OPEN FLOOR HEARING - 17TH OCTOBER 2012

FROM

HOWARD PHILLIPS

ON BEHALF OF

THE PROTECT WYRE GROUP

REFERENCE NUMBER: 10015247

APPLICATION FOR AN UNDERGROUND NATURAL GAS STORAGE FACILITY

UNDER THE WYRE ESTUARY BY HALITE ENERGY GROUP

PLANNING INSPECTORATE REFERENCE NUMBER: EN030001
Open Hearing Session 17th October 2012

PWG statement on Geology

1.1 My name is Howard Phillips. I am Vice-Chair of Protect Wyre Group (PWG) and I have been responsible for bringing together the PWG evidence and responses on the geology to this and the previous 3 applications from Canatx/ Halite for Underground Gas Storage in the Preesall Salt Field.

1.2 Whilst understanding that this is not a Public Inquiry as such, could I start by expressing a certain frustration at the process of examination. This frustration arises in two ways.

1.3 Firstly we have not had the opportunity to question directly those giving evidence on behalf of Halite. PWG has submitted a great deal of written evidence in response to Halite’s justification for its proposals and Halite has in due course replied but only to some of the questions asked. Indeed Halite stresses that it does not intend to provide an in depth assessment of the PWG evidence. This process has been of necessity protracted and now the time has run out.

1.4 Secondly regarding the PWG evidence. The questions from the Examining Authority have been directed largely at Halite and not at PWG. PWG has in due course, given its view in writing on the two rounds of questions. However, with no questions asked of us we have no way of knowing whether the Inspectors have grasped fully what we have been saying. There must be areas where perhaps we have not explained our concerns sufficiently clearly. We would have liked the opportunity to be questioned so we could be sure that the points we have been making are fully taken on board.

2.1 My concern with this and the previous proposals is that the geological information as represented by the 3-D model is insufficient to justify approval. There are other issues involving geology – the distance apart of the proposed caverns, the possibility of wet rockhead, crown hole subsidence, seismic activity and the juxta position of fracking for shale gas – which we have identified and are documented in our evidence.

2.2 But let me focus attention on the 3-D geological model. The first set of questions from the EA to Halite asked specifically about the accuracy of its 3-D model compared with the 2005 BGS model presented at the Public Inquiry. In reply Halite states “the latest plots are purely to aid visual assessment and no increase in accuracy is implied”.

2.3 The Inspector at the Public Inquiry concluded in his report when dealing with the geology that “overall, the information provided by the appellant is neither sufficient nor sufficiently detailed to support the proposals.” The Secretary of State agreed with this conclusion. With no increase in accuracy of the 2010 model presented in the application, we suggest that the conclusion must be the same.
Turning to the details of the 3-D geological model, I would like to summarize briefly the 5 areas of contention between Halite and PWG. These areas are set out in detail in the PWG documents submitted to the Examining Authority.

3.1 Firstly there exists a major fault which runs N-S across the western end of the Heads Peninsula. PWG contends that this fault must extend northwards under Barnaby’s Sands which would rule out the construction of any caverns in the southern polygon. The fault is not shown on the 3-D model and Halite has chosen not to comment on this issue.

3.2 The Burrows Marsh BH (i.e. at Barnaby’s Sands)

The data from the bore hole conflict with the BGS model (2005) and all the data from adjacent brinewells (as shown in the PWG evidence). An important N-S fault runs along the eastern edge of Barnaby’s Sands and could be instrumental in explaining the anomaly.

Halite was asked by PWG to produce a diagram of the fault and its affect on the halite bed. The diagram produced conflicted with the Halite 3-D model – it was incorrect - an issue taken up by the EA in its second round of questions. Halite’s response to the EA was to reproduce the section in the BGS Report on the Burrows Marsh Bore Hole. This does not show the fault.

Halite offers this explanation for its incorrect diagram. “It was intended to assist PWG with the interpretation of the plan position of the Burrows Marsh Bore Hole with respect to the East Barnaby’s Sands Fault and the deviated bore hole trajectory. The sketch was simplified and did not correctly show the inclination of the salt to the west of the Barnaby’s Sands Fault”.

Halite has failed to produce an accurate section across the fault showing its effect on the halite bed. Indeed in producing an inaccurate “sketch” we suggest that Halite has misled PWG and by default they have misled this examination.

3.3 The Possible East-West fracture Zone.

PWG claims that there could be a fracture zone running E-W under Barnaby’s Sands across the centre of the southern polygon. Halite dismisses this, explaining that “the primary evidence for the faulting shown on the model is seismic lines GC 81-336 to the south and IELP 99-25 to the north”. Both these lines run East-West, GC81 across the centre of the southern polygon, IELP to the north through Arm Hill.

In response to the EA’s second round of question, Halite admits that the line GC 81-336 is of poor quality and difficult to interpret and is not incorporated into the geological model.

So how is Halite able to justify the use of GC81-336 as primary evidence for faulting in this area? It is misleading to do so.

Furthermore, in response to the PWG question about the accuracy of the data for Cavern 17, which is located at the centre of the southern polygon, Halite states that the “overall geological structure is fairly well defined at the cavern” because “the location is intersected by seismic line GC81-336 which helps inform Section 2-2 appended to the GSR”.

The poor quality of GC 81-336 reinforces the conclusion of the Geological Assessor at the Public Inquiry where she called for at least two more seismic lines across this area.
3.4 The Northern Polygon – Caverns 8, 10 & 11

The evidence from the 3-D model and the Coat Walls Bore Hole indicate that the salt bed lies at a shallower depth than the figure used by Halite in its calculations of gas pressures. These caverns are already the smallest of the 19 caverns proposed. With lower gas pressures less gas can be stored.

3.5 Northern Polygon – Caverns 1-6 and Bore Hole E1

This area was never considered in any of the previous applications as being suitable for gas storage. Yet without any seismic investigations or bore holes, Halite proposes to construct 6 caverns there.

These caverns will range from 120m to 220m in height. The nearest bore hole E1 shows the salt bed to be 81m thick, which calls into question the feasibility of creating caverns 1-6.

Halite was asked about E1 by the EA in its second round of questions. Its response is to dismiss the evidence from E1 and replace it with "an interpretation of salt thickness and the location of the Burn Naze Fault".

So when evidence does not suit, Halite chooses to ignore it and to replace it with an interpretation that does.

Given the very limited thickness of the halite bed, the height of the caverns would need to be reduced to between 30 and 50m depending on the cavern radius.

Such caverns are not only unviable but potentially unsafe.

It would have been relatively simple to carry out a seismic survey from east to west through E1. Why was that not done?

We believe that it is absolutely essential at this stage to have a full understanding of the geology of the Preesall Graben. The most important unknown is the location of the Burn Naze Fault which forms the boundary of the salt field to the west.
The responses from Halite to these issues raised by PWG concerning the geology need to be carefully assessed.

4.1 Firstly Halite states that “The amount of data available to the project in the form of borehole data, data from existing caverns and seismic data is far in excess of most similar projects”.

Halite is proposing to store 900 mcm of gas (the largest terrestrially based UGS project in the UK), in an area of complex faulting, where the caverns would be the shallowest in Europe and potentially the most unsafe, adjacent to an old brine field where many of the brine wells and mine are in a state of collapse and where 80,000 people live within a 3 mile radius. It is little wonder that the geology of this area must be established with the greatest degree of accuracy so that nothing is left to chance.

4.2 The second response is that once consent for development is given, Halite will carry out more seismic surveys and possibly drill more bores in order to refine the geological model.

At the Issue Specific Hearing with the EA on the 19th September 2012 Halite stated that only in some areas is the geology sufficiently well understood to be able to go ahead with the design and approval of the caverns. Halite did not state which areas these were or how many caverns were involved. It did not reveal how many additional seismic lines would be needed or where they would be located.

Worryingly, Halite proposes to go ahead with the construction of the infrastructure before or at the same time as the additional seismic surveys not knowing whether the project can be successfully completed.

These additional seismic lines should have been carried out before the submission of this the fourth application for UGS in the Preesall Salt Bed.

4.3 Thirdly Halite asserts that the Technical Assessor’s comments at the 2005/6 Public Inquiry were in relation to a larger and less well defined scheme and presumably should be discounted.

PWG has shown that the Canatxx proposal considered at the Inquiry was for 20 caverns to store a total of 577 mcm of gas compared with the 19 caverns and 900 mcm of gas being proposed by Halite. It is also wrong to suggest that the present proposal is spread over a smaller area. What has happened is that Halite has moved the area where it proposes to construct caverns further to the north and under the Knott End Golf Course – an area where data are lacking.

5.1 An extension of the Western Heads Fault under Barnaby’s Sands would prohibit the construction of caverns in the southern polygon. The limited thickness of the salt adjacent to E1 would rule out caverns 1-6. That would leave just 5 caverns i.e. 7-11 confined to a very limited area with an estimated total of gas which could be stored of 153 mcm. This would have a very different impact even if it were considered to be an economically viable development in this much reduced form.

5.2 One of the conclusions reached by the Geology Assessor following the Public Inquiry was that “the current level of uncertainty inherent in the geological model is such that the range of possible outcomes in terms of cavern locations and capacities is so wide that the impact of the scheme in planning terms cannot be established”.

That level of uncertainty remains. Therefore we suggest that the conclusion reached must be the same.