PREESALL UNDERGROUND GAS STORAGE FACILITY, LANCASHIRE

PINS Application Reference Number: EN030001

STATEMENT OF COMMON GROUND BETWEEN HALITE ENERGY GROUP LIMITED AND UNITED UTILITIES PLC ON THE TOPIC OF CONCERNS RAISED IN UNITED UTILITIES JUNE 24th 2011 LETTER

<table>
<thead>
<tr>
<th>Document Ref:</th>
<th>Halite Energy Group Limited Unit 5, St. George’s Court St. George’s Park Kirkam PR4 2EF</th>
</tr>
</thead>
<tbody>
<tr>
<td>Author:</td>
<td>T: +44 (0)1772 672244 E: <a href="mailto:community@halite.net">community@halite.net</a> W: <a href="http://www.halite-energy.co.uk">www.halite-energy.co.uk</a></td>
</tr>
<tr>
<td>Date:</td>
<td>13th June 2012</td>
</tr>
<tr>
<td>Version Number:</td>
<td>02</td>
</tr>
</tbody>
</table>
CONTENTS

1. INTRODUCTION................................................................. 1
2. BRINE DISCHARGE AND IMPACT ON FYLDE PENINSULAR...... 2
3. GAS LEAKAGE INTO FISSURED GROUND AND FYLDE INTERCEPTOR TUNNEL.......................................................... 3
4. RISK OF GAS EXPLOSION OR FIRE..................................... 4
5. DISRUPTION OF UNITED UTILITIES TANKER MOVEMENTS...... 5

ATTACHMENTS

Letter from United Utilities 24th June 2011
E-mail file note dated 15th September 2011
1. INTRODUCTION

1.1 This is a Statement of Common Ground between Halite Energy Group Limited (Halite) and United Utilities Water PLC (UU) on the topic of areas of concern in the UU letter of the 24th June 2011 (attached) relating to Halite’s application for a development consent order application for an underground gas storage facility at Preeсail, Lancashire (Project).

1.2 Areas of concern raised by UU in its letter of 24th June 2011 were:

- Brine discharge and impact on the Fylde Peninsular
- Gas leakage into fissured ground and Fylde interceptor tunnel
- Surface gas explosion and fire
- Location of underground gas storage caverns with respect to waste water treatment assets
- Disruption of UU tanker movements

1.3 As a consequence of the 24th June 2011 letter a meeting took place on the 9th September 2011 between UU and Halite to discuss the issues. A file note was issued to Rob Tidwell and Lizzie Gaskin and is attached, dated 15th September 2011.

1.4 A copy of the preliminary Quantified Risk Assessment (QRA) and the Geology Summary Report (GSR) – documents produced by Halite for its pre-application process - were given to UU at the end of the meeting.

1.5 There was no further correspondence or communication from UU to Halite after the 9th September 2011 meeting.

1.6 At Halite’s instigation, a further meeting took place on 21st May 2012 to discuss the issues and the Statement of Common Ground.

1.7 UU welcomes being consulted by Halite regarding its plans and is keen to engage in any future discussions and consultation.

1.8 This Statement of Common Ground is based on the facts known to UU as of the date hereof and the information provided to it by Halite in respect of the application for the project. The sections of the Statement of Common Ground below set out the issues on which Halite has provided reassurance to UU’s satisfaction.
2. BRINE DISCHARGE AND IMPACT ON FYLDE PENINSULAR

2.1 UU concern

2.1 UU was concerned that there could be an increased risk of ‘future problems’ linked to some key UU assets associated with the treatment of sewage and safe disposal to the Irish Sea. In particular, reference was made to a designated shellfish zone and several designated bathing waters along the northern end of the Fylde peninsula.

2.2 Accepted data

2.2.1 Halite has confirmed that a consent to discharge has been granted by the Environment Agency to Halite for a discharge point 2.3km off the coast in the Irish Sea and that such a consent regulates the activities raised by UU.

2.2.2 UU acknowledges that such a consent will be subject to monitoring that has to be carried out before, during and after discharge.

2.2.3 Salinity would meet Environment Agency standards at a 60-metre radius from the discharge point.

2.3 Agreement

2.3.1 UU acknowledges that Statements of Common Ground have been agreed on water quality and ecology with the Environment Agency and the Marine Management Organisation and that such statements provide assurance to UU's satisfaction that its concerns raised with regard to brine discharge and impact on the Fylde peninsular have been satisfactorily addressed by Halite.
3. GAS LEAKAGE INTO FISSURED GROUND AND FYLDE INTERCEPTOR TUNNEL

3.1 UU concern

3.1 UU was concerned that the leakage of gas through the fissured ground may have a significant impact on UU wastewater assets, particularly UU’s wastewater treatment works (WwTW) in the vicinity of the gas storage caverns, namely Preesall WwTW and Fleetwood WwTW and the Fleetwood area.

3.2 UU wished to ensure that its assets remained well protected from any gas leakage which would occur through the fissured ground strata that is believed to exist under the Wyre Estuary. UU sought assurance that the project would not increase the risk of future gas explosions impacting upon the treatment facilities or sewers draining to their works.

3.3 The Fylde Coast interceptor tunnel is at a depth of 26m and UU was concerned that this was at a similar depth to the proposed caverns and there was a risk of gas escaping from the caverns and entering the interceptor tunnel, providing a clear route for passage of leaked gas all the way along the front to south Blackpool.

3.2 Accepted data

3.2.1 The Quantified Risk Assessment (QRA) Application Document 9.3.1 considers a total of 31 scenarios using a source, pathway receptor methodology (sections 3.8, 3.9 and 3.10 of the QRA) and determines that conservatively the risk to life from the three most likely scenarios is 1 in 120 million/year

3.2.2 CIRIA Report 152 1995 “Risk Assessment for Methane and other Gases from the Ground” states that a risk of 1 in 100 million per year to life is practically impossible and that it is generally of no concern even if the risk is involuntary.

3.2.3 The Fylde Interceptor Tunnel is at a depth of 26 metres and the salt caverns are at a depth of approximately 300 metres and are therefore not at similar depths.

3.3 Agreement

3.3.1 UU has been reassured to its satisfaction by Halite regarding the above issues linked to the leaking of gas.

3.3.2 UU accepts that the salt strata is not at 26m and is actually at least at a depth of 225-300m below ground and therefore its statement about the proximity of the interceptor tunnel to the caverns is incorrect. UU has been reassured by Halite that its infrastructure is not at risk from the project and that there appears to be a low risk of gas migration after Halite shared its data.
4. RISK OF GAS EXPLOSION OR FIRE

4.1 UU concern

4.1.1 UU raised a concern that the project potentially puts at risk both UUW assets and properties/hotels in close proximity to the tunnel and the coastline.

4.2 Accepted data

4.2.1 Section 4 of the Risk Assessment (RA) (Surface Risk Assessment) (Application Document 9.3.1) considers the following potential major gas accidents.

- Gas release at a wellhead
- Gas release from onsite pipeline
- Gas release at the gas compressors compound
- Gas release from the vent stack
- Gas release into the brine system

4.2.2 From a thermal radiation perspective three types of incidents were modelled.

- Flash fire
- Jet fire
- Vapour cloud explosion

The modelling software used was DNV PHAST which is a well recognised accident consequence software database and is used by the UK Health & Safety Executive.

4.2.3 Section 4.10.1 of the RA looks at the risks to two occupied buildings Cote Walls Farm and the Preesall Sewage Works to the west of the facility

4.2.4 Three scenarios are considered for each building and section 4.10.5.2.5 sums the three scenarios for the sewage works which results in a risk to the building of $8.3 \times 10^{-7}$/yr which is equivalent to approximately 8 incidents in 10 million years. As the building is mainly unoccupied the risk of a fatality is considerably less than this.

4.2.5 CIRIA Report 152 1995 “Risk Assessment for Methane and other Gases from the Ground” states that a risk of 1 in one million per year to property is very unlikely and that it is generally of little concern even if the risk is involuntary.

4.3 Agreement

4.3.1 UU has been reassured to its satisfaction that there appears to be a low risk to its assets.
5. DISRUPTION OF UNITED UTILITIES TANKER MOVEMENTS

5.1 UU concern

5.1.1 UU was concerned to ensure that the construction of the project must not disrupt the movement of tankers at its wastewater treatment works at Preesall.

5.2 Accepted data

5.2.1 Halite has a right of way along the track owned by UU from the road across the golf course to the Preesall treatment works. Construction of the project will not compromise UU’s access to the treatment works as the road will remain open access at all times.

5.2.2 Halite will have a wellhead compound to the north of the treatment works but access to it will be by means of a separate and independent hard track which will not interfere with UU’s access.

5.3 Agreement

5.3.1 UU has been reassured to its satisfaction that the project will not compromise UU’s access to the wastewater treatment works.
STATEMENT OF COMMON GROUND

This Statement of Common Ground on the topic of concerns in letter of 24th June 2011 has been prepared by Halite Energy Group Limited and agreed by United Utilities plc.

Signed ___________________________ Dated 21st June 2012.
On behalf of Halite Energy Group Ltd

Signed ___________________________ Date 25th June 2012.
On behalf of United Utilities
Location: Preesall, Lancashire

Proposal: Underground Natural Gas Storage Facility

Dear Mr Budinger

Thank you for involving United Utilities Water plc [UUW] in this consultation process, please see our comments below.

We have a number of critical assets that will be affected by this proposed development and we have concerns with your proposals which are summarized below. Therefore we must object to your current proposals.

The proposed pipeline and ancillary asset construction will cross several of UUW’s strategic trunk main assets supplying treated water to customers. UUW will need to be consulted if this proposal is progressed to ensure that our infrastructure is protected. This may require a diversion to our infrastructure at the developer’s expense.

A major concern is the increased risk of future problems associated with some of our key Wastewater Assets associated with the treatment of sewage and safe disposal to the Irish Sea. This particular area of the sea being a designated a Shellfish zone and several designated Bathing Waters along the northern end of the Fylde peninsula.

The leakage of gas through the fissured ground may have a significant impact on the UUW wastewater assets, particularly UUW’s wastewater treatment works [WwTW] in the vicinity of the gas storage caverns, these are:-

Presetall WwTW:
Located to the east bank of the Wyre Estuary it would appear the storage of gas would surround this particular works serving approximate population of 26,000 in Knott End and Preesall

Fleetwood WwTW
Located on the west of the Wyre Estuary, this works is less than 2 miles away from the gas storage caverns and is a very significant works serving the whole of the Blackpool
and Fleetwood area (a population of up to 426,000 during peak season). Significant investment over £60 million has been spent on the works over the last four years, meeting an expectation of improved treatment, sludge management and odour.

A key concern with the proposed development would be to ensure that these assets remained well protected from any gas leakage which would occur through the fissured ground strata that is believed to exist underneath the Wyre Estuary. The developer would have to satisfy UUW that sufficient boreholes / ground investigation had been done to understand and assure UUW that the development would not increase the risk of future explosions of gas impacting upon the treatment facilities or sewers draining to the these works.

This also would apply to the Fylde Coast Interceptor tunnel which is located at a depth of 26 metres below the inlet of the treatment works. This tunnel is potentially at a depth not dissimilar to the salt caverns. This tunnel runs the whole length of the Fylde Coast from the Manchester Square headland at the southern end of the Golden Mile, along the front up to Rossall School, prior to turning in the direction of the treatment works. The risk of gas escaping the caverns and entering the tunnel provides a clear route for passage of leaked gas all the way along the front to south Blackpool.

Hence, the development potentially puts at risk both UUW assets and properties / hotels in close proximity to the tunnel and the coastline.

The potential construction of pipelines associated with the development also puts at risk the Fleetwood WwTW facility. Since previous applications were made by Canataxx, there has been significant development of the treatment facility with four large primary tanks now constructed on the edge of the south-west edge of the site running alongside the old railway line. In addition, a new sludge facility has been built along the northern boundary of the treatment works land. The development of any pipelines would have to take into consideration the construction of the new facilities on site and provide adequate assurance that these would not be impacted upon, or lead to settlement of any UUW facilities.

I would like to highlight that the route of the pipeline runs adjacent / across the line of the final effluent pipeline from the treatment works across the land to the coastline near Chatsworth Avenue. The effluent pipeline then discharges some 5 kilometres out into the Lune Deep. This pipeline ensures that the treated effluent is safely discharged back into the environment in line with the Environment Agency’s requirements. The potential risks of the development disrupting this main needs to be identified and understood before the development should proceed. This may require extensive ground investigation to assure that the design of the development pipeline takes into consideration the UUW asset at any subsequent construction maintains safe working easements away from the UU effluent main.

The construction of the development needs to consider and not disrupt the movement of tankers particularly in and out of Preessall WwTW, but also Fleetwood WwTW.
The development should also assure that either the development pipelines or infrastructure do not have an adverse impact upon the smaller diameter sewers in both the Preesall and Fleetwood areas. A medium sized rising main feeds all flows from the Preesall area into the treatment works. This and all other pipelines need to be considered.

Summary
With the concern that this development brings about risks to millions of pounds of UUW, it is difficult to support the application until it is better understood and significant more information about the ground and the design is completed.

Fleetwood WwTW approx. value in excess of £130million, Fylde Tunnel value also in excess of £140million, and Preesall WwTW value of £30million

Yours Sincerely

Anthony Laithwaite
United Utilities
Asset Protection
christine stout

From: christine stout
Sent: 15 September 2011 12:05
To: [redacted]
Cc: [redacted]
Subject: FW: Meeting Friday 9th September 2011

Message from Will Bashall:

Dear Rob,

Thank you for meeting Brian Stanley and myself from Halite on 9th September. We both felt it was helpful to run through the various issues and, I hope, give you a clearer idea of our project and where it is currently situated within the planning process.

As discussed, I am enclosing a copy of the Non-Technical Summaries for both the Geology Report and the Risk Assessment. You have the full reports but I think you will find these easier reading and more user friendly.

As I explained in our meeting, Lizzie and I have been discussing an option for a deed of grant of easement for our brine pipeline through UU’s land at Fleetwood since 2003. Since that time Lizzie and I have agreed Heads of Terms, modified them to reflect the additional land you purchased from Wyre Borough Council for your settlement tanks and instructed our respective solicitors to produce documentation in order to formalise our agreement. Hammond on our behalf and Neil Brieler on UU’s behalf have been working on these draft documents and my understanding is that the wording is now largely agreed. The documents give Halite an option to take an easement for their brine pipeline. There is an option fee payable upon signing which is non-returnable; in other words if Halite do not receive their Development Consent Order (DCO) and walk away from the scheme, UU keep the option fee. If Halite do not receive a DCO the scheme will not proceed and there will be no need for a brine pipeline. Halite will only obtain a DCO if the Infrastructure Planning Commission (IPC) are entirely convinced, following a thorough examination of the scheme, that it is safe and appropriate to do so.

There were a number of specific points that you raised:

1. You asked about the integrity of the well and the risk of gas migration and how this may impact on UU’s infrastructure in the area. We hope we were able to clarify that the depth of the caverns, starting at 250m below ground level will be considerably below any apparatus or infrastructure that UU have in the area. I can also confirm that the geology report produced by Matt Macdonald on behalf of Halite, has been thoroughly scrutinised by W S Atkins acting on behalf of Lancashire County Council. W S Atkins have confirmed that if the development proceeds as proposed in that report, then they have no concerns over the geology and risk of gas migration.

2. You asked about access to the Prestall Works and I confirm that UU own the access track from the road across the Golf Course to the Treatment Works. Whilst Halite have a right of way along this track, UU require a full and free right of way for vehicle movements to and from the site. Halite’s development will not compromise UU’s access to their site. Halite have a wall head to the north of the Prestell Sewage Works but their access to it will be by means of a separate and independent hard track.

3. Looking into the future, I understand that UU may wish to update, improve or expand their Treatment Works at Prestall. The presence of the caverns at a great depth below this land will not prevent these works being carried out.

4. As we discussed, there may be some future mutually beneficial use of the pipes that Halite intend to install as part of the scheme. This may include pipes under the Estuary linking the Prestall works to the Fleetwood works or our brine pipeline long sea outfall which will predominantly be used for cavern washing in the first 10 years and thereafter for maintenance only, which may have a use for excess surface water as you explained. Halite are happy to keep these options open.

5. We also touched on the issue of the footpath. I understand UU had to install the footpath along the boundary of their site against the old railway line to connect the caravan park beyond Jameson Road to the Ecology Centre near the Estuary. Currently that footpath is not in use but much of it is created. There seems to be two issues here: firstly the fact that Halite would need to place their brine pipeline under, or in the close vicinity of, the footpath and secondly, the use of the former railway line that Halite purchased from ABP. On the first point, I confirm that Halite will fully reinstatethe footpath once their brine pipe is installed and provide whatever undertakings are necessary to confirm
that they will not put UU in breach of their Section 106 Agreement. With regard to the second point, Halite are offering to discuss the use of their long linear strip of land for an extension to the footpath, to take it away from it being directly adjacent to your boundary as a possible improvement. Halite will be happy to discuss this further.

I have copied this email to Lizzie as I understand she will try and set up a meeting on her return from holiday for us to look at the actual footpath and how it would be physically possible for Halite to install their brine pipeline. I trust that we have or will be able to address the issues that you have in order to finalise the work that Lizzie and I and the lawyers have done to date in relation to the option. I think Lizzie has explained to you that as part of our IPC process we are making an application for compulsory powers (CPO) to acquire any rights or land we need for the overall scheme. The purpose of this is to protect the developer from being ransomed if a DCO is granted and a party seeks to frustrate the development. CPO, as you will know from your own powers contained in the Water Industry Act, is a blunt tool and we would anticipate, given the various issues that are set out above, that it would be beneficial to all parties if we were able to do this by agreement, especially as so much work has been done to date between us.

I would be very happy to expand on any of the matters set out above.

Kind regards,

WILL