OTM-004: Regulatory verification relating to injection of fracking fluids

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Challenge

	Challenge ID	OTM:004				
1	Title	Regulatory verification relating to injection of fracking fluids				
2	Theme ID	ON 3.3: Subsidence monitoring - Reservoir management				
3	Originator of Challenge	Onshore: OTM				
4	Challenge Reviewer / initiator					
	General description	Overview of Challenge				
5	What is the nature of the challenge? (What is not adequately addressed at present?)	Safety and environmental impact of fracking can be monitored via looking at surface uplift and subsequent relaxation. It would be expected to see a some elastic and some permanent deformation, once the subsurface has been fracked. There is a need for technology to provide verification of no movement or quantify the amount of movement and indicate whether this movement was caused by the fracking itself.				
6	Thematic information requirements	1. Obtain detailed topographic information, 13. Monitor ground movement,				
7	Nature of the challenge - What effect does this challenge have on operations?	Due diligence: early diagnosis of communication between fracking zone and other zones - thus limitation of environmental impacts.				
8	What do you currently do to address this challenge?/ How is this challenge conventionally addressed?	surface and downhole monitors can track if hydrocarbons are communicating between layers. Downhole gravity sensors are a technology which is likely to address this need to some degree in the future. However, these technologies have their limits.				
9	What kind of solution do you envisage could address this challenge?	Ground movement satellite imagery could indicate surface movement and infer fluid migration of fracking fluids				
10	What is your view on the capability of technology to meet this need? – are you currently using EO tech? If not, why not?	EO could be a useful complimentary technology				
	Challenge classification					
11	Lifecycle stage	Pre license	Exp.	Dev.	Prod.	Decom.
	Score from impact quantification [1]	0	3	3	3	0
12	Climate classification	NOT CLIMATE SPECIFIC				
13	Geographic context/restrictions	Generic onshore (Unspecified)				
14	Topographic classification / Offshore classification	Generic onshore (Unspecified)				
15	Seasonal variations	Any season				
16	Impact Area	Environmental				
17	Technology Urgency (How quickly does the user need the solution)	Immediately (0-2 years)				
	Information requirements					
18	Update frequency	daily / weekly /annually (application dependent)				
19	Data Currently used					
20	Spatial resolution					
21	Thematic accuracy					
22	Example formats	GIS Shape file				
23	Timeliness	Within a week				
24	Geographic Extent	Reservoir footprint				
25	Existing standards	No industry standards. TRE have their own internal INSAR standards				

[1] Impact quantification scores: *4 – Critical/ enabling; 3 – Significant/ competitive advantage; 2 – Important but non-essential; 1 – Nice to have; 0 – No impact, need satisfied with existing technology*

Relevant products

Content by label

There is no content with the specified labels