exploration licences in the area (PEDLs 334, 321 and 320) were issued to South Western Energy in 2016.

He asked the ONR for any information on a review or planned review of the probabilistic seismic hazard assessment for Hinkley Point from potential oil and gas exploration or development activities.

The ONR replied:

“We confirm that ONR does not hold the information described in your request. ONR are not aware of any information pertaining to review, or plans to review, the Probabilistic Seismic Hazard Analysis (PSHA) for the Hinkley Point C (HPC) site due to potential oil and gas exploration or development activities, including wastewater disposal.”

Mr Ogilvie-White also asked for correspondence on this issue between ONR and any of the following: the Oil & Gas Authority, the holder of the exploration licence, Somerset County Council and representatives of South Western Energy, or two related companies.

The ONR replied:

“We confirm that ONR does not hold the information described in your request. ONR are not aware of any correspondence between the parties highlighted relating to potential petroleum exploration and development activity in the vicinity of Hinkley Point Power Station.”



Mr Ogilvie-White told DrillOrDrop:

“Surely the safety case should include an assessment of probabilistic seismic hazards from frequent low-level events, such as those experienced during fracking by Cuadrilla in Lancashire.”

Last year, the Hinkley operator, EDF, reported

(<https://www.edfenergy.com/media-centre/news-releases/hinkley-point-b-reactor-3-interim-inspections-2018>) a number of cracked fuel bricks in the Hinkley Point B power station. It said they would present a challenge only in the event of a major earthquake.

Earlier this year, a separate FOI request

(<http://www.onr.org.uk/foi/2019/201902059.htm>) to the ONR revealed:

“the problem that cracked bricks present to the core is that they may allow more freedom of movement of the core structure, particularly during faults such as an earthquake.”

Mr Ogilvie-White said:

“Hinkley is situated in a geologically complex structural setting with the region riddled with north-west and east-west trending faults.

“If the frequency of events, like those induced by fracking in Lancashire, would lead to an unacceptable increase in the number of cracked fuel bricks, which potentially could challenge the safety of control rod insertions, then the obvious outcome of such an assessment should be that onshore oil and gas development activity in the region must be prohibited.”

DrillOrDrop asked the ONR to comment. A spokesperson said:

“As per our Safety Assessment Principles (SAPs) and outlined in Technical Assessment Guide (TAG) 13, the Design Basis Earthquake (DBE) (or seismic design input) for Hinkley Point C (HPC) is based upon a rigorous and robust characterisation of the seismic hazard using probabilistic seismic hazard analysis (PSHA).

“From the outputs of the PSHA, the DBE definition is demonstrated to represent a level of ground motion conservatively estimated to have an annual frequency in exceedance of 10^{-4} /year. This is comparable to a level of ground

motion that on average will only be exceeded once every 10,000 years.

“Furthermore, the seismic analysis and broader design process is well established, and incorporates conservatism at various stages, in accordance with relevant good practice for the design of nuclear facilities. This results in a design that will not only meet the demand of the DBE, but also has substantial beyond DBE capability.

“Therefore, induced seismicity arising from postulated future human activity (comprising low levels of ground motion from small magnitude events) is not considered to pose a risk to the HPC facility.”

“Notwithstanding the above, Licence Condition 15 of the standard nuclear site license requires licensee’s to make and implement adequate arrangements for the periodic and systematic review and reassessment of safety cases. Therefore, ONR expects that external hazard safety cases will be periodically assessed by the Licensee to ensure they remain adequate.”

This statement did not satisfy FFEQS. Mr Ogilvie-White said the response did not address the question of frequency of low-level events and, particularly, how they might affect the Hinkley B reactor. He added:

“The statement suggests that ONR has not looked specifically at induced seismicity, as opposed to 1:10,000 year type events, to show conclusively that frequent low-level events do not pose a risk.

“I would have thought that this type of study would be a requirement. If oil and gas development were permitted then the adequacy of the existing traffic light system regulation on seismicity would need to form part of that study.”