

[REDACTED]

[REDACTED]  
Date: 09 December 2014

(The above is redacted under Reg 12(3)  
EIR)

To: MATTHEW HANCOCK

## RECENT DEVELOPMENTS IN UNDERGROUND COAL GASIFICATION

<b>Issue</b>	Update on progress of Underground Coal Gasification (UCG)
<b>Timing</b>	<b>Routine</b> – this submission is for information only.
<b>Decision</b>	We would welcome an opportunity to discuss UCG and recent developments with you. This would also include discussion of the work officials have in hand to assess current regulatory arrangements and the application of Carbon Capture and Storage (CCS) Policy to UCG, including our proposed additional public lines set out in Annex E.
<b>Handling instructions</b>	SOS SpAds will see this submission in tandem.

### Context / Consideration

#### The current situation

1. Underground Coal Gasification (UCG) involves the in-situ gasification of coal by injecting a mixture of water and oxygen into a coal seam, igniting and partially combusting the coal and then extracting the synthetic gas (syngas) produced. The syngas can then be used as a feedstock for other industrial processes or to generate electricity. There is a long history of UCG development (the first experiments took place in the UK in the 1920's, but were abandoned in the 1950's when cheap oil became readily available): it has also been trialled in a number of countries but aside from one Soviet-era plant, has not been extended to full-scale production.

2. There are currently 18 conditional UCG licences in the UK, issued by the Coal Authority (CA) - one of DECC's non-departmental public bodies (NDPBs). None of the licensees have secured the regulatory consents they would need to undertake the exploration of these sites.

[REDACTED]

[REDACTED]

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4. In late 2013, a UCG working group was formed involving both DECC and the CA, and managed by the Coal Liabilities Unit (CLU) given their oversight of the CA. The purpose of this group is to review the current UCG regulations and licensing processes, including the interaction with Petroleum Exploration and Development Licences (PEDLs) administered by DECC for other emerging technologies (shale gas and coal bed methane (CBM)). UCG sites could overlap with other conventional and unconventional oil and gas sources. [REDACTED]

[REDACTED] The working group plans to provide advice to you by Q1 2015.

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5. To date Government has neither discouraged nor endorsed UCG development. [REDACTED]

[REDACTED]

(The above is redacted under Reg 12(5) (e) EIR)

[REDACTED] We will continue to keep a watching brief on UCG and the development of the technology. [REDACTED]

[REDACTED]

(The above is redacted under Reg 12(5) (e) EIR)

[REDACTED] The syngas produced by UCG can be used to generate electricity, and if that were the case then the power station would be treated for consenting purposes as if the gasification had taken place on coal that had previously been mined. This means that it would require CCS to be fitted on at least 300MW of its total capacity.

[REDACTED]

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#### How existing regulation covers UCG

8. [REDACTED] The CA is responsible for UCG licensing and has issued conditional licences reactively. These conditional licences cover areas containing coal reserves and are for UCG only. A Coal Authority licence does not permit shale gas or any other hydrocarbon extraction.

9. The CA assesses the financial capacity of licensees before issuing a licence and looks for evidence that progress is being made towards practical exploitation. However, the licences do not permit production. Licensees need to secure landowners' agreement and planning permission, environmental consents and safety scrutiny from the Health and Safety Executive (HSE) before they can begin production. All conditional licences are for off-shore areas (likely accessed from onshore boreholes) and no planning applications have been made yet.

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**Clearance**

10. This submission has been cleared by Duarte Figueira, [Redacted] and Ian McKenzie.

[Redacted]	[Redacted]	[Redacted]	[Redacted]	
[Redacted]	[Redacted]	[Redacted]	[Redacted]	

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**Accounting Officer Issues**

11. There are no accounting officer issues.

**Handling / Presentation**

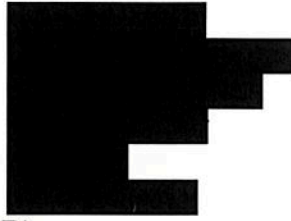
12. All decisions on whether or not to grant planning and permitting consent for UCG in Scotland remain with Scottish planning authorities and regulators, ultimately with the Scottish Government.

**cc:**

PS / Hancock  
PS / Davey  
PS / SOS SpAds  
Permanent Secretary  
DECC Chief Scientific Advisor  
Press Office

*Simon Virley*  
*Stephen Speed*  
*Simon Toole*  
*Ian McKenzie*  
*Duarte Figueira*

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