



**North Western IFCA**  
**Technical, Science and Byelaw Sub-Committee**  
**18<sup>th</sup> October 2011**  
**Strathmore Hotel, Marine Road East, Morecambe**

**Agenda Item: 7**

**PREESALL GAS STORAGE PROPOSAL**

**Purpose of Report**

To inform members of the current situation regarding the proposal by Halite Energy Ltd to store gas in salt caverns at Preesall and to discharge concentrated brine into the Irish Sea off the coast at Rossall.

**Recommendations**

1. That the report be received.
2. That members endorse the actions of Officers.

**Background**

1. Members will probably recall that there have been proposals to use salt caverns to store gas at Preesall on the Wyre since around 2002. The previous company that will be familiar to members was Canatxx. The NW&NWSFC were particularly concerned about the issue of discharging concentrated brine into the Irish Sea 2.3km off the coast at Rossall, and were involved in consultation responses throughout the history of this proposal.
2. The last proposal was referred to Public Inquiry in 2005/6 where the inspector refused the application on the basis of a number of issues including the 'lack of robust geological modelling, inadequate understanding of risk, visual harm, the proposed means of access to the proposal, and uncertainty regarding noise impact'.
3. An Appeal against this decision was made by Canatxx in 2007 at which point the Secretary of State upheld the inspectors ruling.
4. Canatxx has now been taken over by Halite Energy Ltd who are preparing an application for a Development Consent Order (DCO) to be submitted to the Infrastructure Planning Commission (IPC). Officers have been sent a revised proposal as part of the process of application for a Deemed Marine Licence<sup>1</sup> from the MMO, and have asked NWIFCA for any conditions we think should be attached to the licence.

**Current Situation**

5. Although Halite claim that the size and scale of the gas storage operation has been reduced in the current application, there has been no change to the proposal for the brine discharge. Saturated

brine at a maximum of 260 parts per thousand (ppt) and predicted 'normal range' discharge of 150 – 250 ppt will be discharged into the marine environment continuously for a period of between 5 and 10 years. Officers are responding to this aspect of the application and the potential effects on the fish populations (cod nursery area) and marine ecosystem.

6. The Environment Agency issued a Discharge Consent to Canatxx for the brine discharge in 2007. Due to the delay caused by the lack of planning permission, this Consent has been varied to now belong to Halite Energy Group Ltd. and to have a start date of January 2014. A number of conditions were attached to the Consent, including the following:

**Impact**

**Should the Discharge cause:**

- i) the salinity of the receiving waters to exceed 40 practical salinity units at any point further than 50 metres measured from the centre point of the diffuser, and/or;
- ii) the salinity of the receiving waters to exceed ambient plus 10% of ambient at any point further than 250 metres measured from the centre point of the diffuser, and/or
- iii) the concentration of tributyl tin in the receiving waters to exceed 0.002 microgrammes per litre at any point further than 150 metres measured from the centre point of the diffuser, or such other point as agreed in writing with the Agency, and/or;
- iv) the concentration of total copper in the receiving waters to exceed 5 microgrammes per litre at any point further than 150 metres measured from the centre point of the diffuser;

then the Discharge shall cease. The Discharge shall not re-commence without the prior written agreement of the Agency.

7. Officers have contacted the Environment Agency to voice our concerns over the Consent. It is felt that the dispersion modelling data on which the Consent was based is outdated. The modelling was conducted in 2001/2, with much of the data used collated prior to this. The Dispersion Modelling Report was produced in July 2003. Between June and August 2003, an existing 5.2km sewage outfall at Rossall, which lies to the north of the proposed brine discharge point, was rock armoured due to problems with it remaining buried. This work created a 10 foot high wall which changed the tidal flow and consequently now forces a 'pooling' effect on the flood tide. Recent aerial photographs taken by Scientific Officers are reproduced in Figures 1 and 2 to provide a visual illustration to Members of the outfall.



Figs. 1 and 2. Aerial photographs of the rock armoured Rossall outfall that extends for 5.2 km illustrating the height of the obstruction and the effects on tidal flow. Photographs taken above shore at Rossall looking west. 31<sup>st</sup> August 2011.

8. Saturated brine is denser than sea water and will sink to the sea floor. Officers have very serious concerns about the residual time of this highly saline water being contained within an area with the potential for high fish mortalities. It is a known cod nursery area, with plaice, sole and ray nursery areas thought to be in the vicinity. The effects may also be felt by migratory fish such as salmon and sea trout en route to and from the River Wyre. The area is also popular with recreational anglers, reporting catches of cod, codling, bass, plaice and ray. In addition concentrated levels of brine are predicted to have negative effects on zooplankton and benthic organisms, with potential profound and irrevocable impacts on the marine food web.
9. Senior Fishery Officer Steve Brown has inspected the report detailing the construction of the brine discharge outfall pipeline (Figure 3). This is the same company and methods involved in the construction of the Rossall sewage outfall and the subsequent problems they had with securing the burial of the pipeline with the necessity for rock armouring. SFO Brown is concerned at the very real possibility that rock armouring will be required to bury the brine discharge pipeline, thus creating a linear obstruction along the sea bed, lying across the flow of the tide leading to the shore from the diffuser. This will no doubt impact on the flood and ebb regimes. No account was made for this provision in the dispersion modelling and provides more reasoning for our request to the EA to review the Consent.

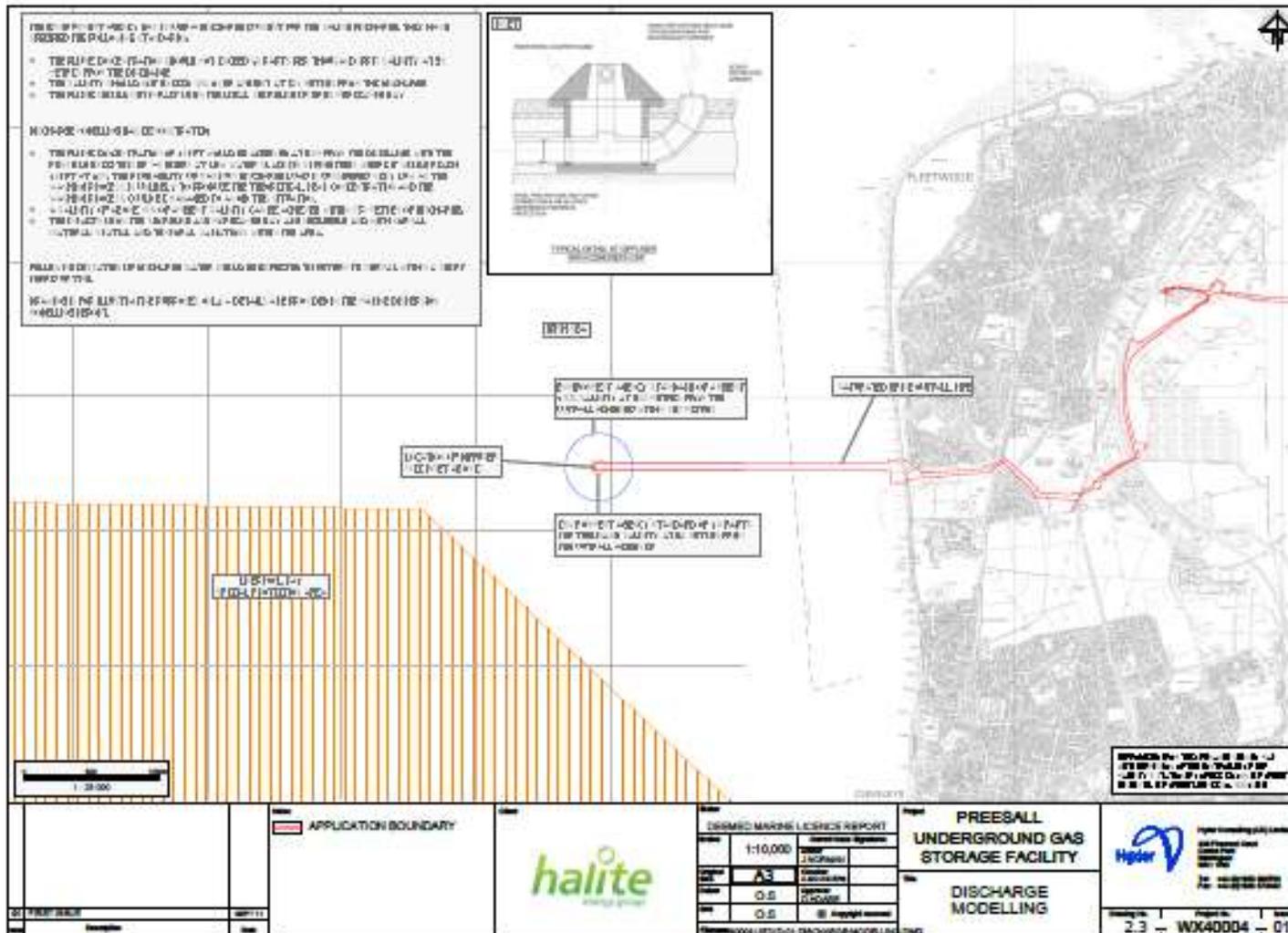


Fig. 3. Map and Details of the Brine Discharge Modelling.  
 Reproduced from Halite Energy Group Ltd's Deemed Marine Licence Report, September 2011.

10. The position of the discharge pipe is situated in an area of the north Fylde coast that does not have a conservation designation despite its ecological value. Since the rock armouring of the Rossall outfall pipe SFO Brown reports the development of an increasingly diverse marine habitat. As a direct result of this a new local lobster and netting fishery has developed and the area's potential as a leisure fishery has improved greatly.
11. A further interesting aspect that will be of interest to Natural England and other nature conservation bodies is that local birdwatchers have suggested that the disturbance created by the changed tidal flow around the rock armouring is throwing up a lot of feed at certain states of the tide. The area's interest to the bird watching community is well documented. An adjacent brine discharge has the clear potential to affect food availability and causes concern about the effects on the bird populations.

### **Actions**

12. The Chair of the Technical, Science and Byelaw Sub-Committee, SFO Brown and Scientific Officer Mandy Knott attended a meeting of the 'Protect Wyre Group' to make ourselves known to them and inform them of our concerns and our actions. It is intended that Officers share updates with this group. The 'Protect Wyre Group' is predominantly made up of residents local to the Preesall area, who have been objecting to the proposals since their inception in 2002.
13. SFO Brown and Scientific Officer Mandy Knott have collaborated on a written response to Halite Energy Group Ltd and the deemed Marine Licence application.
14. Officers have also contacted the Environment Agency requesting a review of the Discharge Consent for the reasons given above.
15. Officers have also contacted Natural England expressing our concerns about the potential impact on marine ecosystems.

**Scientific and Morecambe Bay Fishery Order Officer.  
10<sup>th</sup> October 2011.**

### **<sup>1</sup> Extract from Halite's report explaining Deemed Marine Licensing**

- a) Halite Energy Group (the Applicant) intends to submit an application for a Development Consent Order (DCO) to the Infrastructure Planning Commission (IPC) to construct and operate an underground gas storage facility at Preesall, Lancashire ('the Project'). The application for the DCO will be accompanied by an Environmental Statement (ES) prepared in accordance with the Infrastructure Planning (Environmental Impact Assessment) Regulations 2009 ('the EIA Regulations') (Statutory Instrument 2009/2263) and other documents including a statement of pre-application consultation.
- b) Marine licences, issued under Part 4 of the Marine and Coastal Access Act 2009, are required for the deposit or removal of a substance or object below the mean high water springs mark or in any tidal river to the extent of the tidal influence, unless an exemption applies. In the case of Nationally Significant Infrastructure Projects (NSIPs), an order granting development consent may include provisions deeming a marine licence to have been issued under Part 4 of the Marine and Coastal Access Act 2009.

- c) For NSIPs, during pre-application, the Marine Management Organisation will advise the Infrastructure Planning Commissions (IPC) and developers on the aspects of a project that may have an impact on the marine area or those who use it. In addition to considering the impacts of any construction within the marine area, this would also include assessing any risks to human health, other legitimate uses of the sea and any potential impacts on the marine environment from terrestrial works.
- d) Where a marine licence is deemed within a Development Consent Order (DCO), the Marine Management Organisation is the delivery body responsible for post-consent monitoring, variation, enforcement and revocation of provisions relating to the marine environment. As such, they have a keen interest in ensuring that provisions drafted in the deemed marine licence enable the Marine Management Organisation to fulfil these obligations. This includes ensuring that there has been a thorough assessment of the impact of the works on the marine environment (both direct and indirect), that it is clear within the DCO which works are consented within the Deemed Marine Licence, that conditions or provisions imposed are proportionate, robust and enforceable and that there is clear and sufficient detail to allow for monitoring and enforcement.

To achieve this, Marine Management Organisation is advising developers to agree the draft marine licence to be deemed within the DCO at the pre-application stage. This could be achieved in several ways. One approach to achieving this is to undertake a consultation specifically on the provisions to be included in the marine licence.

- e) It has been agreed with the Marine Management Organisation that with regard to the Deemed Marine Licence, the only licensable element of the Project would be the construction of the offshore elements of the brine discharge pipeline, due west of the sea wall at West Way to a two port single diffuser approximately 2.3 km in the Irish Sea. It should be noted that a consent to discharge brine into the Irish Sea has already been obtained from the Environment Agency.