THE INFRASTRUCTURE PLANNING
(APPLICATIONS: PRESCRIBED FORMS AND
PROCEDURE) REGULATIONS 2009

Preesall Underground Gas Storage Facility, Lancashire

Planning and Sustainability Statement

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| Date:          | November 2011 |
| Version Number:| 1         |
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1. Halite Energy Group Limited (Halite) is applying for a Development Consent Order (DCO) to construct and operate an Underground Gas Storage (UGS) facility with a total capacity equivalent to 900 million cubic metres of gas to provide an operational working capacity of up to 600 million standard cubic metres (the Project). This Planning and Sustainability Statement reviews the Project against planning and energy policy at the European, national, regional and local level. Particular regard is had to the generic and technology specific matters that are raised in the National Policy Statements as they form the framework for the determination of applications by the IPC. Generally, national planning and energy policy seek to encourage the development of UGS facilities albeit that it is necessary to have regard to the environmental impacts of specific proposed developments. The significant environmental impacts and the mitigation measures for the Project are set out in the Environmental Statement (ES) that supports the DCO application.

2. An assessment of the Project against the relevant National Policy Statements is set out in Section 3. An assessment against other national, regional and local planning policies is set out in Section 4. A sustainability assessment of the Project is set out in Section 5. Finally, in the conclusions (Section 6) provides an overview of the planning balance that needs to be made in the determination of the DCO application.

3. A review of the planning history for underground gas storage proposals at Preesall is provided at Section 2. The review of previous planning refusals and appeal decisions assisted in the identification of the main issues that Halite needed to consider in the preparation of its DCO application.

4. The Report examines in a planning context all of the main environmental impacts and sets out the concerns previously raised by the Secretary of State following an appeal determined in 2007 and the reasons for refusal raised by Lancashire County (LCC) in the refusal of the planning application in January 2010. These relate primarily to issues in respect of geology, landscape and visual impact, safety and security and perceived fear.

5. Geology is, an important issue as in previous applications the Secretary of State and LCC considered that the geological assessments that had been submitted with past planning applications were incomplete. Having regard to this fact, Halite has prepared a ‘Geology Summary Report’ (Document Ref: 9.2.2.) which has reviewed the sources of the base data, details of the salt presence, its quality and potential hazards. This assessment led to the development of ‘hazard exclusion zones’ where, based on the characterisation of the salt and available data, the risks of cavern construction were considered too high. Two polygonal areas were identified outside of the buffer area in the northern part of the site where the development of the caverns could take place. The two polygonal areas are significantly smaller than the areas contemplated in earlier planning
applications and, as a result, the revised Halite proposals include fewer caverns and a smaller gas storage capacity. LCC has accepted during the pre-application consultation that Halite has demonstrated that the previous concerns expressed by LCC and the Secretary of State about the geology cannot be sustained. LCC’s consultation response considers that the geology could safely accommodate underground gas storage caverns in the area of the Preesall salt beds proposed by the DCO application.

6. The additional geological work that has been undertaken also assists in the understanding of the issues of safety, security and perceived fear. Notwithstanding this fact, Halite has provided a ‘Risk Assessment’ (RA) setting out the level of risk and demonstrating that all material impacts or other factors that lead to loss or damage to amenity which would adversely affect people, can be eliminated or reduced to acceptable levels.

7. Visual and landscape impact has also been a concern in previous applications, particularly on the east bank of the Wyre Estuary, as the proposed development is of an industrial nature which is out of character with the predominantly rural character of the area. The reduction in size of the proposed gas storage capacity in comparison to previous applications has meant that the amount of surface infrastructure on the east bank can be reduced and made more compact. Development is proposed to be concentrated in the northern part of the site and, compared with previous schemes, one of the Booster Pump Stations, and the Warehouse and Control Building are no longer required.

8. Alternative sites on the west bank of the Wyre Estuary have been examined for the Gas Compressor Compound (GCC) but health and safety standards require that it is located on the east bank. The GCC has, however, been re-located to the northern part of the site and sited in the lee of a hill. Additional earth mounding and landscaping is proposed to assist in assimilating this part of the development into the landscape.

9. Those parts of the previous proposals associated with the brine pipeline route and the interconnector pipeline alignments which were deemed acceptable by the Local Planning Authorities (LPAs) in previous applications have been broadly retained in the DCO application.

10. The design of the Project has also had regard to the advice set out in the ‘Overarching National Policy Statement for Energy (EN-1)’ and the ‘National Policy Statement for Gas Supply Infrastructure and Gas and Oil Pipelines (EN-4)’. Particular regard has been had to the 14 Assessment Principles and the generic and technology specific impacts identified in the NPSs. The ES provides the detailed assessment of the Project against the identified criteria.

11. Planning policy seeks to encourage the development Underground Gas Storage (UGS) facilities at appropriate locations of the UK providing that the impact on the environment is considered. The NPSs acknowledge that all major infrastructure projects are likely to have an adverse impact on the
environment but these impacts must be weighed against the need for such developments.

12. The Project accords with the provisions of the development plan. During pre-application consultation, concerns about landscape and visual impact have been identified by the LPA’s in respect of the construction of part of the Project in the countryside. Halite has examined alternative options for the siting of the plant, particularly the GCC, but alternative sites have been rejected for operational and safety reasons. In order to minimise the environmental impact of development Halite has carefully sited and designed those buildings that must be located in the countryside. Halite are also proposing earth bunding and landscaping as a means of mitigating their impact.

13. The landscape at Preesall is not designated as being of national, regional or local importance and, as planning policy recognises, minerals can only be worked where they are found. Policy acknowledges that there are only a limited number of opportunities in the UK where the geology is able to support UGS and Preesall is one of these areas.

14. In the planning balance, it is considered that the national need for UGS, particularly when coupled with the specific locational advantages of Preesall override the limited environmental impact such that the DCO application should be granted.
1.0 INTRODUCTION

1.1 This Planning and Sustainability Statement has been prepared by the Barton Willmore Planning LLP on behalf of Halite Energy Group Limited (Halite) in respect of an application to the Infrastructure Planning Commission (IPC) for a Development Consent Order (DCO) to construct and operate an Underground Gas Storage (UGS) Facility with a total capacity equivalent to 900 million cubic metres of gas to provide an operational working capacity of up to 600 million standard cubic and associated infrastructure (‘Project’) at Preesall, Lancashire.

1.2 The Report reviews the Project against planning and energy policy at the European, national, regional and local level. Particular regard is had to the provisions of the Planning Act 2008 and the contents of ‘Overarching National Policy Statement for Energy (EN-1)’ and the ‘National Policy Statement for Gas Supply Infrastructure and Gas and Oil Pipelines (EN-4) as being most relevant to the Project. The National Policy Statements (NPSs) set out generic and technology specific matters for UGS facilities and these form the framework for the determination of DCO applications by the IPC.

1.3 As the NPSs have only recently been approved by Parliament (July 2011) they are the most up to date national planning policy documents for the determination of the DCO applications. An assessment of the Project against the NPSs set out in Section 3 an assessment against other national, regional and local planning policies is set out in Section 4. A sustainability assessment of the Project is provided in Section 5. Finally, in the conclusions (Section 6) an overview is provided of the planning balance that needs to be made in the determination of the DCO application.

1.4 First however, a review of the planning history (Section 2) is provided as a detailed review of previous planning refusals for an Underground Gas Storage facility at Preesall (including an appeal decision has assisted Halite in the identification of the main issues that need to be considered in the development of the Project.

1.5 A preliminary version of this Report titled ‘Preliminary Planning and Sustainability Assessment’ (March 2011) was made available as part of Section 42, Section 47 and Section 48 consultation with the statutory consultees and the community earlier this year. Comments that have been received on the Project during pre-application consultation have been taken into account in this Report.

1.6 This Report is structured as follows:
Section 2: Planning History
Section 3: National Policy Statements
Section 4: Planning Policy Considerations
Section 5: Sustainability Assessment
Section 6: Conclusions
2.0 PLANNING HISTORY

2.1 The aim of this Section is to provide a summary of the planning history of proposals for UGS facilities at Preesall. The summary identifies the main areas of concern that have previously been raised by the Secretary of State and Lancashire County Council (LCC) as the Mineral Planning Authority (MPA). The planning history and the concerns that have been raised were helpful to Halite in the development of its Project.

2.2 Over the past decade, there has been interest in developing an UGS Facility in the Preesall salt field, and a number of planning applications have been submitted to LCC by Canatxx Gas Storage Limited (CGS). These applications have been subject to a significant number of objections concerning, in particular, issues surrounding the adequacy of the geology for development of UGS facilities, landscape and visual impact, risk and fear.

2.3 In 2003 a planning application was submitted for an UGS facility (ref 02/03/1455) following which an appeal against non-determination was lodged in October 2004. In December 2004, the Development Control Committee at LCC resolved to object to the application on a number of grounds but primarily relating to the lack of information on geological and ecological issues, unacceptable impacts of traffic, visual impacts and perceived fear. The appeal was subsequently withdrawn and substituted by an appeal against non-determination in connection with planning application 02/05/1415 referred to below.

2.4 In August 2004, an application for Hazardous Substance Consent was submitted by CGS for the storage of 2 million tonnes of natural gas (Ref HSC/04/01). The application was refused by the Development Control Committee in December 2004 and subsequently an appeal was lodged.

2.5 In November 2004, a further planning application was submitted by CGS for an UGS facility (ref 02/04/1415). The application contained additional information relating to the geology of the site and sought to address the concerns raised in the previous 2003 application. The information was, however, still considered to be insufficient and the application was not determined. An appeal against non-determination was lodged by CGS in June 2005. Subsequently, in July 2005, the Development Control Committee at LCC resolved to object to the proposal for similar reasons to the 2003 application i.e. the lack of information on geological and ecological issues, unacceptable impacts of traffic, visual impact and perceived fear.

2.6 In April 2005 an application for Hazardous Substance Consent (HSC) was submitted by CGS for the storage of 2 million tonnes of natural gas (Ref HSC/05/01). This was subsequently amended to 1.2 million tonnes. The application was considered in tandem with the above planning application (Ref 02/04/1415) but, in view of the lack of information relating to geology,
the application was not determined. An appeal against non-determination was subsequently lodged by CGS.

2.7 In 2005, a separate planning application (LPA Ref 05/00369/FULMAJ) was also made to Wyre Borough Council for an interconnector gas pipeline to link the proposed UGS Facility to the Gas National Transmission System (NTS). The interconnector would allow gas to be supplied to the UGS Facility at periods of low demand and gas to be supplied from the Facility to the Grid at periods of high demand. Wyre Borough Council (WBC) resolved to grant planning permission subject to the provision and consideration of additional highway information and conditions. Although the additional information was provided, the local highway authority raised issues which required further work to be carried out and the decision could not be issued. This was not taken forward by CGS due to the refusal/non determination of the application for a UGS facility.

Appeal Decision 2007

2.8 Following a public inquiry into the November 2004 planning application (ref: 02/04/1415) and the April 2005 hazardous substances consent application, the Secretary of State dismissed the appeals in October 2007. The main issues considered by the Secretary of State were the following:

- Need, alternatives and principle of development;
- Geology, storage technology, mining industry;
- Risk (gas migration/explosion), risk assessment, fear as a material consideration;
- Sustainability of the working/disposal of mineral salt;
- Impact on internationally, nationally, and locally designated sites and protected species;
- Landscape and visual amenity;
- Impact on the Wyre Estuary/Wyre Way and other footpaths;
- Highway safety and highway impact on amenity;
- Noise impact on areas east and west of the Wyre Estuary;
- Economic/tourism impact;
- Human rights.

2.9 The Secretary of State concluded that the UGS Facility would not be compliant with the Development Plan nor national planning policies in the following respects:-

- lack of robust geological modelling;
- inadequate understanding of risk;
- visual harm;
- proposed means of access; and
- uncertainty regarding noise impact
- human rights
2.10 In respect of human rights, the Secretary of State considered ‘that there is insufficient information available to properly assess whether this is an acceptable location for this type of development to provide justification for affecting the rights of others’. These concerns related to the impact of increased HGV movements and noise, and health and safety risks associated with possible gas migration, subsidence or risk of a major accident.

2.11 The Secretary of State did not object to the principle of the underground storage proposals per se and, indeed, accepted that there was a need for facilities of this type within the UK. For the most part, the reasons for the Secretary of State’s refusal of planning permission related to lack of information and matters of detailed design.

2.12 In respect of geology, the Secretary of State concluded that the CGS proposals would be contrary to the policies of the Lancashire Mineral and Waste Local Plan 2006 (2000). The Secretary of State considered that the information provided on the geological, hydrological and mining setting was insufficient to enable a decision to be made on the feasibility of the principle of the appeal proposals and, hence, the principle of proposed land use. A particular concern of the Secretary of State was that the potential impact of subsidence on the proposed pipe work or other infrastructure had not been addressed. The Secretary of State also considered that planning permission should not be granted in advance of design details supported by robust and reliable geological modelling which confirmed that there would be no possibility of cavern roof failure affecting Hackensall Sewage Treatment Works and that this amounted to sufficient justification for a refusal of the appeal proposal at that time.

2.13 Whilst the Secretary of State considered that there was a need for additional gas storage in the UK, the Secretary of State decided that given the uncertainties that underlie the suitability of the geology of the Preesall Salt Field to accommodate the Appeal proposed, that national need cannot be extrapolated to mean that there is a specific need for the Appeal Proposal.

2.14 In respect of risk, the Secretary of State considered that to grant planning permission in advance of a clear understanding and quantified assessment of the level of risk would be contrary to the Lancashire Minerals and Waste Local Plan 2006 (2000) which indicated that proposals for mineral development will only be permitted where it can be demonstrated that all material impacts or other factors lead to loss or damage to amenity which would adversely affect people, can be eliminated or reduced to acceptable levels.

2.15 The Secretary of State also had concerns that as a ‘top tier’ Control of Major Accidents and Hazards’ (COMAH) Regulation site, the Health and Safety Executive (HSE) would continue to review standards and ‘best practice’ through the life of the facility and that consequently there was no
certainty that the reassessment of safety standards would not result in the public being excluded from parts of the Wyre Way.

2.16 In respect of perceived fear, the Secretary of State considered that reasonable fears and concerns about the appeal proposal could only be assessed on the basis of a comprehensive investigation of the form, nature and permeability of the overburden strata. The Secretary of State considered that until that information was available, and the time level of risk had been assessed, these fears were a rational response to the appeal proposals and a material consideration. Whilst the Secretary of State considered that the residents' fears in themselves did not constitute a significant planning objection, the failure to provide an adequate risk assessment was a significant planning objection which did add weight to the residents fears.

2.17 In respect of landscape and visual impact, the Secretary of State considered that the visual harm of the proposed gas compressor station and the booster pump station would be contrary to the Regional Spatial Strategy for the North West (2003) (RSS13), the Lancashire Minerals and Waste Local Plan 2006 (2000) and Wyre Borough Local Plan (1999). In addition, the Secretary of State was concerned that crown holes resulting from cavern roof collapse would be a seriously detrimental impact on the appearance of the salt marsh which was a significant visual amenity in its own right. The visual harm to the area as a result of such a collapse was considered unacceptable and contrary to the Joint Lancashire Structure Plan 2001-2016 (2004), the Lancashire Minerals and Waste Local Plan 2006 (2000) and the Wyre Borough Local Plan (1999).

2.18 In respect of the sustainable use of salt, the Secretary of State considered that the appeal proposals did not constitute sustainable mineral development and would be contrary to RSS13 (2003) and the Lancashire Minerals and Waste Local Plan (2000). However, the Secretary of State took the view that this was not a ‘significant objection’ as an adequate assessment of the potential for the beneficial use of brine had been undertaken and in the absence of a market for this common by-product this was not a matter which could be addressed.

2.19 In respect of ecology, the Secretary of State considered that whilst the proposed additional salt marsh would provide adequate compensation for general subsidence, there was an element of uncertainty and that crown subsidence would be irreversible if it did occur and that this is a significant concern which should be accorded substantial weight. As such, the risk of collapse would be contrary to those development plan policies which seek to avoid the detrimental impacts of development including RSS13 (2003), Joint Lancashire Structure Plan (2004) and Lancashire Minerals and Waste Local Plan (2000).

2.20 In respect of highways and access to the site, the Secretary of State considered that the proposals for a mini roundabout at the junction of the A588 and Cemetery Lane/B5377 were unacceptable. However, the
Secretary of State considered that some form of link road for the duration of the scheme may be acceptable.

2.21 In respect of rights of way, the Secretary of State was concerned that any failure of a proposed cavern resulting from the proposal in the vicinity of the Wyre Way could result in the severing of this important coastal path, severely restricting public access to and enjoyment of the estuary contrary to Lancashire Minerals and Waste Local Plan (2000).

2.22 In respect of noise, the Secretary of State considered that the level of night time disturbance for the Sportsmans Caravan Park would be unacceptable and contrary to policy 2 of the Lancashire Minerals and Waste Local Plan (2000), the Wyre Borough Local Plan (1999). The Secretary of State also did not consider that the Environmental Statement submitted with the application was adequate such that it was not possible to state that gas dryer noise would not exceed background noise levels, nor have a detrimental impact on night time residential amenity in Staynall. In addition, there was uncertainty in respect to noise associated with pipeline venting and potential noise affects arising from decommissioning (para 24).

2.23 The Heads Caravan Park has since closed and the GCC containing the dryers in the DCO application has been re-located to the northern part of the site in the Halite Project.

2.24 In respect of tourism and economic development, the Secretary of State considered that the proposal would be likely to result in a 'marginal positive benefit' assuming no wider economic loss discouraging tourists from staying elsewhere in Wyre Borough.

Planning Application 2009

2.25 In 2009, CGS submitted a planning application for a UGS Facility at Preesall (Application Ref 02/09/0159) which sought to overcome the Secretary of State’s concerns as summarised above. In essence, therefore, the new proposals were similar to those which were considered by the Secretary of State in that the development was for a UGS Facility of similar scale with similar buildings and infrastructure.

2.26 The new application provided some additional geological information. The siting and design of the gas compressor station and the booster pump stations were also amended in the 2009 planning application to try and overcome the concerns about noise and landscape and visual impact.

2.27 The revised planning application sought permission for an UGS Facility including the construction of:-

(i) 6 multiple wellhead locations to create underground salt caverns by solution mining;
(ii) Creation of up to 36 caverns with a capacity to store in excess of 1200 million cubic metres of gas;

(iii) Compressor Station compound comprising two compressor station buildings, ancillary equipment, access roads and car parking areas;

(iv) Seawater Pump Station compound comprising a Pumping Station, standby generator and switchgear building, transformers and ancillary infrastructure, access roads and car parking areas;

(v) Northern Booster Pump Station compound comprising the Booster Pump Station building; a switchgear and standby generator building, transformers, a de-brine Facility, ancillary infrastructure, access roads and car parking areas;

(vi) Southern Booster Pump Station compound comprising the Booster Pump Station building; a switchgear and standby generator building, transformers, a debrine Facility, ancillary infrastructure, access roads and car parking areas;

(vii) Reception compound comprising the control building, laydown area for materials and equipment;

(viii) Gas manifold and distribution infrastructure;

(ix) Seawater pipeline from the Fleetwood Fish Dock to the Preesall site;

(x) Brine discharge pipeline from the Preesall site to a point approximately 2.3km offshore to a two port diffuser;

(xi) Four power, communication, control pipelines from the Fleetwood Dock to the Preesall site;

(xii) Electricity cables from the United Utilities Switchgear at the Stanah Switchyard to the new electrical sub-station;

(xiii) Temporary drilling compounds at the Fleetwood Fish Dock and at the Stanah Switchyard;

(xiv) Extension to sea wall at West Way to accommodate brine outfall and new observation platform;

(xv) Pipeline link to interconnector;

(xvi) Comprehensive landscape scheme;

(xvii) New access road from the A588 and new and upgraded internal access roads within the site.

2.28 LCC identified the following issues as important in the determination of the application:

- Need, national interest and alternatives;
- Sustainability of the use of salt;
- Geological conditions, subsidence and implications for safety;
- Ecology;
- Visual and landscape impact;
- Highway and public rights of way;
- Noise;
- Water quality/sea defences/flood risk;
- Safety and security;
- Perceived fear;
- Tourism and economic development;
- Alternative sites;
• Marine Archaeology and Cultural Heritage.

2.29 In determining the 2009 application (Ref: 02/09/0159), LCC accepted in their Officer Report that ‘there continues to be a need for additional gas storage in the UK irrespective of the additional facilities that have become operational, have the benefit of planning permission to be developed or are the subject of planning applications awaiting determination. The impacts of a shortfall of supply on commercial and domestic users could be significant. The Inspector to the King Street (a UGS Facility in Cheshire) case accepted that in an extreme event, if there were to be a major disruption to supply or a pipeline could not be shut down in an orderly fashion, then the consequences could be significant. As part of Government decisions on similar proposals (Byley 2004 and King Street 2009) the Secretary of States concluded that such schemes were realistic and that there were no overriding objections that were sufficient to outweigh the energy benefits, which they saw as of national importance. The Secretaries of State concluded that salt cavity gas storage is a type of storage that would assist with the security of supply and that the proposed developments would be consistent with national energy policy. The current proposal, if developed to the extent proposed would make a significant contribution to the overall supply of storage capacity in the UK’ (p48).

2.30 LCC also ‘accepted that the proposal would comply with the then draft Overarching Energy NPS (EN-1) in that it would contribute towards maintaining the supply of energy during the transition towards delivering a low carbon economy. Similarly, the proposal would not be in conflict with draft EN-4 in that gas can only be stored underground in certain locations where geology would support such’ (p50).

2.31 The 2009 planning application (Ref: 02/09/0159) sought to deal with the Secretary of State’s concerns and the geological aspects of the proposal were dealt with in the geological Report ‘Review of BGS work for Canatxx in support of the revised planning application at Preesall’. On behalf of CGS, the British Geological Survey (BGS) developed a 3D model of the salt beds setting out their depth, range, thickness, lateral continuity, engineering properties and insoluble content. The 3D model was based on a number of data sources which included:-

• 5 reprocessed seismic lines totalling 15.7km in length;
• 745 borehole logs within the Preesall area, of which 120 were specifically used to inform the 3D geological model;
• fully cored BGS boreholes from the Mercia Mudstone Group overburden within the application site;
• CGS boreholes specifically undertaken for the Project with their geophysical logs;
• geophysical logs from 15 other boreholes in the brine field;
• borehole pressure and fracture tests on the mudstone overburden and halite sequences;
• geophysical and engineering properties of the mudstones and saltstones comprising the overburden available from boreholes drilled in the site, the wider region and offshore in the Irish Sea.

2.32 The 3D model showed that the top of the useable halite lay between about 220 metres and 760 metres and the proposed gas storage cavern depth would be greater to include a salt roof designed to protect the marls of the overburden and maintain cavern integrity.

2.33 Seismic reflection data revealed that, like many other salt beds, faulting had affected the Mercia Mudstone Group overburden in areas of the Preesall salt field. BGS advised that the movement on the faults was likely to have occurred many tens of million of years ago. Existing faults were not active and were, therefore, not a significant hazard to the CGS proposals. Observed fractures appeared totally infilled by predominantly halite cement and were almost certainly gas tight. These conclusions would be tested in the development of each cavern at Preesall.

2.34 In conclusion, BGS had updated the geological, hydrological and mining setting of the proposals and had prepared a 3D geological model to test the practicalities of construction of the Facility. BGS advised that:-

• the characteristics of the overburden were well known and documented at Preesall and within the wider area;
• existing faults were not active and were not a significant hazard. Observed fractures appeared totally infilled by predominantly halite cement and, in BGS’s view, were almost certainly gas tight;
• the primary halite and well preserved bedding supported the presence of dry rather than wet rockhead at Preesall;
• the overburden had low intrinsic permeability and was likely to be gas tight because of the very fine grain size and because of the halite and carbonate cement infilling the pore spaces;
• subsidence and crown hole collapse would not occur with caverns that were designed to modern standards;
• no caverns would be created in close proximity to existing caverns at Preesall.

2.35 In order to assist in the determination of the planning application, LCC appointed geological consultants (Atkins) to assess this information to establish the adequacy and acceptability of such. Atkins also enabled LCC to come to a view as to whether the geology was capable of supporting the CGS proposal and whether it would minimise or prevent any associated risks of gas migration.

2.36 Atkins did not consider that the additional information and reports that had been provided by CGS were adequate to justify the proposals. In summary, Atkins found that:-

1. Much of the information provided compared the Preesall proposal with other UGS to show that the information required by the County
Council for the application exceeded that which had been required for other gas storage applications elsewhere in the UK. However, Atkins considered that the proposal should be determined on its own merits and rigorous information was required at Preesall because of the relatively small size of the saltfield. Atkins considered that the comparative information was not relevant to the CGS application proposals.

2. Compared with other salt fields elsewhere in the UK the Preesall salt field is complex and heavily faulted and more assessment was required.

3. Unusually for a minerals application (for the extraction of salt) there was no single comprehensive illustrated report of the geology for the area and no description of how the proposed caverns would have been accommodated within the geological structure.

4. CGS was of the view that neither the details of the geology and geomechanics of the salt field or the cavern locations were relevant planning matters. Atkins found that this was contrary to the views of the Inspector following the 2007 appeal (and other cases, including King Street) and agreed by the Secretary of State.

5. The Inspector on the 2007 appeal was advised on geological matters by a Technical Assessor. In her Report the Assessor set out a number of matters on which she considered that further geological and related information was required before planning permission could be granted together with the objectives of that information and with which the Inspector and Secretary of State had agreed. With the exception of data from two new boreholes, none of the information listed by the Assessor had been provided and only very limited objectives had been achieved.

6. The proposal was to store 1.2 million tonnes of gas in up to 36 caverns (an increase from 24). The Assessor calculated that taking into account of various difficulties, the available storage capacity could be as little as 0.17 million tonnes. No indication was given in the CGS application as to how the difficulties set out by the Assessor were to be overcome.

7. It was considered that in theory there was sufficient rock salt in the northern part of the site to accommodate the proposed quantities of gas storage provided the salt was of a suitable quality throughout its depth and extent; but such suitability was not considered to have been demonstrated. Mudstone beds within the salt claimed by CGS to demonstrate the consistent and predictable character of the salt bed, were less predictable than suggested.

8. Only limited, short term rock tests had been carried out and these did not prove the suitability of the geology of the area.
9. Recent geotechnical investigations of the salt had been primarily on its permeability and had identified unusually low static pore pressure which can have an adverse impact on the containment of the gas cavern.

10. Whilst CGS had sought to demonstrate that wet rockhead had not developed in the area of the proposed caverns, it was evident elsewhere and was potentially part of a chain of migratory pathways. This was a major concern in terms of the long term stability of the caverns.

11. The caverns were mostly to be created by directional drilling from six wellhead locations containing six wells each. It would appear that the wells would need to be drilled up to 900 metres laterally in a depth of only 320 – 450 metres. Analysis suggested that at these depths caverns could not be created more than about 250 metres from the wellhead positions. This would severely restrict the area within which caverns could be created and called into question the capacity of the scheme and the overall achievability of the proposals.

12. CGS turns to the Health and Safety Executive reports published in 2008 to support the proposal. The reports recommended rigorous investigation of proposed underground gas storage sites and did not lend support to any individual scheme.

2.37 These geological concerns led to the first reason for refusal of the 2009 planning application namely that insufficient information had been provided to properly assess and ensure that the geology of the area was capable of accommodating the proposed development. Particular concerns related to the proximity of the former solution mining activities to the surface development and the possibility that there was an opportunity for gas to migrate through the geology or via the former mining activities.

2.38 In respect of risk, LCC acknowledged that the technology to create man made caverns for the storage of gas was well understood and was subject of a rigorous safety regime operated by HSE. For their part, HSE had no objections to the application for Hazardous Substances Consent and had expressed a view that there would be no reason to refuse the CGS application. It was also acknowledged that the planning system has to operate on the assumption that other systems of regulatory control operate properly. Nevertheless, LCC considered that whilst CGS had provided additional geological information, for the reasons set out above, this was not sufficient either to confirm the capability of the geology to accommodate the development. LCC were also concerned that the level of risk associated with the failure of the caverns or the migration of gas from such should be understood as part of the land use planning system.

2.39 LCC also accepted that best practices may be employed and that the operation of the site would have to comply with COMAH and employ
precautionary measures to minimise risk. However, given the relationship of the proposal to former operations and its proximity to residential areas on the east side of the estuary and the more densely populated Fleetwood peninsula, it was considered that the operations would present a risk throughout its operational life. It was considered, therefore, that CGS had not demonstrated that the site could be developed safely or that the risk of gas migrating from the site could be reduced to an acceptable degree.

2.40 In respect of perceived fear, LCC were in receipt of more than 8700 representations following consultation on the CGS application and one of the main recurring reasons for objection was the perception of fear from residents who were worried about the risk of gas migration and their personal well being, the risk of safety and the fear of subsidence, and the associated dangers it may cause, particularly given the evidence of subsidence associated with previous workings and the major incidents that have occurred in America.

2.41 Although LCC accepted that gas caverns can be safely created in salt, it was considered that the geology had not been proven to the degree required to demonstrate that the potential for gas migration could not be considered a risk. Whilst LCC accepted that this risk was small, LCC considered it still carried material weight. Because the CGS application had not properly addressed the capability of the salt deposits to safely accommodate the proposed development and prevent the risk of migrating gas, LCC concluded that the CGS proposal, if implemented, would result in considerable and understandable fear and distress within the local communities attributable to the level of associated risk and the potential consequences of any accident or incident occurring.

2.42 In respect of visual and landscape impact, LCC appointed consultants (Atkins) to assist them in the determination of the visual and landscape impact of the CGS proposals contained in the 2009 application. In summary, LCC and Atkins had concerns about the impact of the development on the landscape of the eastern part of the Wyre Estuary. It was accepted that the development of the brine pipeline and the Seawater Pump Station on the west side of the Wyre Estuary would not have an adverse visual or landscape impact. Indeed, the viewing platform at the sea wall was seen as having the potential to enhance the coastal environment.

2.43 On the east side of the Wyre Estuary, Atkins concluded that CGS’s proposals would have had generally adverse impacts on the areas of open countryside and this would conflict with the aims of the policies for the rural area; specifically aims related to protecting or enhancing the rural environment. In particular, Atkins considered that the influence of development would have extended over a length of 3.5km (north to south), effectively visually severing the Wyre Estuary from the areas of rural farmland to the east. The introduction of new build elements into the area was seen as fundamentally altering the character of the area from that which is currently rural (with the potential to enjoy undisturbed recreational
activities that have only distant views of urban features on the west of the estuary) and fundamentally altering the character of the coastal strip to a more urban character. There was also concern that the introduction of urban elements into the coastal fringe would put pressure on the remaining undeveloped rural land between the estuary and the settlement belt to the east.

2.44 There was concern about the visual impact of the Gas Compressor Station, the Booster Pump Stations and the wellheads. Atkins found that whilst proximity of the proposed UGS facility and the interconnecting pipeline to the national transmission line may deliver operational convenience, it would be preferable for the industrial buildings, plant and equipment elements of the development that are not essential for the solution mining of the salt, such as the compressor complex, to be sited remotely on the western side of the estuary as part of the existing industrial development thereby reducing the visual impact of it in the rural environment on the east side of the estuary.

2.45 The proposed location and size of the Northern Booster Pump Station was of concern as Atkins considered that it would result in substantial adverse impacts on landscape character and visual impacts. Along this section of the Wyre Way, there was concern that the Booster Pump Station would obliterate views to the west and form a totally dominant feature along the final stretch of the route as it passes by the golf course and into Knott End on Sea.

2.46 The buildings were considered substantial in scale and that they would remain visually incongruous in the area being uncharacteristic in design. It was considered that they would have some adverse visual impact in the otherwise predominately rural landscape characterised by low hills, hedgerows and woodland and designated as a Countryside Area in the Wyre Borough Local Plan. They would be visually prominent in the area until such time as landscaping could reduce that impact, and given the location of the site and the prevailing winds, the landscaping could take longer to become established to a degree that it would seriously contribute to mitigating the visual impacts of the buildings. It was considered that any change in design would not reduce the overall impact of the buildings in the rural environment and they would remain of significant incongruous scale throughout the long term operational life of the site.

2.47 Atkins had concerns about the locations of the wellhead compounds which were indicative and were of a 'typical' design. As their precise locations were unknown and consequently the generic design could not take into account the specific locational features or impacts in Atkins view, would introduce a significant large scale industrial element to the area. Even following construction of the caverns when the well head compounds may be reduced in scale, Atkins considered that they would still be significant in scale, particularly in relation to the rural nature of the area and when viewed from the Wyre Way. It was considered they would remain dominant, particularly throughout the development period, when they
would require large supporting secure compounds and would throughout that period and on subsequent completion be surrounded by industrial security fencing. This type of development would adversely affect the visual amenities of the area enjoyed by recreational users particularly throughout the development period but more significantly during the operational life of the site for a substantial period of time.

2.48 In respect of the sustainable use of salt, LCC concluded in its Officer Report that ‘whilst the Secretary of State’s decision on the previous Canatxx appeal concluded the disposal of salt was unsustainable, it also concluded that this was not a significant objection. Since that decision, discharge consent to dispose of salt into the Irish Sea has been granted by the Environment Agency. In light of the publication of further guidance that accepts the principle of disposing of minerals in this way where there is no unacceptable environmental impact and the disbenefits are overridden by other circumstances, and in light of the King Street decision, it is concluded that whilst the disposal of salt in the way proposed is unsustainable and contrary to policy, there are other material considerations which would outweigh the loss of reserves and that such conflict with policy does not constitute an overriding objection to the proposal or a reason for refusing the application, even though it plainly weighs against the grant of permission’ (p52). The King Street decision set out in the Officer Report related to a UGS Facility in Cheshire that had recently been granted permission by the Secretary of State on appeal.

2.49 In respect of ecology, LCC stated in its Officer Report that ‘the previous proposal generated considerable concern with the statutory and non statutory ecological bodies and many of the representations received. Some of the concerns of the ecological groups have been allayed by the revised proposals. However, many of the concerns could now be dealt with by way of planning condition as referred in the summaries of their representations, including mitigation on affected species and environments and the provision of long term management plans. Natural England have maintained a holding objection in view of a small encroachment into the Liverpool Bay pSPA and a lack of information to confirm there would be no significant effect on Morecambe Bay SPA/Ramsar site as a result of the loss of terrestrial habitat for Pink Footed Geese. They recommend that a detailed management strategy is submitted and agreed prior to the determination of the planning application. With regard to the marine environment, the assessment of the impacts on such is a matter for the Environment Agency which has now issued a discharge consent. In view of the issue of the discharge consent and in light of the views of the specialist advisory bodies it is considered that Ramsar Site, SPA, SAC, SSSI and statutorily protected species would not be so affected or mitigation measures could be provided to ensure their protection through the construction and operational phases of the development. Providing a detailed management strategy to protect farmland within the control of the applicant for perpetuity for birds associated with the Morecambe Bay SPA/Ramsar site, namely Pink Footed Geese, it is considered that the proposed habitat mitigation and management measures would satisfy the
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2.50 In respect of highways, the LCC Officer Report confirmed that neither the Highways Agency nor the County Highway Authority objected to the access proposals contained in the CGS application. Notwithstanding these views, the Council in its Officer Report considered that ‘the proposed increase in HGV movements on the primary and local highway network has generated considerable cause for concern and which is expressed by many of the representations received. It is accepted that the increase in movements would be for a temporary period, but the movements are significant and would be over a period of 3 years. Vehicles would use highways that it would appear are capable of accommodating them but inevitably their presence would have a negative impact on the safety and amenity of other highway users. The movement of these vehicles would lead to a major loss of highway amenity to users of both the primary and local road network and to the amenities of residential properties fronting such for the duration of the construction phase of the development. The proposed link road from the A588 to the site did not form part of the previous application but was considered in principle as part of the public inquiry. The Secretary of State considered a link road could be acceptable. Consequently the applicant proposes a new link road between the A588 and the site entrance as part of this application. The alignment of the link road and consequently the boundary of the planning application have been amended to address land ownership issues. The acceptability in principle of a link road has been previously accepted and would have the considerable benefit of providing an access link to the site from the A588 for vehicles and thereby avoiding the very difficult junction with Cemetery Lane. Whilst there would be significant increases in HGV vehicles throughout the three year development period, the A588 is capable of accommodating such and to which no objection has been raised by the Director HEM. There would be conflict between an increase in HGV movements and a consequent loss of amenity to highway users. However, this was not considered to be of such a scale that would constitute a sustainable reason for refusal as part of the previous application and given there are no significant changes to the current application other than an improvement in terms of the proposed link road, then HGVs on the local highway network and conflicts with other highway users is not considered to constitute a sustainable reason for refusing this application and it is accepted that any conflict would be outweighed by the national need for gas storage, nonetheless it is a factor which weighs against the proposed development in the overall planning balance’ (pg 67).

2.51 With regard to public rights of way, the Officer Report stated that ‘development on the western side of the Wyre Estuary would adversely affect the public footpath along the western bank of the River Wyre at two points where the under river crossings are proposed, particularly at the point of the proposed directional drilling for the electricity connection at a point close to a public car park, picnic spot and recreational area. Similarly there would be some disruption at the point the discharge pipeline would
cross the sea wall at the point a new viewing platform is proposed as part of the development. Construction development at these points would be temporary and completed within the first year of development. Whilst such disruption may be inconvenient, it is considered that it could be satisfactorily addressed by condition and would not constitute a sustainable reason for objecting to the proposal. It is accepted that the introduction of a viewing platform on the sea wall would introduce a feature which would enhance the amenity of the public access. The discharge pipeline would also pass under the alignment of the railway track and for which there is a policy in the Thornton Area Action Plan to bring the track back into operational use. This similarly would only be temporarily affected and to which no sustainable objection could be raised. With regard to the eastern side of the estuary, the proposal would affect a number of public rights of way between Knot End and The Heads (Nos. 14, 38, 39, 41, 43, 45 and 61) particularly the Wyre Way (No. 41) which runs north/south parallel to the salt marsh on the elevated sea defence, and a bridleway (No. 2). It would be necessary to divert or stop up some of these footpaths on a temporary or permanent basis during the construction phase and subsequent operational phase. This would inevitably result in limited access throughout the duration of the construction phase of the development and on completion of the development works introduce an industrial element in the form of large buildings, compounds, plant, equipment, lighting, fencing, access tracks and drilling platforms and associated vehicle movements over an extensive area in a rural environment to the detriment of the amenities of the footpath and bridleway network. The Secretary of State in her decision on the previous application agreed with the Inspector’s findings that any collapse of cavern could result in the severing of the Wyre Way which was recognised as an important coastal path and would severely restrict public access to and enjoyment of the estuary. It is accepted that properly constructed caverns in a geology that could support such would be unlikely to collapse in the foreseeable future. However, it is considered that the development during the construction phase and throughout its operational life, irrespective of the proposed mitigating measures to attenuate visual impact, would be visually very prominent when viewed from the Wyre Way and the local highway network and which is addressed as part of the appraisal on landscape and visual impact above. The applicant maintains there are very special circumstances to justify the impact associated with traffic movements and impacts on the footpath/bridleway network. However, it is considered that the proposals would be contrary to Policy 31 of the LMWLP unless it can be demonstrated that there is a need for the minerals and subsequent gas storage development which cannot be met elsewhere. It is accepted that there is no need for the mineral and that the extraction and disposal of such could be found acceptable to facilitate the creation of caverns for UGS and for which it is similarly accepted in principle that there is a national need. Whilst the impacts would be temporary during the construction phase of the development, they would be over a period of three years. Nevertheless, the temporary nature of the impacts may be considered acceptable when balanced against the national need for gas storage. It is considered that the overall impacts upon the amenities of the
highway network (vehicular and foot) are considered to be adverse and significant but do not of themselves warrant refusal of consent, albeit that they weigh against the proposal in the overall balance’ (pg 67).

2.52 In respect of noise, in its Officer Report, LCC noted that ‘the Secretary of State previously considered that the assessment of noise associated with the previous application at Preesall was inadequate. It is now considered that sufficient assessment has been carried out to establish the noise impacts. Whilst mitigation to ensure the development of the site would not adversely affect internationally designated sites or properly assess the impacts of the construction and operational phases of the development on the amenities of local residents and the environment are proposed, it is inevitable that there would be some disturbance from noise to residents and users of the footpath network in the area associated primarily with construction phase of the development from traffic and mobile plant and from the drilling operations to be carried out on a 24 hour basis. Whilst such disturbance would be temporary, this would be for an initial 3 year development period, for drilling operations it would continue beyond as part of the development of the site as a whole. Nevertheless, notwithstanding the temporary nature of the impacts associated with noise, they are considered to be adverse and significant but do not of themselves warrant refusal of consent, albeit that they weigh against the proposal in the overall balance’ (pg 68).

2.53 In respect of economic and tourism development, LCC considered that the employment and other opportunities may be considered to be of benefit, but they must be considered against the impacts of the development not only in socio economic terms but also against the impacts of the development in a wider capacity. It was recognised that the development would provide employment opportunities for a skilled workforce both on a temporary and to a much lesser degree, permanent basis. LCC considered it was more difficult to determine whether tourism would be affected in the area other than the loss of the caravan parks and, therefore, it was not considered that such an impact could constitute a sustainable reason for objecting to the proposal.

2.54 In respect of marine archaeology and cultural heritage of the area LCC concluded that the proposals would have a negligible effect on the marine ecology or cultural heritage of the Fylde peninsula along the alignment of the pipeline or on the east of the estuary. Although LCC had concerns about the comprehensiveness of the assessment, it was not anticipated that the impacts would not be so great as to constitute a reason for refusal and any such impacts could be addressed by a condition if planning permission were to be granted.

2.55 Having regard to the above, the 2009 application was refused for the following four reasons:-

i) The application contains insufficient information to:-
- Properly assess and ensure the geology of the area is capable of accommodating the proposed development;
- Demonstrate its relationship to former solution mining activities or surface development; and
- Establish there is no opportunity for migrating gas through the geology or via former mining activities; contrary to Policies 2, and 71 of the Lancashire Minerals and Waste Local Plan.

ii) The proposed development to the east of the estuary would result in the introduction of an industrial development which by reason of its scale, design and location would be detrimental to the quality of the open character of the countryside, coastal plain, estuary landscape and Wyre Way contrary to the intentions of Policy EM1, DP7 and RDF3 of the Regional Spatial Strategy, Policies 2, 7, 25 and 31 of the Lancashire Minerals and Waste Local Plan, Policies SP14, ENV2 and TREC12 of the adopted Wyre Borough Local Plan and Policies CORE11, ENV2 and TOUR12 of the Wyre Borough Local Plan 2001- 20016 (first Deposit Draft).

iii) The applicant has failed to demonstrate that the development would not present an unacceptable risk of gas migration given the relationship of the proposal to former operations and its proximity to residential areas on the east side of the estuary and the more densely populated Fleetwood peninsula throughout its operation, decommissioning and long term aftercare management contrary to Policies 2 and 3 of the Lancashire Minerals and Waste Local Plan.

iv) The failure to provide an adequate risk assessment for the proposal would result in considerable and understandable fear and distress within the local communities attributable to the nature of the proposal and the potential consequences of any accident occurring and would be contrary to Policy 2 of the Lancashire Minerals and Waste Local Plan.

Halite’s Response to Previous Planning Refusals

2.56 The DCO application seeks to overcome these reasons for refusal. Having regard to the first reason for refusal concerning geology, Halite appointed Dr Everett Rutherford, Professor Rokahr, Mott MacDonald and Golder to review the geological information and undertake a critical review of the previous planning submissions. A significant amount of geological work has been undertaken and a ‘Geology Summary Report’ (GSR Document Ref 9.2.2) has been produced reviewing the sources of the base data, details of the salt presence, its quality and potential hazards including:

- the proximity of existing mine workings, existing caverns and exploratory boreholes;
- suspect wells;
- faulting;
• wet rockhead and hydrogeology;
• gas migration and risk assessment;
• subsidence; and
• seismicity

2.57 This assessment led to the development of ‘hazard exclusion zones’ where, based on available data, the composition and character of the salt was not sufficiently defined. Two polygonal areas were identified outside of the buffer area in the northern part of the site where the development of the caverns could take place (See Drawings No A-9000-003 and 030). The indicative cavern layout plan (Drawing Ref: A-9000-005) shows the cavern placement areas that are economically viable and which fall outside of the hazard buffer zones. The two polygonal areas are significantly smaller than the areas contemplated by CGS for their cavern creation in their earlier planning applications. The two polygonal areas comprise 75 hectares whilst the previous CGS proposals sought planning permission for the development of caverns over an area of nearly 500 hectares. Halite’s proposals, therefore, reduce the area for the creation of caverns by about 80%.

2.58 The reduction in the area for cavern creation means that the amount of gas that can be stored is less. The last CGS proposal sought planning permission for a maximum of 36 caverns storing up to 1200 million cubic metres of gas. The DCO application now seeks permission for 19 smaller caverns with an operating capacity of up to 600 million cubic metres – about half the capacity of the previous CGS proposals.

2.59 LCC in its Section 42 consultation response concluded that, in general terms, ‘the new information strengthens the conclusions drawn in earlier versions of the GSR as regards the practical achievability of accommodating caverns in the Preesall Halite and that the developer has demonstrated that the previous concerns expressed by the County Council and the Secretary of State could not be sustainably maintained’ (pg 2 of Appendix A of the Report concerning LCC’s Section 42 response).

2.60 In respect of the second reason for refusal concerning the landscape impact and the countryside, Halite has carried out a landscape and visual assessment of its proposed buildings and the pipeline route. The reduction in the extent of the area where caverns can be created means that it has been possible to make the surface infrastructure more compact than in previous proposals. The development of caverns in the northern part of the Preesall site has allowed the relocation of the surface infrastructure to this area. In response to the reason for refusal, Halite has re-examined the proposed development and, where appropriate, made a number of changes, as outlined below:-

• Retained that part of the CGS proposals on the west side of the Wyre Estuary, that was acceptable to LCC
2.61 There were no visual or landscape objections from the LPAs for the provision of the brine pipelines and the Seawater Pump Station on the west bank of the River Wyre. The works to the sea wall and the creation of the viewing platform were seen as being a positive enhancement to the coastal environment and this has been retained in the Halite Project.

- Examined alternative locations for the Surface Infrastructure on the west bank of the Wyre Estuary.

2.62 Halite has examined the options for the relocation of the surface infrastructure and the conclusions are set out in their Report ‘Surface Infrastructure: Alternative Site Assessment’ (August 2010) (copy attached at Appendix 1). The Alternative Sites Report states that previous CGS proposals have shown a significant amount of surface development in the countryside on the east bank of the River Wyre. Planning policies are generally restrictive towards development in the open countryside and the LPA requested that consideration is given to the re-location of buildings and plant to the west bank of the Wyre Estuary. Here planning policies are more flexible and there is significant existing and proposed industrial land that is available.

2.63 The surface infrastructure comprises:

- Security and Support Facility
- Seawater Pumping Station
- Booster Pumping Station
- Gas Compressor Compound
- Wellhead Compounds
- Manifolds and pipelines

2.64 Pursuant to the DCO application, it is proposed that the Security and Support Facility would be located at Higher Lickow Farm and will give the farm complex a new use. The existing farmhouse and barns, which are currently vacant and in a poor state of repair, provide an ideal location for this use as they are close to the route of the main access road into the site. The farmhouse would be refurbished and the existing larger barn redeveloped to provide a warehouse and store building. The second, smaller barn would be demolished.

2.65 As set out above, a site for the Seawater Pump Station is already identified on the west bank and, in previous planning applications, the LPAs have accepted the proposed site.

2.66 For geological and operational reasons, the Wellheads and the Booster Pump Station must be located on the east bank. During drilling of the boreholes and the washing of the caverns, the drilling rig would have an adverse visual impact. The drill rigs are tall structures of an industrial character. However, these impacts are temporary and short-term during the construction of the cavern. Once the caverns are formed, the drilling rig would be removed from the wellhead and the manifolds connected.
Whilst operational, the wellheads are low structures whose visual impact can be easily mitigated by earth screening and planting.

2.67 Unlike the previous CGS schemes, where two Booster Pump Stations were required, the Halite Project includes only one such Station. The building would be relatively small and is designed to reflect the agricultural character of the area. The Preesall area contains a number of scattered dwellings and barns and the Pump Station has been designed as a ‘barn like’ structure to assist its assimilation into the landscape. The manifolds and pipelines are, for the most part, underground and there is, therefore, little or no impact on the countryside.

2.68 The greatest scope to reduce the impact of the development on the countryside is through the relocation of the Gas Compressor Compound (GCC) to the west bank. In terms of scale, the GCC is the largest part of the surface infrastructure and is of an industrial nature that is not easy to assimilate into the countryside. Having regard to local planning policies set out in the Fleetwood-Thornton Area Action Plan (AAP) and the availability of land, a number of alternative sites on the west bank of the Estuary were examined for the siting of the GCC. The ‘Surface Infrastructure - Alternative Sites Assessment’ (Appendix 1) provides a review of their planning, environmental and economic potential and three potential sites were identified as acceptable locations. However, the GCC is a potentially hazardous installation and the HSE has safety zones where development around such plant is restricted as being incompatible in land use terms. HSE will define the extent of these zones but Halite has carried out its own calculations for the potential sites and, in all cases, the GCC would have a potential effect on existing and proposed residential properties. As such each of the identified sites on the west bank is unsuitable from a health and safety viewpoint and, therefore, Halite has had no alternative but to locate the GCC on the east bank. In conclusion, therefore, whilst physically there are alternative sites available for the GCC on the west bank, the health and safety assessment shows that none of the locations is suitable.

- Examined alternative routes for the interconnector pipeline having regard to Wyre Power’s proposed route.

2.69 Wyre Power is proposing to construct a gas fired power station at the Hillhouse site on the west bank of the Wyre Estuary and have identified a route for their gas pipeline which connects to the same part of the NTS as the Halite interconnector. The LCC has asked Halite to examine the possibility of combining their interconnector route with Wyre Power’s gas pipeline.

2.70 Wyre Power’s gas pipeline route is further south than Halite’s interconnector route and has a greater environmental impact as it directly affects more residential properties. The Alternatives Site section of the ES provides more detail but, in summary, the Halite interconnector is a more direct route and affects a lesser number of residential properties. The
route of the interconnector is also similar to that which WBC resolved to grant planning permission. The Wyre Power pipeline is also 24” and 70 Bar which is not suitable for Halite’s needs.

2.71 As well as environmental issues, there are commercial and regulatory issues that preclude the sharing of a pipeline route. If Halite connects to the Wyre Power pipeline it would be connecting to a third party system over which it has no control. Halite would be reliant on Wyre Power for the permission to construct the pipeline, its funding and construction programme. Halite’s Entry and Exit capacity and its ramp rates would also be determined by Wyre Power and would be subject to Wyre Power’s operating requirements which, in turn, would be governed by what it negotiated with National Grid.

2.72 The operational requirements of Wyre Power and Halite are very different. Wyre Power accepts gas from the Grid whilst Halite would import and export gas i.e. the pipeline would be bi-directional for Halite operation. The operating pressures for Wyre Power and Halite would also be different.

2.73 Due to the nature of a UGS facility, in that its gas has already paid charges to enter the system and also to the fact that storage facilities tend to bring system support to the NTS, storage projects connected to the NTS are exempt from SO charges. If it is connected via the Wyre Power pipeline, Halite would not be connecting directly to the NTS and would have to pay SO charges, immediately putting it at a competitive disadvantage against all other storage facilities that have a direct connection.

2.74 Similar commercial and regulatory issues would arise if Wyre Power connects to the Halite pipeline.

- Located the built form on the east side of the River Wyre to the northern part of the site to provide a more compact development that does not extend ‘over a length of 3.5km (north to south)’

2.75 In redesigning the scheme, the surface infrastructure on the east bank of the River Wyre is more compact such that the development extends over a length of approximately 1km rather than the 3.5km of the previous scheme.

- Relocated the Northern Booster Pump Station to the east of the Hackensall STW to reduce its visual impact when viewed from the west

2.76 The Booster Pump Station has been re-located so that it is partially screened from views from the west by the structures comprising the Hackensall STW. It would also look part of the existing built development rather than a disparate element in the landscape. The Booster Pump
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Station has also been re-designed so that it reflects the ‘barn like’ architecture common to the locality.

- **Removed the Southern Booster Station from the scheme**

2.77 The reduction in the number of caverns that would be washed means that the Southern Booster Station has been removed from the scheme. The removal of the building and associated infrastructure reduces the visual and landscape impact when compared with previous applications.

- **Removed the Control Room and Warehouse from the scheme**

2.78 Rather than construct a new Control Room and Warehouse, the opportunity has been taken to refurbish the existing farmhouse and redevelop one of the barns at Higher Lickow Farm to provide administrative offices and a maintenance workshop. The re-use of existing buildings means that the impact of the development on the countryside is reduced. The Control Room has been included within the Booster Pump Station.

- **Relocated the Gas Compressor Compound and built it into the ground so as to reduce its visual and landscape impact**

2.79 The GCC has been relocated to the northern part of the site. It has been sited in the lee of a hill and additional ground modelling and landscaping has been introduced to reduce its visual and environmental impact.

- **Retained the route of the interconnector gas pipeline as proposed by CGS as this was subject to a resolution to grant planning permission by WBC**

2.80 Other than amendments to the pipeline route on the site of the UGS Facility (to connect to the new location of the GCC) the proposed route of the interconnector pipeline to link to the NTS at Nateby is similar to that for which a resolution to grant planning permission was made by WBC in 2005.

2.81 A comprehensive Landscape and Ecological Management Strategy Plan is proposed by Halite to mitigate landscape and visual impact.

2.82 In respect of the third reason for refusal concerning risk, in accordance with the advice of the Secretary of State and LCC on previous planning applications, Halite has prepared a ‘Risk Assessment’ (RA Document Ref: 9.3.1) to assess the level of risk associated with its project. The RA and related Geology Summary Report confirm that the Project can be constructed and operated safely.

2.83 In respect of the fourth reason for refusal concerning fear and distress, the additional geological works that has been undertaken and the provision of the RA assists in reducing these concerns.
Conclusion

2.84 The planning history of previous proposals for UGS facilities at Preesall has been influential to Halite in designing its Project. Particular regard has been had to the Secretary of State’s decision following the appeal and the reasons for refusal given by LCC in respect of the planning applications made by CGS.

2.85 Halite has dealt with each of the four reasons for refusal of the last planning application made in 2009. A more robust geological assessment has been undertaken (see Geology Summary Report (Document Ref: 9.2.2) and LCC in its response on the Section 42 consultation has accepted that it can no longer sustain its objection to the Project on geological grounds.

2.86 The RA (Document Ref: 9.3.1) has examined the risks associated with the construction and operation of the Project. The RA has regard to the geology, the risks of gas migration and examines the probability and affects of an accident. The assessment concludes that the risks to the local population are extremely low.

2.87 The reduction in the size of the Project when compared with previous proposals has brought about a consequent reduction in the above surface infrastructure and, therefore, the visual and landscape impact. Halite has taken the opportunity to retain those parts of the previous CGS proposal which were found to be acceptable to the LPAs. This involves that part of the Project which is sited on the west bank of the Wyre Estuary (the Seawater Pump Station, the brine pipeline route and the works to the Sea wall) and the general route of the gas interconnector to the NTS at Nateby. The buildings on the Preesall site on the east bank of the Wyre Estuary have been located at the northern part of the site and the buildings have been redesigned to reflect the character of the area. Alternative sites on the west bank of the Wyre Estuary have been assessed particularly for the siting of the GCC, but these have been rejected for health and safety reasons.

2.88 It is considered that the Project design and supporting information forming the DCO application addresses the main issues that resulted in the refusal of the previous planning applications.
3.0 NATIONAL POLICY STATEMENTS

3.1 This Section sets out the planning considerations arising from the National Policy Statements (NPS). In deciding applications for a DCO, Section 104 of the Planning Act 2008 requires the IPC to have regard, in particular, to the contents of the relevant NPS. The ‘Overarching National Policy Statement for Energy (EN-1)’ and the ‘National Policy Statement for Gas Supply Infrastructure and Gas and Oil Pipelines (EN-4)’ set out the principles that should be applied in the assessment of DCO applications. NPS EN-1 sets out general principles that are relevant to the full range of energy technologies whilst NPS EN-4 is more concerned with impacts and other matters which are specific to gas supply infrastructure and UGS.

NPS EN-1 Assessment Principles

3.2 Part 4 of NPS EN-1 sets out 14 Assessment Principles which the IPC are asked to consider as follows:

- Environmental Statement
- Habitats and Species Regulation Assessment
- Alternatives
- Design
- Combined heat and Power
- Carbon Capture
- Climate Change Adaption
- Grid Connection
- Pollution Control
- Safety
- Hazardous Substances
- Health
- Common law nuisance and statutory nuisance
- Security

3.3 We summarise and set out Halite’s response to these principles below.

3.4 Environmental Statement: Halite has submitted an Environmental Statement (ES) with its application. The ES meets the requirements of the Scoping Opinion that was provided by the IPC and has had regard to the late submissions received from some of the statutory and other consultees.

3.5 When considering a proposal, NPS EN-1 requires the IPC to satisfy itself that likely significant effects, including any significant residual effects taking account of any proposed mitigation measures or any adverse effects of those measures, have been adequately assessed. In doing so the IPC should also examine whether the assessment distinguishes between the project stages and identifies any mitigation measures at those stages (para 4.2.4).
3.6 The assessment set out in the ES includes the likely significant effects of the proposed Project on the environment, covering the direct effects and any indirect, secondary, cumulative, short, medium and long-term, permanent and temporary, positive and negative effects at all stages of the Project, and also of the measures envisaged for avoiding or mitigating significant adverse effects. In accordance with the advice set out in NPS EN-1, the ES also includes information on the likely significant social and economic effects of the development, and how any likely significant negative effects would be avoided or mitigated.

3.7 **Habitats and Species Regulation Assessment**: Prior to granting a DCO, under the Habitats and Species Regulations, NPS EN-1 requires the IPC to consider whether the Project may have a significant effect on the management of a European site, or on any site to which the same protection is applied as a matter of policy, either alone or in combination with other plans or projects (para 4.3.1) such that an Appropriate Assessment is required.

3.8 Previous planning applications submitted by CGS have not required Appropriate Assessment. The ES contains an assessment of the ecological aspects of the current proposals and a separate ‘Information to Support a Habitats Regulations Assessment Morcambe Bay SAC, Liverpool Bay SPA, Shell Flat and Lune Deep cSAC’ (Document Ref 3.2) and ‘Information to Support a Habitats Regulation Assessment Morecambe Bay SPA and Ramsar’ (Document Ref 3.3) is submitted with the DCO application under Regulation 5(2)(g) of the (Applications Prescribed Forms and Procedure) Regulations 2009 to enable the IPC to undertake a formal assessment of whether there is likely to be a significant effect on any European sites to which the Habitats Regulations applies or to any Ramsar site which may be affected by the Project. The assessments conclude that there are no significant impacts on these ecological areas.

3.9 **Alternatives**: From a policy perspective, the NPS does not contain any general requirement to consider alternatives or to establish whether the proposed project represents the best option. However, it points out that as a matter of law the decision making process must have regard to the existence (or alleged existence) of alternatives (para 4.4.1).

3.10 Minerals can only be worked where they are found and Preesall is one of the few saltfields in the UK that does not already have an operating UGS Facility or one that is under construction or with planning permission. Although the UGS Facility can only be located where the salt beds are available, Halite has examined a number of alternative designs for the scheme. As set out above, in Section 2 of this Report proposals for an UGS Facility at Preesall have had a long planning history and a number of alternative schemes have been submitted and refused planning permission by the LPA and the Secretary of State on appeal. The Project represents a smaller and more compact development than previous schemes but a number of alternatives have been assessed, including:
• Alternative locations for the siting of caverns within the salt body;
• Alternative locations for the siting of above ground infrastructure;
• Alternative locations for the routing of the gas interconnector to the NTS.

3.11 These alternatives are assessed in the ES and details are also provided in Section 2 above.

3.12 **Design:** NPS EN-1 seeks to encourage ‘good design’ in terms of aesthetic, functionality, fitness for purpose and sustainability. It states ‘applying “good design” to energy projects should produce sustainable infrastructure sensitive to place, efficient in the use of natural resources and energy used in their construction and operation, matched by an appearance that demonstrates good aesthetic as far as possible’ (para 4.5.1).

3.13 The amount of above ground development associated with the Project is relatively limited for a nationally significant infrastructure project. The Seawater Pump Station is located at Fleetwood Dock and has been designed to reflect the urban character of the area. Previous planning applications for a UGS Facility at Presall submitted by CGS included a Seawater Pump Station at the location proposed by Halite and there were no objections from the LPAs to this siting or design.

3.14 The Booster Pump Station is a relatively small building that has been located adjacent to the existing Hackensall Sewage Treatment Works to help screen views from the Wyre Estuary. The building has also been designed to reflect the agricultural character of the area.

3.15 Due to its size and industrial appearance, the GCC has the greatest impact on the character of the area. The GCC contains a range of industrial plant for which there is a limited opportunity to change its design. The **‘Surface Infrastructure: Alternative Site Assessment’** (see Appendix 1) examined alternative sites on the west bank of the Wyre Estuary but these have been discounted for reasons of health and safety. In order to mitigate the visual impact of the GCC, land contouring and landscaping are proposed.

3.16 The **‘Design and Access Statement’** (Document Ref: 9.1.2) submitted in support of the DCO application sets out how the design process was conducted, how the design evolved and the reasons for the favoured choice.

3.17 **Combined Heat and Power:** NPS EN-1 requires that consideration is given to combined heat and power. This is relevant to thermal generating stations rather than UGS Facilities and, therefore, is not considered further in this Report.

3.18 **Carbon Capture:** NPS EN-1 requires that consideration is given to Carbon Capture and Storage (CCS) and Carbon Capture Readiness (CCR). It
makes the point that it can be applied to any large point source of carbon
dioxide such as fossil fuel power stations or other industrial processes that
are high emitters. The Project would not be a high emitter of carbon
dioxide and CCS and CCR is, therefore, not considered further in this
Report. However, carbon capture is a potential use for the caverns at the
end of the life of the Project. However, any proposals for such a use
would need to be subject to an application made at that time.

3.19 **Climate Change Adaption:** NPS EN-1 states that ‘climate change is likely
to mean that the UK will experience hotter, drier summers and warmer,
wetter winters. There is a likelihood of increased flooding, drought, heat
waves and intense rainfall events, as well as rising sea levels. Adaptation
is therefore necessary to deal with the potential impacts of these changes
that are already happening’ (para 4.8.2).

3.20 NPS EN-4 provides more specific guidance that is of direct relevance to
the Project and states ‘as climate change is likely to increase risks to
some of this infrastructure, from flooding or rising sea levels for example,
applicants should in particular set out how the proposal would be resilient
to:

- increased risk of flooding;
- effects of rising sea levels and increased risk of storm surge;
- higher temperatures;
- increased risk of earth movement or subsidence from increased risk
  of flooding and drought; and
- any other increased risks identified in the applicant’s assessment’
  (para 2.2.2)

3.21 Having regard to the above, the ES includes a Flood Risk Assessment that
examines and mitigates for potential fluvial and tidal flood events. Climate
change resilience measures, such as the location of built development on
higher ground, form part of the Project. The ES also includes a Chapter
specifically dealing with the issue of climate change.

3.22 **Grid Connection:** NPS EN-1 deals with the connection of electricity
generating plant to the electricity network. Such a connection is not
applicable to the Project as it would not be exporting electricity. However,
Halite would be importing electricity and an underground electricity cable
is proposed to link the Project to the Stanah Switchyard on the west bank
of the Wyre Estuary. United Utilities has confirmed that capacity is
available at Stanah to meet the needs of the Project.

3.23 The Project would also connect to the Gas National Transmission System
near Nateby. Although the National Grid Company (NGC) cannot
guarantee the grid connection at this time, it has confirmed that subject to
obtaining the freehold of the land on which to build the connection and the
granting of permission by the IPC then there is no reason why the
connection should not be made.
3.24 **Pollution Control:** Discharges or emissions from projects which affect air quality, water quality, land quality and the marine environment are subject to separate regulation under the pollution control framework or other consenting and licensing regimes. NPS EN-1 states that ‘in considering an application for development consent, the IPC should focus on whether the development itself is an acceptable use of the land, and on the impacts of that use, rather than the control of processes, emissions or discharges themselves. The IPC should work on the assumption that the relevant pollution control regime and other environmental regulatory regimes, including those on land drainage, water abstraction and biodiversity will be properly applied and enforced by the relevant regulator. It should act to complement but not seek to duplicate it’ (para 4.10.3).

3.25 Halite will be obtaining the necessary consent and licences to allow for the construction and operation of the Project. Further details of the other consents and licences required to construct and operate the Project are contained in the ES.

3.26 **Safety:** Previous planning applications submitted for UGS Facilities at Preesall highlighted the community’s concerns about safety. These concerns have also been reiterated by the community as part of the Section 47 consultation process on the Project.

3.27 Detailed geological and other investigations have been undertaken and details can be found in the Geology Summary Report and the Risk Assessment. The use of salt caverns for UGS is regulated by the HSE through specific health and safety legislation. The Project would be subject to the Control of Major Accident Hazards (COMAH) Regulations 1999 which aim to prevent major accidents involving dangerous substances and to limit the consequences to people and the environment of any that occur. COMAH regulations would apply throughout the life cycle of the facility, i.e. from the design and build stage through to decommissioning.

3.28 **Hazardous Substances:** The storage of gas requires a Hazardous Substances Consent. Application for a deemed hazardous substances consent for the Project is included within the draft DCO.

3.29 **Health:** NPS EN-1 advises that ‘energy production has the potential to impact on the health and well-being (“health”) of the population. Access to energy is clearly beneficial to society and to our health as a whole. However, the production, distribution and use of energy may have negative impacts on some people’s health’ (para 4.13.1). These aspects are examined in the ‘Health Impact Assessment’ (Document Ref: 9.1.7).

3.30 **Common law nuisance and statutory nuisance:** The potential for nuisance from the Project arises primarily from noise and dust. Both aspects are assessed in the ES and mitigation measures and limits are recommended to reduce impact to acceptable levels.
3.31 **Security:** NPS EN-1 states that ‘national security considerations apply across all national infrastructure sectors. Overall responsibility for security of the energy sector lies with the Department of Energy and Climate Change (DECC). It works closely with Government security services including the Centre for the Protection of National Infrastructure (CPNI) to reduce the vulnerability of the most ‘critical’ infrastructure assets in the sector to terrorism and other national security threats’ (para 4.15.1). Government policy is to ensure that, where possible, proportionate protective security measures are designed into new infrastructure projects at an early stage in the project development (para 4.15.2).

3.32 DECC has not identified the Project as one that has national security implications. In accordance with industry best practice, the Project includes the use of security fencing around infrastructure and the use of CCTV for surveillance.

**Generic and Technology Specific Impacts**

3.33 In addition to the 14 Assessment Principles outlined above, Part 5 of NPS EN-1 and Part 2 of EN-4 sent out a list of impacts (generic and technology specific impacts respectively). NPS EN-1 sets out the generic impacts as follows:

- Air quality and emissions
- Biodiversity and geological conservation
- Civil and military aviation and defence interests;
- Coastal change;
- Dust, odour, artificial light, smoke, steam and insect infestation;
- Flood risk;
- Historic environment
- Landscape and visual impact;
- Land use, including open space, green infrastructure & Green Belt;
- Noise and vibration;
- Socio-economic;
- Traffic and transport impacts;
- Waste management;
- Water quality and resources

3.34 NPS EN-4 sets out the following technology specific impacts for underground natural gas storage facilities and gas pipelines as:

- Site selection
- Noise and vibration
- Water quality and resources
- Disposal of brine
- Biodiversity, landscape and visual
- Soil and geology
3.35 The above impact topics are important in the determination of the DCO for the Project and are discussed below:

3.36 **Site Selection:** NPS EN-4 requires applicants to undertake ‘a detailed geological assessment to demonstrate the suitability of the geology at the site for the type of underground gas storage proposed’ (para 2.8.9).

‘When considering storage in a salt cavity, the geological assessment should include depth below surface, salt thickness, salt purity and presence of shale bands which could affect cavern design. In addition, a study of the geological integrity of the overlying strata and potential for collapse, taking account of the proposed minimum and maximum working pressures, will need to be undertaken. The assessments should include the construction, operational and decommissioning phases and should cover the long term integrity of the affected strata after decommissioning or closure of the storage facility’ (para 2.8.9).

3.37 NPS EN-4 advises that the siting of gas storage facilities will be influenced by safety considerations and how the hazardous substances regime is applied to gas storage infrastructure (para 2.8.10).

3.38 The **GSR** (Document Ref: 9.2.2) sets out the geological investigations that have been undertaken and this concludes that the geology of the salt at Preesall is suitable for the safe creation of gas storage caverns.

3.39 **Air Quality and emissions:** In respect of air quality and emissions, NPS EN-1 makes clear that the IPC should not duplicate the responsibilities of the pollution control authorities but the IPC should generally give air quality considerations substantial weight where a project would lead to a deterioration in air quality in an area, or leads to a new area where air quality breaches any national air quality limits (para 5.2.8-9).

3.40 In respect of dust, odour, artificial light, smoke, and steam, the NPS asks that ‘the IPC should satisfy itself that an assessment of the potential for artificial light, dust, odour, smoke, steam and insect infestation to have a detrimental impact on amenity has been carried out’ (para 5.6.7).

3.41 There would be specific gas emissions from the vent stack at the GCC when commissioning and maintaining the Project or in an emergency. As such, the emissions of gas would only be for a short period of time over the life of the Project. The emissions to air would be regulated by the Environment Agency as part of the Environmental Permit.

3.42 There is the potential for dust to be generated during the construction phase of the Project. The ES assesses all air emissions and concludes that the Project would not affect any Air Quality Management Areas but
could potentially affect nearby sensitive receptors (both human and ecological). The air quality assessment, therefore, considered the significance of potential air quality effects arising from the Project at representative sensitive receptors. Worst case scenarios were assumed. The construction and decommissioning phases of the Project would generate temporary, local, dust and road vehicle exhaust emissions. It was considered that the impact of an increase in road traffic was negligible at all sensitive receptors. The operation phase would generate atmospheric emissions from natural gas combustion and exhaust emissions from road vehicles; however it was considered that impacts would be negligible at all sensitive receptors. For the combined construction and operation phase, the assessment of effects from the separate construction and operation phases were combined to provide a worst case scenario, although it was considered that these would also be of negligible significance at all receptors.

3.43 Construction phase (and decommissioning) dust emissions would be controlled by the implementation of mitigation measures. In addition, a Construction Environmental Management Plan (CEMP) would be prepared prior to any works commencing on site. The CEMP would include requirements for maintenance and operation of construction plant and detail measures to limit dust on site. Following the implementation of mitigation measures, the impact significance of dust emissions is predicted to be, at worst, slight adverse.

3.44 Air quality was not an issue raised by the Secretary of State or LCC in the determination of previous planning applications and neither LCC nor WBC has raised it as an issue during the Section 42 consultation.

3.45 Biodiversity and geological conservation: NPS EN-1 refers to the Government’s biodiversity strategy as set out in ‘Working with the grain of nature’ and its aim ‘to ensure:-

- A halting, and if possible a reversal, of declines in priority habitats and species, with wild species and habitats as part of healthy, functioning ecosystems; and

- the general acceptance of biodiversity’s essential role in enhancing the quality of life, with its conservation becoming a natural consideration in all relevant public, private and non-governmental decisions and policies’ (para 5.3.5).

3.46 As a general principle, NPS EN-1 aims to ensure that NSIP avoid significant harm to biodiversity and geological conservation interests, including through mitigation and consideration of reasonable alternatives; where significant harm cannot be avoided, then appropriate compensation measures should be sought (para 5.3.7). In taking decisions, the IPC are required to ensure that appropriate weight is attached to designated sites of international, national and local importance; protected species; habitats and other species of principal importance for the conservation of
biodiversity; and to biodiversity and geological interests within the wider environment (para 5.3.8).

3.47 Close consultation has taken place with Natural England, RSPB, LCC and the Wildlife Trust who have been involved in the preparation of the Project and in the development of a Landscape and Ecological Management Strategy Plan for the Preesall site.

3.48 The ES identifies a number of statutory and non-statutory designated sites of nature conservation importance within the study area. The Wyre Estuary itself is an internationally important site for wild birds, hence its inclusion in the Special Protection Area (SPA) and Ramsar designation of the Morecambe Bay complex of estuaries. The Wyre Estuary Site of Special Scientific Interest (SSSI) is of national significance for its mudflat and saltmarsh habitats and for the species of wild birds it supports. The SSSI covers an area of 1,488 hectares and extends to the north and south of the proposed development area. It includes areas of saltmarsh on both the Fleetwood and Preesall banks of the estuary, as well as the estuary itself. A number of non-statutory Biological Heritage Sites (BHS) lie within the study area; some on the Fylde Peninsula and some on the Preesall side of the estuary. These are variously designated for their vegetation, bird, invertebrate and mammal interest.

3.49 The ES assessed the impact to the Project on ecology and concludes that there would be no significant effects on any European or nationally designated sites, any locally designated sites (known as Biological heritage Sites) or any marine or terrestrial habitats or species. Furthermore, a Landscape and Ecological Management Strategy Plan (LEMSP) has been prepared for the main site area. The LEMSP has been devised in consultation with Natural England, Environment Agency, Royal Society for the Protection of Birds (RSPB), Lancashire County Council and the Wildlife Trust for the Lancashire, Manchester and North Merseyside. Reference has also been made to the guidance contained within ‘Biodiversity by Design: A Guide for Sustainable Communities’ (Town and County Planning Association, 2004). The purpose of the Plan is to ensure that the visual impact of the Project (during operation) is minimised, as well as creating opportunities for maintaining and enhancing the area for wildlife.

3.50 **Civil and military aviation and defence interests:** NPS EN-1 (2011) states that the ‘IPC should be satisfied that the effects on civil and military aerodromes, aviation technical sites and other defence assets have been addressed by the applicant and that any necessary assessment of the proposal on aviation or defence interests has been carried out. In particular, it should be satisfied that the proposal has been designed to minimise adverse impacts on the operation and safety of aerodromes and that reasonable mitigation is carried out’ (para 5.4.14).

3.51 Aviation and Defence interests were not issues raised by the Secretary of State or the LPAs in the determination of previous planning applications.
No representations were received from either LCC or WBC during the Section 42 consultation process and, therefore, civil and military aviation and defence interests are not considered issues that the LPAs require to be considered as part of the determination of the application.

3.52 Coastal change: NPS EN-1 requires the ES to ‘include an assessment of the effects on the coast. In particular, applicants should assess:

- the impact of the proposed project on coastal processes and geomorphology, including by taking account of potential impacts from climate change. If the development will have an impact on coastal processes the applicant must demonstrate how the impacts will be managed to minimise adverse impacts on other parts of the coast;

- the implications of the proposed project on strategies for managing the coast as set out in Shoreline Management Plans (SMPs) (which provide a large-scale assessment of the physical risks associated with coastal processes and present a long term policy framework to reduce these risks

- to people and the developed, historic and natural environment in a sustainable manner), any relevant Marine Plans, River Basin Management Plans and capital programmes for maintaining flood and coastal defences;

- the effects of the proposed project on marine ecology, biodiversity and protected sites;

- the effects of the proposed project on maintaining coastal recreation sites and features; and

- the vulnerability of the proposed development to coastal change, taking account of climate change, during the project’s operational life and any decommissioning period.

3.53 For any projects involving dredging or disposal into the sea, the applicant should consult the Marine Management Organisation (MMO) at an early Stage’ (para 5.5.7 and 5.5.8).

3.54 Halite has consulted the MMO and the DCO application includes a ‘Report in respect of an application deemed Marine Consent Application including draft conditions’ (Document Ref: 4.2).

3.55 The ES includes a Flood Risk Assessment and Chapters on the Water Environment and Climate Change which have regard to coastal change. The built development associated with the Project has been sited on higher ground to avoid the long term risks of flooding.

3.56 Dust, odour, artificial light, smoke, steam and insect infestation: NPS EN-1 states that ‘during the construction, operation and
decommissioning of energy infrastructure there is potential for the release of a range of emissions such as odour, dust, steam, smoke, artificial light and infestation of insects. All have the potential to have a detrimental impact on amenity or cause a common law nuisance or statutory nuisance under Part III, Environmental Protection Act 1990 (para 5.6.1). The NPS requires ‘the applicant to assess the potential for insect infestation and emissions of odour, dust, steam, smoke and artificial light to have a detrimental impact on amenity, as part of the Environmental Statement’ (para 5.6.4).

3.57 The Project does not have the potential for insect infestation but will generate emission of dust during construction. This aspect is dealt with under the air emissions section above.

3.58 **Flood risk:** In respect of flood risk, NPS EN-1 states that ‘in determining an application for development consent, the IPC should be satisfied that where relevant:

- The application is supported by site-specific FRA as appropriate;
- the Sequential Test has been applied as part of site selection;
- a sequential approach has been applied at the site level to minimise risk by directing the most vulnerable uses to areas of lowest flood risk;
- the proposal is in line with any relevant national and local flood risk management strategy;
- priority has been given to the use of sustainable drainage systems (SuDs); and
- in flood risk areas the project is appropriately flood resilient and resistant, including safe access and escape routes where required, and that any residual risk can be safely managed over the lifetime of the development’ (para 5.7.9).

3.59 In respect of water quality and resources, NPS EN-1 states that activities that discharge to and abstract from the water environment are often subject to pollution control and consents from other agencies such that the interface between planning and pollution control regimes, therefore, apply.

3.60 In respect of sea defences and coastal change, NPS EN-1 states that ‘the IPC should be satisfied that the proposed development will be resilient to coastal erosion and deposition, taking account of climate change, during the project’s operational life and any decommissioning period. The IPC should not normally consent new development in areas of dynamic shorelines where the proposal could inhibit sediment flow or have an adverse impact on coastal processes at other locations. Impacts on coastal processes must be managed to minimise adverse impacts on other parts of the coast. Where such proposals are brought forward consent should only be granted where the IPC is satisfied that the benefits (including need) of the development outweigh the adverse impacts’ (para 5.5.10 – 11)
3.61 The IPC are asked to ‘ensure that applicants have restoration plans for areas of foreshore disturbed by direct works and will undertake pre- and post-construction coastal monitoring arrangements with defined triggers for intervention and restoration’ (para 5.5.12).

3.62 The NPS also requires the IPC to ‘examine the broader context of coastal protection around the proposed site, and the influence in both directions, i.e. coast on site, and site on coast. The IPC are asked to consult the MMO on projects which could impact on coastal change’ and to have regard to the appropriate marine policy documents and any relevant Shoreline Management Plans (para 5.5.13-14).

3.63 Neither water quality, sea defences or flood risks were issues raised by the Secretary of State or LCC in the determination of previous planning applications. Other than the potential harm to the marine environment from the brine discharge, these issues were not raised by the LPAs as part of the Section 42 consultation.

3.64 As set out above, the ES includes a full Flood Risk Assessment. All of the proposed buildings comprising the development are sited on ‘higher’ ground to avoid the possibility of flooding. The FRA concludes that with the exception of the existing Stanah substation and the eastern side of the GCC, all critical infrastructure required for the operation of the Project is located within Flood Zone 1, classified in PPS25 as land having a low probability of flooding. Some infrastructure (such as the proposed wellheads) is located within Flood Zone 3, which is classified in PPS25 as land having a high probability of flooding. However, the majority of these facilities are able to accommodate floodwater and are also located behind existing defences.

3.65 Due to the underlying nature of the ground the ES identifies that there is a potential risk of shallow groundwater flooding within the study area. Therefore, once the application for a DCO has been granted and detailed designs produced, additional studies would be undertaken to identify groundwater flood protection/resilience measures that may be required. However, given the nature of the hazard, the ES states that the mitigation measures are likely to be minor.

3.66 With the implementation of a suitable surface water drainage strategy, there should be no significant risk to proposed infrastructure from surface water flooding. The surface water drainage strategy would ensure that surface water runoff is effectively managed within the application boundary and that there would be no increase in third party flood risk.

3.67 Finally, consent has already been obtained for the discharge of brine to the Irish Sea and surface water drainage for the buildings and hardstandings is incorporated into the Project design.

3.68 **Historic environment:** In considering applications, NPS EN-1 requires that the IPC ‘seek to identify and assess the particular significance of any
heritage asset that may be affected by the proposed development, including by development affecting the setting of a heritage asset, within its setting, taking account of:

- evidence provided with the application;
- any designation records;
- the Historic Environment Record, and similar sources of information;
- the heritage assets themselves;
- the outcome of consultations with interested parties; and
- where appropriate and when the need to understand the significance of the heritage asset demands it, expert advice’ (para 5.8.11).

3.69 The NPS states that ‘there should be a presumption in favour of the conservation of designated heritage assets and the more significant the designated heritage asset, the greater the presumption in favour of its conservation should be. Once lost heritage assets cannot be replaced and their loss has a cultural, environmental, economic and social impact. Significance can be harmed or lost through alteration or destruction of the heritage asset or development within its setting’ (para 5.8.14).

3.70 Marine archeology and cultural heritage were not issues raised by the Secretary of State or the LPAs in the previous appeal and applications.

3.71 The ES assesses the impact of the Project on the heritage of the area and concludes that it would not affect any Scheduled Ancient Monuments or have any direct physical effect on listed buildings. The main potential effects would be on the setting of a small number of listed buildings, direct physical effects on non-designated archaeological remains and marine sites. The effect on the setting of some of the listed buildings would be short-term as it would only occur during the construction phase. Other listed buildings which are located within the vicinity of the proposed permanent above ground structures have the potential to experience permanent impacts on their setting, although these would be minor. A programme of archaeological mitigation would be agreed with LCC which will allow the archaeological assets within the application site to be identified and recorded. A similar programme of mitigation would be agreed with the Marine Planning Department of English heritage to identify and record the marine archaeology that would be impacted by the Project.

3.72 **Landscape and visual impact:** NPS EN-4 states that NPS EN-1 provides the generic conditions to be given to landscape and visual impacts. NPS EN-1 states that ‘Landscape effects depend on the existing character of the local landscape, its current quality, how highly it is valued and its capacity to accommodate change. All of these factors need to be considered in judging the impact of a project on landscape. Virtually all nationally significant energy infrastructure projects will have effects on landscape. Projects need to be designed carefully, taking account of the potential impact on the landscape. Having regard to siting, operational and other relevant constraints the aim should be to minimise harm to the
landscape, providing reasonable mitigation where possible and appropriate' (para 5.9.7).

3.73 The Project does not fall within or close to areas comprising nationally designated landscapes such as a National Park or an Area of Outstanding Natural Beauty.

3.74 Outside nationally designated areas, NPS EN-1 states that ‘there are local landscapes that may be highly valued locally and protected by local designation. Where a local development document in England or a local development plan in Wales has policies based on landscape character assessment, these should be paid particular attention. However, local landscape designations should not be used in themselves to refuse consent, as this may unduly restrict acceptable development’ (para 5.9.14).

3.75 In the case of the Project, no part of the application site falls within an area of landscape quality as set out in the local development plan.

3.76 As stated above, NPS EN-1 makes the point that virtually all nationally significant energy infrastructure will have effects on the landscape as the scale of such projects means that they will often be visible within many miles of the site of the proposed infrastructure. The IPC should judge whether any adverse impact on the landscape would be so damaging that it is not offset by the benefits (including need) of the project’ (para 5.9.15). In reaching a judgement on landscape impact, NPS EN-1 asks the IPC to ‘consider whether any adverse impact is temporary, such as during construction, and/or whether any adverse impact on the landscape will be capable of being reversed in a timescale that the IPC considers reasonable’ (para 5.9.16). ‘The IPC should consider whether the project has been designed carefully, taking account of environmental effects on the landscape and siting, operational and other relevant constraints, to minimise harm to the landscape, including by reasonable mitigation’ (para 5.9.17).

3.77 In respect of visual impact, NPS EN-1 states ‘all proposed energy infrastructure is likely to have visual effects for many receptors around proposed sites. The IPC will have to judge whether the visual effects on sensitive receptors, such as local residents, and other receptors, such as visitors to the local area, outweigh the benefits of the project. Coastal areas are particularly vulnerable to visual intrusion because of the potential high visibility of development on the foreshore, on the skyline and affecting views along stretches of undeveloped coast’ (para 5.9.18).

3.78 Whilst NPS EN-1 sets out the general principles that should be applied in the assessment of landscape and visual impacts, NPS EN-4 sets out additional considerations that apply during the construction of a pipeline. ‘These comprise the effect upon specific landscape elements within and adjacent to the pipeline route, such as grasslands, field boundaries (hedgerows, hedge banks, dry stone walls, fences), trees, woodlands, and
watercourses. There will also be temporary visual impacts caused by the need to access the working corridor and to remove flora and soil. The working width of the pipeline will vary depending on the surrounding terrain. Temporary impacts could include large excavations where deep pits are needed for boring beneath rivers, roads and sensitive features’ (para 2.21.1).

3.79 NPS EN-4 acknowledges that the long term impacts upon the landscape for pipelines are likely to be limited, as once operational the main infrastructure is usually buried. ‘They are likely to include:

- limitations on the ability to replant landscape features such as hedgerows or deep-rooted trees over or adjacent to the pipeline; and
- structures and indication points necessary to identify the pipeline route and provide it with service access’ (para 2.21.2).

3.80 Visual and landscape impact relates predominantly to the siting of the surface infrastructure on the east bank of the Wyre Estuary. Neither the Secretary of State in the 2007 appeal decision nor LCC and WBC in the 2009 planning application raised issues concerning the surface infrastructure proposed by CGS on the west bank of the Wyre Estuary.

3.81 WBC also had no objections to the route of the gas interconnector from the Preesall site to the NTS at Nateby as it had resolved to grant planning permission for the route in the 2005 planning application made by CGS.

3.82 In the Section 42 consultation responses both LPAs raised concerns about the design of the Seawater Pump Station and the design of the interconnecter Metering Station. In consultation with WBC, both buildings have been redesigned to reflect the character of their surroundings. However, the impact of the development on the landscape and visual amenity of the east bank of the River Wyre remains an issue for the LPAs.

3.83 As set out in Section 2, Halite has carried out a full review of the landscape and visual impact of the previous proposals and has made significant changes to accommodate the concerns that have been raised. The ES provides a landscape and visual impact assessment of the Project which includes reference to a landscape character assessment as a means of assessing landscape impacts. The assessment includes the effects during construction of the Project and the effects of the completed development and its operation on landscape components and landscape character. The assessment includes the visibility and conspicuousness of the Project during construction and of the presence and operation of the Project and potential impacts on views and visual amenity. This includes light pollution effects, including on local amenity, and nature conservation.

3.84 The ES concludes that the effects of the Project on landscape and its visual amenity would vary. The effects on the designated green belt urban fringe landscape between the built up areas of Fleetwood and Cleveleys in the west part of the study area and its users would occur mainly during
construction and would, therefore, be either of temporary or short term duration. Similarly, the effects on the adjacent industrial fringe recreational/future recreational landscape, which forms the immediate western hinterland to the Wyre Estuary, would occur mainly during construction and would, therefore, be of a temporary duration. The proposed Seawater Pump Station at the Fleetwood Fish Docks would be integrated into the wider built setting of this area and would, therefore, not result in a significant adverse effect on this landscape or on its visual amenity.

3.85 The landscape and visual effects within the rural eastern hinterland of the Wyre Estuary and further afield within the east part of the study area would also vary. Potential effects at the main Preesall site (i.e. the rural low lying landscape to the west of Preesall and Stalmine) would result from a series of temporary, short term and permanent proposed features including access and haul roads, the GCC, wellheads and the Booster Pump Station, together with excavations undertaken in order to lay various pipelines and cables. The short term effects on landscape and visual amenity would be experienced over a significant area but would be of a relatively short duration with the majority of work being completed within the first three years. However, the effects associated with permanent features would be experienced over a longer timescale but over a much smaller footprint compared with the construction phase. Through earth mounding, and over time through the establishment of the planting, careful design and positioning of the above ground features and the establishment of a Landscape and Ecological Management Strategy Plan, the effects would reduce. Despite these measures, it is anticipated that in certain areas the adverse landscape and visual effects of the Project would not be fully mitigated, particularly in relation to views from visual receptors located in an open landscape and in close proximity to the wellhead compounds and Booster Pump Station.

3.86 The effects on the low lying landscape and its users east of Preesall and Stalmine and extending to Garstang at the east edge of the study area would again occur mainly during construction and would, therefore, either be of a temporary or short term nature. The main above ground feature within this part of the study area would be the proposed Metering Station located to the north of Nateby, which would not result in any significant effects on landscape or visual amenity.

3.87 **Land use, including open space, green infrastructure & Green Belt:** NPS EN-1 requires the IPC to have regard to the provisions of the development plan when determining applications (para 5.10.13). A detailed assessment of the Project against the provisions of the development plan is included in Section 4 of this Report.

3.88 NPS EN-1 also requires that the IPC should:

- not grant consent for development on existing open space, sports and recreational buildings and land unless an assessment has been
undertaken either by the local authority or independently, which has shown the open space or the buildings and land to be surplus to requirements (para 5.10.14).

- ensure that applicants do not site their scheme on the best and most versatile agricultural land without justification. It should give little weight to the loss of poorer quality agricultural land (in grades 3b, 4 and 5), except in areas (such as uplands) where particular agricultural practices may themselves contribute to the quality and character of the environment or the local economy (para 5.10.15).

- expect applicants to have taken advantage of opportunities to maintain and enhance access to the coast. In doing so the IPC should consider the implications for development of the creation of a continuous signed and managed route around the coast, as provided by the Marine and Coastal Access Act 2009 (para 5.10.16).

- In respect of development in the Green Belt, the IPC are asked to have regard to the extent to which its physical characteristics, particularly in respect of pipelines, are such that it has limited or no impact on the fundamental purposes of Green Belt designation (para 5.10.17).

3.89 In respect of the provision of public open space, the Project involves the use of:

- A strip of land on the southern side of the King George's Memorial Playing Field comprising approximately 0.7 ha to the rear of No 14 to 36 (evens), South Strand, Fleetwood. The land consists of a grassed area, shrubbery, thicket and trees and is required for the construction, operation and maintenance of part of the brine pipeline. The construction works (relating to the brine discharge pipeline) would be carried out over a period of approximately 8 weeks, after which the land would be reinstated.

- A strip of land running through Kneps Farm Holiday Park comprising approximately 1.5 ha of land and hard standings for caravans situated to the north of River Road. The land is required for the installation, use and maintenance of an underground electricity cable linking to the Stanah Switchyard.

- Two strips of land running through the beach situated west of the Marine Parade area comprising approximately 0.5 ha and 0.7 ha respectively. The land comprises shingle, sand, groynes, sloping masonry, floodwater channel and steps forming part of the beach from the Mean High Water Mark and Fairway/West Way. The beach strip is needed for access to foreshore areas from the existing seawall, the trenching of the Brine Outfall Pipeline across the top of the existing wall together with the construction of a new observation
platform to cover the pipeline as it descends the seaward face of the seawall and the construction access point off West Way.

3.90 In its Section 42 consultation response, LCC has identified the conflict with the routing of the pipeline crossing the grounds of the King George’s Memorial Playing Field (Cardinal Allen RC High School) and the impact that this may have on playing space provision, associated disturbance during construction and the potential for future action and maintenance.

3.91 The proposed brine discharge pipeline and electricity cable are both situated underground and once constructed the open space areas will be re-instated. As such, there will be no overall loss of open space.

3.92 Halite is submitting an application to the Secretary of State for a Certificate under Sections 131 and 132 of the Planning Act 2008 on the basis that, because there is not a loss of open space, exchange land is not required in this instance.

3.93 In respect of agricultural land, that part of the Project situated on the east bank of the River Wyre is sited on Grade 2 and 3 agricultural land. At this location, the above ground development includes the 7 wellheads, the Booster Pumping Station Compound, the GCC, works to Higher Lickow Farm and the haul road. These elements of the Project will involve the loss of land in agricultural use. However, these elements are a small part of the application site and agricultural activities will continue on the remainder of the land during the construction and operation of the Project.

3.94 The brine pipeline, interconnector pipeline, gas and water manifolds and electrical cable route will also have an impact on agriculture during their construction. However, once construction is complete the land will be re-instated to its previous use.

3.95 Neither the LPAs nor the Secretary of State raised concerns about the construction of above ground development on agricultural land in previous planning applications and appeals. In their Section 42 consultation responses to the Halite proposals neither of the LPAs has raised the impact of the proposals on agricultural land as an issue. Similarly, no landowner/farmer has raised concerns about the impact of the Project on agricultural land.

3.96 In respect of access to the Coast, the Project would not adversely affect the Wyre Way and the closure of other existing public rights of way would only be for a temporary period during the construction process. In their consultation responses to the Halite proposals neither of the LPAs has raised access to the coast as an issue.

3.97 In respect of the Green Belt, Planning Policy Statement ‘Green Belts’ (2006) identifies the five purposes of including land in Green Belts as:

- to check the unrestricted sprawl of large built-up areas;
• to prevent neighbouring towns from merging into one another;
• to assist in safeguarding the countryside from encroachment;
• to preserve the setting and special character of historic towns; and
• to assist in urban regeneration, by encouraging the recycling of derelict and other urban land.

3.98 Part of the brine pipeline at Fleetwood is located in the Green Belt. The pipeline, when complete, will not have an adverse impact on the functions or openness of the green belt as it is underground. Neither the LPAs nor the Secretary of State raised concerns about the construction of the brine pipeline and its impact on the green belt in previous planning applications and appeals. In their Section 42 consultation responses to the Halite proposals neither of the LPAs has raised green belt policy as an issue.

3.99 **Noise and vibration:** NPS EN-1 requires that all 'projects should demonstrate good design through selection of the quietest cost-effective plant available; containment of noise within buildings wherever possible; optimisation of plant layout to minimise noise emissions; and, where possible, the use of landscaping, bunds or noise barriers to reduce noise transmission (para 5.11.8). The NPS states that 'the IPC should not grant development consent unless it is satisfied that the proposals will meet the following aims:

- avoid significant adverse impacts on health and quality of life from noise;
- mitigate and minimise other adverse impacts on health and quality of life from noise; and
- where possible, contribute to improvements to health and quality of life through the effective management and control of noise' (para 5.11.9).

3.100 Noise and vibration were not raised by the LPAs through the Section 42 consultation on the Project.

3.101 An assessment of noise effects of the Project is contained within the ES and this concludes construction works on the brine pipeline, gas NTS interconnector and electrical infrastructure would potentially result in noise impacts at receptor locations where works pass close to sensitive receptors. These works would, however, be transient in nature. The construction compounds for the north and south crossings of the Wyre Estuary are potentially the most significant construction noise impacts with directional drilling expected to take place continuously for a period of approximately 10 weeks for the north crossing and approximately 8 weeks for the south crossing. Night-time noise impacts, particularly at the new Redrow Estate, are predicted to be high. However, impacts would be minimised by ensuring noise levels meet acceptable noise level standards particularly at night.

3.102 The construction of the Booster Pump Station and GCC would occur in excess of 100 metres from the nearest sensitive receptors. Mitigation
measures implemented during the construction phase would ensure that a noise nuisance is not caused at the receptors.

3.103 Combined noise impacts from operations and construction works on the well heads are not anticipated to result in any noise nuisance at nearby receptors. During operation of the Project, the pipelines and air vents are not anticipated to be audible, and the Seawater Pump Station, Booster Pump Station and GCC are not anticipated to create a noise nuisance.

3.104 Construction of the Project would result in increases in traffic on the road network. Although it has been calculated that traffic related noise levels would slightly increase along some of the road links, they are not considered to be significant according to relevant guidance. Additional traffic due to people travelling to and from work is considered to be insignificant.

3.105 Construction noise and vibration effects would occur and be managed through a Construction Environmental Management Plan (CEMP) and through other measures to be agreed with the LPA. Measures would be taken through detailed design to limit operational noise from plant including specifying quiet plant, providing appropriate enclosure (e.g. through building design) and screening (e.g. through earth mounding).

3.106 Socio-economic: NPS EN-1 (2011) states that ‘the IPC should have regard to the potential socio-economic impacts of new energy infrastructure’ (para 5.12.6). The NPS suggests that ‘the IPC may conclude that limited weight is to be given to assertions of socio-economic impacts that are not supported by evidence (particularly in view of the need for energy infrastructure as set out in this NPS)’ and that ‘the IPC should consider any positive provisions the developer has made or is proposing to make to mitigate impacts (for example through planning obligations) and any legacy benefits that may arise’ (para 5.12.7 – 8).

3.107 The Project would generate direct employment during the construction and operational phases of the development along with indirect jobs from local suppliers, again contributing to the local economy. Halite estimates that the Project would generate 200-300 jobs during the construction phase of the development with a further 35-40 jobs once operational. The Project represents an investment of £600 million and, when regard is had to indirect and multiplier effects, represents a significant investment in the local economy.

3.108 Halite is also developing a Corporate Social Responsibility (CSR) policy so that it can be a good partner in the community and provision is made in the ‘DCO Draft Heads of Terms’ (Document Ref: 9.1.4).

3.109 The ES anticipates positive effects on the local economy during the construction phase, the construction and operation combined phase, and the operation phase, through the creation of direct and indirect employment and increased spending within local retail outlets. In addition, there would be opportunities for improving local workforce skills as a result
of training and apprenticeships (especially during construction). There would be positive effects for the regional and national economy as a result of enhanced security of gas supply infrastructure. National objectives relating to security of supply cannot be achieved without new infrastructure. Effects on the tourism economy are predicted to be negligible.

3.110 In the previous appeal decision, the Secretary of State considered that the proposal would be likely to result in a ‘marginal positive benefit’ assuming no wider economic loss discouraging tourists from staying elsewhere in Wyre Borough (para 25). In respect of the 2009 planning application, LCC considered that the employment and other opportunities may be considered to be of benefit, but they must be considered against the impacts of the development not only in socio economic terms but also against the impacts of the development in a wider capacity. It was recognised that the development would provide employment opportunities for a skilled workforce both on a temporary and to a much lesser degree, permanent basis. LCC considered it was more difficult to determine whether tourism would be affected in the area other than the loss of the caravan parks and, therefore, it was not considered that such an impact could constitute a sustainable reason for objecting to the proposal.

3.111 In their Section 42 consultation response neither LCC nor WBC has raised impact on tourism and economic development as an issue.

3.112 **Traffic and transport impacts:** NPS EN-1 states that ‘a new energy NSIP may give rise to substantial impacts on the surrounding transport infrastructure and the IPC should, therefore, ensure that the applicant has sought to mitigate these impacts, including during the construction phase of the development. Where the proposed mitigation measures are insufficient to reduce the impact on the transport infrastructure to acceptable levels, the IPC should consider conditions to mitigate adverse impacts on transport networks arising from the development’ (para 5.13.6),

3.113 As the principle of an access to the Preesall site from the A588 has been previously accepted by the Secretary of State, the Highways Agency and the Highways Authority, it is retained in the Project proposals. In the Section 42 response, the Highway Authority accepts that the level of additional traffic on the overall highway network can be accommodated without capacity issues arising and that the principle of the proposed haul road and its junction with the A558 is acceptable. The Highway Authority requires a routing agreement and this is provided for in the ‘**DCO Draft Heads of Terms**’ (Document Ref: 9.1.4).

3.114 The assessment contained within the ES has considered the permanent and temporary traffic impacts associated with the Project during the operational and construction phases of development respectively. It concludes that the effects of the development can be suitably accommodated on the highway network. A key measure that would be put in place to minimise the effect of the Project on the highway network is to
implement and monitor a Construction Worker Travel Plan which sets out the sustainable transport initiatives to reduce dependence of the private vehicle.

3.115 In terms of impact on footpaths and bridleways, a properly designed cavern will not fail and, therefore, cannot have an adverse impact on the Wyre Way or any other public right of way. However, in order to safeguard users of the Wyre Way from the impact of the drill rigs, Halite is proposing an exclusion zone to the Wyre Way for the siting and operation of drill rigs. The construction of the pipeline crossing of the promenade (the Wyre Way/Lancashire Coastal Way recreational route and Public Right of Way) would generate temporary disruption and slight severance, however as the trench is being excavated it would be possible to use steel plates to facilitate continued use of the promenade by pedestrians. Temporary disruption is also expected as a result of land take at Farmer Parrs Animal World, a recreational facility and area of agricultural land.

3.116 In the Preesall study area, the Wyre Way and four public rights of way would experience slight temporary severance, land take and a reduction in amenity during the construction phase. In addition, Footpath 61, south of Cote Walls Farm would be closed temporarily for four months in order to lay out the pipeline in advance of it being pulled beneath the Wyre Estuary. Footpath 42 would be closed for a period of four days while sections of pipes are transported from the Wyre Estuary along Footpath 61. Furthermore, the use of Bridleway 2/2a would be disrupted by the construction of the temporary heavy haul road, gravel tracks and the brine discharge pipeline and movement of traffic during the construction period, and following completion of the pipe laying there would be no permanent impacts to users of these facilities.

3.117 Waste management: NPS EN-1 asks the IPC to ‘consider the extent to which the applicant has proposed an effective system for managing hazardous and non-hazardous waste arising from the construction, operation and decommissioning of the proposed development. It should be satisfied that:

- any such waste will be properly managed, both on-site and off-site;
- the waste from the proposed facility can be dealt with appropriately by the waste infrastructure which is, or is likely to be, available. Such waste arisings should not have an adverse effect on the capacity of existing waste management facilities to deal with other waste arisings in the area; and
- adequate steps have been taken to minimise the volume of waste arisings, and of the volume of waste arisings sent to disposal, except where that is the best overall environmental outcome’ (para 5.14.7).

3.118 Halite has identified the main wastes that will be generated from the construction of the Project and these are set out in the Construction Report and the ES.
3.119 Waste management was not an issue raised by the Secretary of State or the LPAs in the determination of previous planning applications. Neither LCC nor WBC has raised issues or concerns about waste management and as such is not a major issue in relation to the Project in the Section 42 consultation. The Environment Agency in their response to the Section 42 consultation process advises that the deposit of insoluble residues from the leaching process that are intended for disposal in salt cavern No. 123 will require an Environmental Permit for the disposal of wastes. Also, the disposal/re-use of drilling materials on the site of production and top soils, rock/earth from building bases should be reviewed under the ‘Contaminated Land : Application in Real Environments’ (CL:AIRE) ‘Definition of waste : developing industry code of practice’ and will require registering with the EA.

3.120 Water quality and resources: NPS EN-1 states that ‘infrastructure development can have adverse effects on the water environment, including groundwater, inland surface water, transitional waters and coastal waters. During the construction, operation and decommissioning phases, it can lead to increased demand for water, involve discharges to water and cause adverse ecological effects resulting from physical modifications to the water environment. There may also be an increased risk of spills and leaks of pollutants to the water environment. These effects could lead to adverse impacts on health or on protected species and habitats and could, in particular, result in surface waters, groundwaters or protected areas failing to meet environmental objectives established under the Water Framework Directive’ (para 5.15.1). It goes on to state that ‘where the project is likely to have effects on the water environment, the applicant should undertake an assessment of the existing status of, and impacts of the proposed project on, water quality, water resources and physical characteristics of the water environment as part of the ES’ (para 5.15.2).

3.121 The ES identifies the water environment within the Project site as comprising marine waters, surface watercourses, still waters and groundwater. A discharge consent for the disposal of saturated brine into the Irish Sea has been obtained from the Environment Agency. The outfall location was chosen to maximise potential dispersion while minimising effects on Morecambe Bay and the coastline. Modelling was undertaken on the extent of the plume created by the discharge and assessments summarised in the ES concluded that there would be no significant effects on marine ecology or hydrodynamic processes.

3.122 Surface watercourses and groundwater generally have ‘Good to Moderate’ existing quality and the Project has potential to cause pollution of these water features. Measures to avoid their contamination during construction would be incorporated into the construction programme and Project design, and would be agreed with the Environment Agency prior to construction. The need to prepare and enforce appropriate working practices during construction would be included in the Construction Environmental Management Plan. A contingency plan to deal with
emergencies, agreed with the Environment Agency, would also be put in place.

3.123 Coastal flooding is the main source of flood risk but the majority of Project infrastructure located in the high risk flood zone would be able to accommodate floodwater and would also be located behind existing defences. Works to the seawall at Rossall during the construction phase would be designed so that there would be no reduction of the existing standard of protection to defended areas of land. With the implementation of the surface water drainage strategy, no increase in third party flood risk is anticipated.

3.124 **Disposal of brine:** NPS EN-4 (2011) requires the applicant to ‘provide an assessment of the effect of abstracting water for solution mining on groundwater resources, the natural environment and the public water supply. The applicant should assess whether water abstraction for the new development is likely to result in the loss or reduction of water available to any licensed or unlicensed groundwater abstractions or ecological receptors such as rivers and wetlands dependent upon groundwater. The applicant should also assess the impact of the mobilisation of salt and other pollutants, with respect to groundwater quality. This should form part of the ES’ (para 2.10.3). Applicants are also advised to make contact with the EA to discuss the requirements of the abstraction licence and other environmental permits and consents that may be required (para 2.10.6).

3.125 In respect of the disposal of brine, NPS EN-4 states that ‘the ES should include measures to dispose of brine which mitigate its potential adverse environmental effects. Where pipelines are required to carry the brine away, these should be located outside of source protection zones 1 and 2. If it is not possible to avoid these zones, the applicant will need to demonstrate the use of best available techniques for pollution prevention (details of pollution control regimes are set out in Section 4.10 of EN-1). Wherever possible, measures should include disposing of the brine for commercial use by industry so that mineral resources are used sustainably. Applicants should only propose disposing of brine to an underground reservoir (for example, a disused salt mine) or to the sea as a last resort where there is no practical option for re-use. Where the proposed development involves any discharges to water bodies, including to groundwater or to the sea, the EA should be contacted early on in the process, at or before the pre-application consultation stage, to discuss the requirements (including the information required from the applicant)’ (para 2.11.2).

3.126 In making its decision on this issue, NPS EN-4 states that the ‘IPC should liaise with the EA over any arrangements for discharging brine into a reservoir or the sea to ensure that any discharges can be adequately regulated. The IPC should not refuse consent unless it has good reason to believe that any necessary environmental permits or discharge consents will not subsequently be granted (see Section 4.10 of EN-1)’ (para 2.11.3).
3.127 Halite has undertaken a study of possible uses for the brine that would be extracted from the salt caverns. Generally, salt production in the UK is declining from around 9 million tonnes/annum in the 1970s to about 6 million tonnes/annum now. Over the period of the proposed construction of the gas storage caverns at Preesall, the weight of pure salt that would be carried by the brine is estimated to approach 19,000 tonnes/day or about 6.8 million tonnes/annum i.e. more than that currently used in the UK on an annual basis. Such a large production rate is almost impossible to utilise on a national scale and any use of the product would have to be at locations overseas where total demand is greater than in the UK.

3.128 The closest and largest user of brine to the Project is Ineos Chlor situated near Runcorn. Ineos Chlor could only use about 50% of the Preesall brine for their market share, leaving 50% to be used or disposed of elsewhere. In order to make use of the brine it would be necessary to lay a pipeline from Preesall to Runcorn. The pipeline would need to be routed around or through the Merseyside conurbation complex at an estimated cost in excess of £50 million.

3.129 None of the major UK producers of brine, salt or other downstream produces are interested in receiving the brine from the Project even if it is at no cost to them. This is due to the fact that the leading UK salt companies are developing their own gas storage caverns, and the costs of laying connecting pipelines and the operational costs of pumping are prohibitive.

3.130 In order to be used beneficially, the brine from the Project would need to be exported, preferably in the form of dried salt or high value products such as chlorine, to increase marketability and reduce shipping costs. The cost of transporting so much brine to any likely location of beneficial use is, however, impractical and uneconomic. The huge capital and operating cost investments required to convert the brine into a more marketable product for a period of six years or so is unattractive. This is exacerbated by the costs of constructing port facilities and shipping salt or other products processed from the brine to areas of the world where there is an identified demand of sufficient size is not economically viable.

3.131 The Preesall salt is, therefore, an under-utilised resource for which there is no apparent use. The Project, however, makes good use of the resource in the short-term (particularly when measured in geological time) for gas storage for which there is an identified national need. Notwithstanding the above, the amount of salt at Preesall which would be ‘lost’ to the development proposals is an extremely low proportion of the total.

3.132 In its section 42 response, WBC raise concerns about the disposal of the brine on the basis that it is not a sustainable use of the mineral. WBC consider that ‘the decision to ignore the sustainable use of salt on cost grounds presupposes that the cavity has been washed, and a large body of salt (6.5 million tons /annum) has been produced, for which there is no economic market. Where in fact we do not know the future requirements
of industry for this mineral, and to judge future needs by the requirement
to dispose of a mineral as a by product today, is short sighted and may
lead to future shortages of said minerals. Preesall salt is not an underused
resource, and certainly wasn’t up until the start of the twenty first century,
when it was used to make many important chemicals. To try to judge this
on a geological scale is fatuous, because judged on a geological scale, the
human race may not exist for much longer. Put simply we should not waste
mineral resources because they occupy a space needed for something
else’ (e-mail to Barton Willmore of the 31 August 2011 of which a copy is
attached in the ‘Consultation Report’ (Document Ref: 3.1).

3.133 The Secretary of State and LCC accept that the lack of use of the brine
was not a significant sustainability objection to the previous proposals.
The need for UGS facilities in the UK is a more pressing issue and one to
which the Government is giving some priority. Notwithstanding the
Secretary of State’s conclusion that this sustainability issue was not a
significant objection, a Sustainability Assessment of the overall Project is
set out in Section 5 of this Statement.

Conclusion

3.134 The design of the Project has had regard to the advice set out in NPS EN-
1 and NPS EN-4. Particular regard has been had to the 14 Assessment
Principles and the generic and technology specific impacts identified in the
NPSs. The ES provides the detailed assessment of the Project against the
identified criteria.
4.0 RELEVANT PLANNING POLICY

4.1 The aim of this Section is to identify the planning policies that are relevant to the determination of the DCO application. Planning and energy policies at the European, national, regional and local level generally seek to encourage development for UGS facilities providing that they do not have an adverse impact on the environment or on interests of acknowledged importance.

4.2 For the purposes of the Project, the development plan comprises:-

- The North West of England Plan, Regional Spatial Strategy to 2021 (2008);
- The Lancashire Minerals and Waste Core Strategy ‘Managing our Waste and Natural Resources’ (2009);
- The ‘saved’ policies of the Replacement Joint Lancashire Structure Plan 2001-2016 (2005);
- The ‘saved’ policies of the Lancashire Minerals and Waste Local Plan 2006 (2001);
- The ‘saved’ policies of the Wyre Borough Local Plan (1999).

4.3 Following a recent successful Judicial Review of the decision of the Secretary of State to abolish Regional Spatial Strategies, the Regional Spatial Strategy (RSS) remains part of the development plan. However, the Coalition Government has made it clear that it will abolish the RSSs as soon as practicable possible and has issued guidance that only limited weight should be given to its policies in decision making.

4.4 Also of relevance to the determination of application are European policies; national planning policies as set out in National Policy Statements, (as reviewed in Section 3 of this Report). Planning Policy Guidance and Statements (PPGs and PPSs) and Mineral Policy Statements (MPSs); and emerging planning policies in Local Development Frameworks (LDF) following the review of development plan documents.

4.5 The aim of this Section is to consider the Project against adopted and emerging planning and energy policies, starting with European and national policy, then regional and local planning policies before concluding with emerging planning policies.

European Energy Policy

4.6 On the 10 November 2010, the European Commission adopted the Communication "Energy 2020 - A strategy for competitive, sustainable and secure energy". The Communication defines the energy priorities for the next ten years and sets the actions to be taken in order to tackle the challenges of saving energy, achieving a market with competitive prices and secure supplies, boosting technological leadership, and effective negotiation with international partners.
4.7 On the basis of these priorities and the action presented, the Commission will come forward with concrete legislative initiatives and proposals within the next 18 months. This Communication also sets the agenda for the discussion by Heads of States and Governments at the very first EU Summit on Energy on 4 February 2011.

National Energy Policy

4.8 There are a significant number of policy statements that are applicable to the Project and it would not be helpful to summarise them all. In this Section, therefore, a summary of the latest and more important national policy announcements is provided starting with the latest Acts on energy and climate change. The Planning Act 2008 is also important as this provides details of the role and conduct of the IPC, the form of National Policy Statements, the definition of Nationally Significant Infrastructure Projects and the requirements for the preparation and the determination of DCOs.

4.9 Generally, at the national level, energy policy seeks to maintain the security, reliability and affordability of energy supplies. This is to be achieved by developing a range of generation capacity and associated infrastructure, including the development of gas storage facilities.

4.10 Energy Act 2010: The Act implements elements of ‘The UK Low Carbon Transition Plan – a national strategy for climate and energy’ (July 2009. This Plan seeks to deliver emission cuts of 18% on 2008 levels by 2020 (and over a one-third reduction on 1990 levels) on the way to achieving a reduction of at least 80% by 2050. The Plan makes it clear that the country needs to cut emissions in a way that helps the sustainable development of the economy, society and environment. This means keeping energy supplies safe and secure, maximising economic opportunities and protecting the most vulnerable consumers. The Act has three principal objectives:

- the introduction of a framework for a financial incentive to support commercial-scale demonstration of carbon capture and storage (CCS) and funding for the fitting of additional CCS capacity to those projects at a later stage, should it be required;
- the introduction of schemes for the reduction of fuel poverty (which will introduce mandated social price support); and
- the strengthening of the powers of Government and the regulator to ensure that the energy markets are working fairly for consumers and delivering secure and sustainable energy supplies.

4.11 The legislative elements of the Energy Act are being implemented through the Climate Change Act, which was translated into law on the 26th November 2008.

4.12 Climate Change Act 2008: This Act takes a new approach to managing and responding to climate change in the UK by setting ambitious and
legally binding targets for the reduction of carbon dioxide and other greenhouse gases. Two key aims underpinning the Act are:

- to improve carbon management and help the transition towards a low carbon economy in the UK; and,
- to demonstrate strong UK leadership internationally, signalling that we are committed to taking our share of responsibility for reducing global emissions in the context of developing negotiations on a post-2012 global agreement at Copenhagen next year.

4.13 The Act puts forward more rigorous targets for cutting greenhouse gas emissions, and sets a legally binding UK target of reaching at least 80% reduction by 2050 against the baseline of 1990, and achieving at least 26% reduction by 2020.

4.14 **The Planning Act 2008** allows local planning authorities to set reasonable requirements in their Development Plan documents for:

- a proportion of energy used in development in their energy from renewable energy sources in the locality of the development;
- a proportion of energy used in development in their areas to be low carbon energy from sources in the locality of the development; and
- development in their area to comply with energy efficiency standards that exceed the energy requirements of building regulations.

4.15 The Act clarifies the relationship between planning and energy provision making clear the importance of renewable energy and energy efficiency. The Planning Act established the IPC and the consenting process for the determination of applications for the construction and operation of nationally significant energy projects. The Act also sets out the provisions for National Policy Statements, which set out the policy approach that the IPC should take in the determination of applications for a DCO as set out in Section 3 of this Report.

**Planning Policy Guidance and Statements**

4.16 Current national planning policy guidance most relevant to the proposed development is contained in the following statutory Planning Policy Guidance (PPGs), Planning Policy Statements (PPS’s) and Mineral Policy Statements (MPSs). The most relevant documents to the Project are as follows:-

PPS1: Delivering Sustainable Development (February 2005)
PPG2: Green Belts (March 2001)
PPS7: Sustainable Development in Rural Areas (August 2004)
PPS9: Biodiversity and Geological Conservation (August 2005)
PPG13: Transport (March 2001)
PPG15: Planning and the Historic Environment (September 1994)
PPS23: Planning and Pollution Control (November 2004)
PPG24: Planning and Noise (September 1994)
4.17 **Mineral Policy Statement 1: Planning and Minerals (MPS1)** and its Companion Guide, published in November 2006 sets out the overall policy approach to minerals planning in England. It states in its introductory paragraph that minerals including oil and gas are essential to the nation’s prosperity and quality of life, not least in helping to create and develop sustainable communities. Furthermore, it makes clear that minerals development is different from other forms of development because minerals can only be worked where they naturally occur.

4.18 MPS1 identifies the important considerations, which should be addressed in Mineral Plans which amongst other matters include the safeguarding of reserves, supply, the protection of heritage and countryside and environmental protection. Paragraph 3.8 states that local authority policies should indicate that, subject to the effects on the environment being properly addressed and mitigated, and a satisfactory restoration and aftercare plan prepared, applications for exploration may be favourably considered. Furthermore, paragraphs 3.11 and 3.12 highlight that drilling should not be permitted close to sensitive receptors, such as, houses and early consultation with the Environment Agency is necessary to avoid the risk of pollution to ground water aquifers.

4.19 The sections concerning exploration and production advise that Mineral Planning Authorities (MPAs) should discuss with the industry the option of employing directional drilling and policies contained within Development Plan Documents (DPD) should make clear that this approach will be adopted. The need for the assessment of proposals with regard to environmental and other material planning considerations is highlighted and the need for applicants to address this information in their submissions is stressed. Therefore, proposals for gas exploration and production need careful consideration of factors such as:

- locating sites and plant to minimise visual intrusion;
- access, controlling vehicular activity and vehicle routing;
- controlling noise and light emissions with particular reference to night-time operations;
- the need for night-time drilling for safety reasons; and
- controlling the disposal of mud and other residue.

4.20 Paragraphs 4.1 to 4.9 deal with the underground storage of natural gas. The section acknowledges that large volumes of gas capable of being recharged and drawn upon quickly to meet demand can be stored in depleted gas reservoirs. It recognises that much of the infrastructure for previous on-shore gas extraction has the potential to be used or adapted for gas storage. It states that storage facilities are
“...important for balancing peaks and troughs in supply and safeguarding against disruptions to delivery of gas.”

4.21 General issues that should also be taken into account when considering applications for underground gas storage are considered to be as follows:

- that Government welcomes proposals to increase flexibility in the UK gas market, but is not prescriptive about how this is to be achieved. Proposals are a commercial matter for the market;
- the national energy policy benefit of the proposal;
- the likelihood that suitable onshore locations for gas storage will be very limited in number, due to the lack of suitable geographical features for underground gas storage, so that alternative possibilities may not be available;
- the acceptability of proposals and measures to mitigate the potential environmental impacts of exploration and development of the proposed facility, in terms of both the surface and subsurface works; and
- the integrity and safety of underground facilities especially in terms of maintenance of the pressure regime, the prevention of leakage of gas and the avoidance of pollution.

4.22 **Mineral Policy Statement 2: Controlling and mitigating the environmental effects of mineral extraction in England** (MPS2) published in March 2005 sets out the principles to be followed in considering the environmental effects of mineral working in order to encourage sensitive working. Technical annexes on noise and dust support that guidance in recognition that these by-products of mineral extraction activity have a noticeable environmental impact. Paragraph 17 of MPS 2 states that applications which are in accordance with the relevant development plan should be allowed unless material considerations indicate otherwise. It goes on to advise developers that any potential adverse effects on local communities, environmental damage or loss of amenity must be kept to an acceptable minimum through the design of the proposals.

4.23 The Project accords with the advice set out in the MPSs in that, once operational, it will assist in balancing peaks and troughs in gas supply and will be able to supply gas to the national grid during periods of gas disruption. As the MPSs acknowledge onshore UGS facilities can only be constructed in a limited number of locations in the UK. The Preesall salt beds are geologically able to accommodate the Project and it is one of the few salt bodies in the UK where such facilities are not already operating, or are under construction or have planning permission.

4.24 The MPSs require the potential environmental impact of any mineral related development to be considered. The ES submitted with the DCO application sets out the environmental impact of the proposals and their mitigation. Visual and landscape impact of some of the above ground
infrastructure (i.e. the well head compounds, the Booster Pump Station and the GCC) on the Preesall site has been identified as an issue by the LPAs in their Section 42 consultation response. As set out above, the plant and buildings have been located to minimise impact and a comprehensive landscape scheme forms part of the DCO application. MPS1 makes clear that minerals development is different from other forms of development because minerals can only be worked where they naturally occur and that some landscape and visual impact is, therefore, inevitable. The landscape at Preesall is not, however, subject to any designations or national or local landscape importance and has, in any event, been subject to previous brine extraction activities. A more detailed assessment of the Project against a range of environmental matters is provided in Section 3 of this Report when examining the generic and technology impacts identified in NPS EN-1 and NPS EN-4 and this concludes that impacts can be mitigated.

4.25 **PPS1 ‘Delivering Sustainable Development’** (Feb 2005) sets out the Government’s approach to the delivery of sustainable development through the planning system. This new integrated approach goes beyond traditional land use planning and introduces a spatial dimension, which combines polices for the control of development with other policies and programmes which influence the form and function of the built environment.

4.26 The key objectives of PPS1 are a positive planning framework for sustainable economic growth and the promotion of more efficient land use which reduces the need to travel. Other objectives include addressing the causes and impacts of climate change, the management of pollution, and the protection of biodiversity and natural habitats. Accordingly, Paragraph 5 of the introduction to PPS1 states that:

“Planning should facilitate and promote sustainable and inclusive patterns of urban and rural development by:

- making suitable land available for development in line with economic, social and environmental objectives to improve people’s quality of life;
- contributing to sustainable economic development;
- protecting and enhancing the natural and historic environment, the quality and character of the countryside, and existing communities;
- ensuring high quality development through good and inclusive design, and the efficient use of resources; and
- ensuring that development supports existing communities and contributes to the
creation of safe, sustainable, liveable and mixed communities with good access to jobs and key services for all members of the community.”

4.27 PPS1 also sets out various criteria that could be applied to ensure that development plans and decisions taken on planning applications contribute to the delivery of sustainable development. These include matters listed under the following headings:

- Social Cohesion and Inclusion
- Protection and Enhancement of the Environment
- Prudent use of Natural Resources
- Sustainable Economic Development
- Integrating Sustainable Development in Development Plans

4.28 A Supplement to Planning Policy Statement 1 concerning Planning and Climate Change was published in December 2007. The key planning objectives set out in the draft document seek to ensure that Regional Spatial Strategy (RSS) and local spatial strategies:

- Make a full contribution to the Government’s Climate Change Programme.
- Use the provision of new homes to secure the highest viable standards of resource and energy efficiency and reduction in carbon emissions.
- Deliver patterns of growth conducive to sustainable transport.
- Secure new development which is resilient to the effects of climate change.

4.29 The Supplement is a broad based policy instrument and is predicated on the Government’s common objective of securing zero carbon emissions for all new homes by 2016. It introduces the concept of low carbon energy supply alongside renewable energy, with an emphasis on the efficiency and practicality of off-site local network power generation. The Supplement and the PPS provides the framework for planning policies at regional and local level as well as the context for development control decisions.

4.30 A sustainability assessment of the Project is set out in Section 5 of this Report. As well as assessing the proposals against sustainability objectives, the assessment sets out the relationship of the proposals against the objectives for low carbon emissions and renewable energy. The assessment concludes that once operational the Project would form part of a sustainable energy supply in the UK for which there is an overriding need.

4.31 PPG2 Green Belts (March 2001) sets out the Government’s policy towards development within the Green Belt. The fundamental aim of Green Belt policy is to prevent urban sprawl by keeping land permanently open; the most important attribute of Green Belts is their openness. There is a
general presumption against inappropriate development within the Green Belt where development should not be approved except in very special circumstances.

4.32 The PPG accepts that minerals can only be worked where they are found. As extraction is only a temporary activity, it states that mineral extraction need not be inappropriate development and need not conflict with the purposes of including land in Green Belts provided that high environmental standards are maintained and that the site is well restored.

4.33 In respect of the Project, part of the route of the proposed brine pipeline to the west of the River Wyre is within the Green Belt. However, the pipeline is underground and, as such, will not have an impact on the openness of the Green Belt. None of the buildings or above ground development proposed as part of the DCO application are within the Green Belt. The LPAs, in their Section 42 consultation responses, have not raised green belt policy as an issue in respect of the Project.

4.34 **Planning Policy Statement 7: Sustainable Development in Rural Areas** (PPS7) of August 2004 sets out the Government’s objectives for rural areas, which are primarily to raise the quality of the environment and to promote more sustainable patterns of development. With regard to economic development, paragraph 4 advises that planning authorities should set out their policies in Local Development Documents (LDD) for allowing some limited development in, or next to, rural settlements in order to meet local business needs.

4.35 PPS 7 additionally advises that planning policies should provide a positive framework for facilitating sustainable development and that the quality and character of the wider environment should be protected. Paragraph 16, inter alia, states at sub section (iv) that when preparing policies for LDDs and determining applications for development in the countryside, local planning authorities should also provide for the sensitive exploitation of renewable energy sources in accordance with the policies set out in Planning Policy Statement 22.

4.36 That part of the Project that is constructed at Preesall, on the eastern side of the Wyre Estuary, represents development within the countryside. However, with the exception of the well head compounds, Booster Pump Station and the GCC, the majority of the development proposals are underground with limited environmental impact on the rural area. In order to assimilate the built development into the rural area, the Project includes a comprehensive landscape strategy for the whole site. Development within the countryside has been raised by both LPAs in their Section 42 consultation response and this remains an issue for the IPC in the determination of the DCO application. A more detailed assessment is set out in Section 3 of this Report dealing with landscape and visual impacts in the NPSs and this concludes that the impact on the rural area must be balanced against the need for UGS and the fact that minerals can only be worked where they are found.
4.37 **Planning Policy Statement 9: Biodiversity and Geological Conservation** (PPS 9). Policy guidance for England on nature conservation and planning is presented in this guidance which summarises the significance of habitats and species statutorily protected by national legislation or international obligation, while also supporting local policies to protect these features at the local level. PPS9 also offers guidance on planning and nature conservation outside designated sites.

4.38 The ES submitted as part of the application assesses the impact of the proposals on biodiversity and geological conservation. Further details are set out in Section 3 of this Report dealing with biodiversity and geological conservation and within the ‘**No Significant Affects to Habitat Regulations Assessment**’ (Document Ref: 3.2) and the ‘**Statement to Inform Habitats Regulations Assessment**’ (Document Ref: 3.2).

4.39 **Planning Policy Guidance note 13: Transport** (April 2001). This guidance is underpinned by the July 1998 Government White Paper on the Future of Transport. The principal objective is to increase personal choice by improving the alternatives and to secure mobility that is sustainable in the long term.

4.40 The ES includes a transport assessment which will deals with the impact of traffic movements on local roads and sensitive receptors. Further details are set out in Section 3 of this Report dealing with traffic and transport and this concludes that there is no objection to the proposed access to the Project site and that the traffic generated by the Project can be accommodated in the highway network.

4.41 **Planning Policy Guidance note 15: Planning and the Historic Environment** (PPG 15) emphasises the importance that the Government gives to preserving and enhancing Conservation Areas, Listed Buildings and their settings, and the wider historic landscape.

4.42 The application proposal does not include any development within a Conservation Area or which directly affects a Listed Building. The Preesall area is not an historic landscape and, therefore, the proposals have no impact on the historic environment. However, the Project does affect the setting of a Listed Building and further details are set out in that part of Section 3 of this Report dealing with the historic environment and in the ES.

4.43 **Planning Policy Statement 23: Planning and Pollution Control** (November 2004) (PPS23) sets out the Government’s core policies and principles in relation to planning and pollution control. PPS23 advises that the planning and pollution control systems are separate but complementary control regimes and that local planning authorities should not duplicate the responsibilities of other Agencies. In this regard, emissions to air, land and water are controlled by the Environment Agency through an Environmental Permit. Accordingly, the planning system should focus on whether the development itself is an acceptable use of the...
land and the impacts of those uses, rather than seeking to control the emissions themselves.

4.44 PPS23, however, advises that considerations of the quality of land, air or water and potential impacts arising from development, possibly leading to an impact on health, are capable of being a material consideration. In this regard, the environmental impact of the Halite proposal is set out in the ES and summarised in Section 3 as they relate to land use, air and water quality. An Environmental Permit is required for emissions from the sources and this would be obtained from the Environment Agency at the appropriate time.

4.45 **Planning Policy Statement 24: Planning and Noise (PPS24)** of September 1994 outlines the considerations to be taken into account in determining planning applications both for noise sensitive development and for those activities which will generate noise.

4.46 In respect of development control of noisy development, the PPS acknowledges that much of the development which is necessary for the creation of jobs and the construction and improvement of essential infrastructure will generate noise and that ‘the planning system should not place unjustifiable obstacles in the way of such development’. Nevertheless, the PPS asks local planning authorities to ensure that development does not cause an unacceptable degree of disturbance. The PPS suggests a number of measures to mitigate the impact of noise including:

(i) through engineering design to reduce noise at the point of generation;
(ii) through layout, providing adequate distance between source and noise sensitive buildings;
(iii) through limiting periods of noise activity through planning conditions.

4.47 A noise assessment has been undertaken and its conclusions are set out in the ES submitted with the DCO application. Further details of the assessment are set out in the noise and vibration section of Section 3 of this Report which concludes that the overall noise and vibration impact from the construction and operation phase combined and operation phase is not significant.

4.48 **Planning Policy Statement 25: Development and Flood Risk (PPS25)** published in December 2006 sets out Government policy on development and flood risk. Its aims are to ensure that flood risk is taken into account at all stages in the planning process to avoid inappropriate development in areas at risk of flooding, and to direct development away from areas of highest risk. Where new development is, exceptionally, necessary in such areas, policy aims to make it safe, without increasing flood risk elsewhere, and, where possible, reducing flood risk overall.
4.49 The Preesall site is currently protected from flooding from the River Wyre by raised flood embankments. There have been breaches to the flood defences in previous years and due to the costs of maintaining defences the Environment Agency are considering the managed retreat of coastal defences in the Preesall area.

4.50 The built development has been sited to avoid the risk of flooding and further details of flood risk are provided in that part of Section 3 dealing with Flood Risk.

**National Planning Policy Framework**

4.51 The Government has recently published the 'Draft National Planning Policy Framework' (July 2011) for consultation and once approved it will supersede the advice set out in PPGs and PPSs set out above. The National Planning Policy Framework (NPPF) is a key part of the Government’s reforms to the planning system to make it less complex, more accessible and to promote sustainable growth.

4.52 The NPPF advocates a ‘presumption in favour of sustainable development’ and states that the ‘Government is committed to ensuring that the planning system does everything it can to support sustainable economic growth’ (para 13). LPAs are required to plan positively for new development, and approve all individual proposals wherever possible. In particular, LPAs ‘should:

- prepare Local Plans on the basis that objectively assessed development needs should be met, and with sufficient flexibility to respond to rapid shifts in demand or other economic changes
- approve development proposals that accord with statutory plans without delay; and
- grant permission where the plan is absent, silent, indeterminate or where relevant policies are out of date’ (para 14).

4.53 The NPPF sets out core planning principles as follows:

- ‘planning should be genuinely plan-led, with succinct Local Plans setting out a positive long-term vision for an area. These plans should be kept up to date and should provide a practical framework within which decisions on planning applications can be made with a high degree of certainty and efficiency

- planning should proactively drive and support the development that this country needs. Every effort should be made to identify and meet the housing, business, and other development needs of an area, and respond positively to wider opportunities for growth. Decision-takers at every level should assume that the default answer to development proposals is “yes”, except where this would compromise the key sustainable development principles set out in this Framework
- planning policies and decisions should take into account local circumstances and market signals such as land prices, commercial rents and housing affordability. Plans should set out a clear strategy for allocating sufficient land which is suitable for development in their area, taking account of the needs of the residential and business community.

- in considering the future use of land, planning policies and decisions should take account of its environmental quality or potential quality regardless of its previous or existing use.

- planning policies and decisions should seek to protect and enhance environmental and heritage assets in a manner appropriate to their significance, and reduce pollution. Where practical and consistent with other objectives, allocations of land for development should prefer land of lesser environmental value.

- planning policies and decisions should make effective use of land, promote mixed use developments that create more vibrant places, and encourage multiple benefits from the use of land in urban and rural areas, recognising that some open land can perform many functions (such as for wildlife, recreation, flood risk mitigation, carbon storage, or food production) planning policies and decisions should enable the reuse of existing resources, such as through the conversion of existing buildings, and encourage, rather than restrict, the use of renewable resources (for example, by the development of renewable energy).

- planning policies and decisions should actively manage patterns of growth to make the fullest use of public transport, walking and cycling, and focus significant development in locations which are or can be made sustainable.

- planning policies and decisions should take account of and support local strategies to improve health and wellbeing for all; and

- planning policies and decisions should always seek to secure a good standard of amenity for existing and future occupants of land and buildings’ (para 19).

4.54 The NPPF asks LPAs to facilitate the sustainable use of energy minerals and to encourage underground gas storage if local geological circumstances indicate its feasibility (para 104). As set out in the Geology Summary Report (Document Ref 9.2.2) it is accepted by LCC that Preesall can safely accommodate the development of gas storage caverns in the area proposed by the Project.
Regional Planning Policy


4.56 The RSS identifies eight key principals set out in policies DP2- DP9 as follows:-

- promote sustainable communities;
- promote sustainable economic development;
- make the best use of existing resources and infrastructure;
- manage travel demand, reduce the need to travel, and increase accessibility;
- marry opportunity and need;
- promote environmental quality;
- mainstreaming rural issues; and
- reduce emissions and adapt to climate change.

4.57 The most relevant policies are:

- Policy RDF2 which deals with development in the rural areas and open countryside.
- Policy RDF3 which deals with “the coast”
- Policy EM1 which deals with the ‘integrated enhancement and protection of the Region’s assets with particular regard to landscape, the natural environment, the historic environment and trees, woodlands and forests.
- Policy EM6 which deals with the strategic and integrated approach to the long term management of flood and coastal erosion risk.
- Policy EM7 which deals with mineral extraction.

4.58 Policy RDF2 deals with development in ‘rural areas’ and states:-

“Rural Areas

Plans and strategies for the region’s rural areas should support the priorities of the Regional Rural Delivery Framework and:-

- maximise the economic potential of the region’s rural areas;
- support sustainable farming and food;
- improve access to affordable rural housing;
- ensure fair access to affordable rural housing;
- empower rural communities and address rural social exclusion;
• enhance the value of our rural environmental inheritance.

Key Service Centres

Plans and Strategies should identify a subset of towns and villages as Key Service Centres which:-

• act as service centres for surrounding areas, providing a range of services including retail, leisure, community, civic, health and education facilities and financial and professional services; and
• have good public transport links to surrounding towns and villages, or the potential for their development and enhancement.

Development in rural areas should be concentrated in these Key Service Centres and should be of a scale and nature appropriate to fulfil the needs of local communities for housing, employment and services, and to enhance the quality of rural life.

Local Service Centres

Small scale development to help sustain local services, meet local needs, or support local businesses will be permitted in towns and villages defined as Local Service Centres in Local Development Documents which already provide a more limited range of services to the local community.

Outside Key and Local Service Centres

In remoter rural areas particularly the ‘sparse’ rural areas of the region, more innovative and flexible solutions to meet their particular development needs should be implemented and targeted towards achieving:-

• more equitable access to housing, services, education, healthcare and employment; and
• a more diverse economic base, whilst maintaining support for agriculture and tourism.

Exceptionally, new development will be permitted in the open countryside where it:-
• has an essential requirement for a rural location, which cannot be accommodated elsewhere (such as mineral extraction);
• is needed to sustain existing businesses;
• provides for exceptional needs for affordable housing;
• is an extension of an existing building; or
• involves the appropriate change of use of an existing building.

LDD’s should set out criteria for permitting the re-use of buildings in the countryside in line with PPS7.”

4.59 The part of the policy most relevant to the Project is that which deals with development in the rural areas and open countryside. The policy allows for new development in the open countryside where it “has an essential requirement for a rural location, which cannot be accommodated elsewhere (such as mineral extraction)”. The Project meets the requirements of this policy as minerals can only be worked where they naturally occur. The extraction of salt is required to create the gas storage caverns and, as such, the development cannot be accommodated elsewhere.

4.60 Policy RDF3 deals with ‘the coast’ and states:-

“The Coast Plans and strategies should:-

• enhance the economic importance of the coast and the regeneration of coastal communities in ways that safeguard, restore or enhance and make sustainable use of the natural, built and cultural heritage assets of the north-west coast and address issues of environmental decline and socio-economic decline, through support for:-

• the protection, development and diversification of the north west’s maritime economy;
• regeneration based around opportunities for sustainable growth in coastal tourism and recreation;
• regeneration opportunities associated with reuse of developed or under-used developed coast, former docks and other adjacent industrial areas;
• improving the image of coastal resorts to attract inward investment and tourism;
• the diversification of economic activity in coastal communities and rural coastal areas;
• define the undeveloped, developed (including despoiled), and remote coast at a strategic and local level using the criteria set out in paragraph 5.22;
• direct development requiring a coastal location, in all but exceptional circumstances, to the developed coast and safeguard the undeveloped and remote coasts;
• protect the functional integrity of bays, estuaries and the inter-tidal areas immediately offshore;
• promote the conservation and enhancement of cultural, historical and natural environmental assets, including land and seascapes;
• promote the integrated planning and management of the coast (and adjacent sea areas and neighbouring coastal regions) and marine spatial planning of the Irish Sea;
• facilitate the co-ordination and harmonisation between Local Development Frameworks and the wide range of plans, strategies and schemes which apply to the coastal zone."

4.61 Those parts of the policy that are most relevant to the Project are, firstly, that part that seeks to enhance the economic importance of the coast and the regeneration of coastal communities in ways that safeguard, restore or enhance and make sustainable use of the natural, built and cultural heritage assets of the North West Coast and address issues of environmental decline and socio-economic decline. Secondly, that part that seeks to promote the conservation and enhancement of the cultural, historical and natural environmental assets, including land and seascapes.

4.62 The Project would enhance the economic importance of the coast in terms of the new investment and the jobs that would be created through its construction and operation. The use of the salt beds at Preesall for the storage of gas would make use of this resource for which there is no identified alternative beneficial use. The extraction of the salt would continue a long history of brine production in the Preesall area since the mid to late 19th Century.

4.63 Policy EM1 deals with the ‘integrated enhancement and protection of the Region’s environmental assets’ and states:

“Integrated Enhancement and Protection of the Region’s Environmental Assets

The Region’s environmental assets should be identified, protected, enhanced and managed."
Plans, strategies, proposals and schemes should deliver an integrated approach to conserving and enhancing the landscape, natural environment, historic environment and woodlands of the region.

Plans and strategies should define spatial objectives and priorities for conservation, restoration and enhancement as appropriate, and provide area-based guidelines to direct decisions and target resources. These will be founded on a sound understanding of the diversity, distinctiveness, significance and sensitivity of the region’s environmental assets, and informed by sub-regional environmental frameworks. Special consideration will be given to the impacts of climate change and adaptation measures.

Priority should be given to conserving and enhancing areas, sites, features and species of international, national, regional and local landscape, natural environment and historic environment importance.

Where proposals and schemes affect the region’s landscape, natural or historic environment or woodland assets, prospective developers and/or local authorities should first avoid loss of or damage to the assets, then mitigate any unavoidable damage and compensate for loss or damage through offsetting actions with a foundation of no net loss in resources as a minimum requirement.

With regard to specific elements of this integrated approach, the following should be taken into account:

Policy EM1 (A): Landscape

Plans, strategies, proposals and schemes should identify, protect, maintain and enhance natural, historic and other distinctive features that contribute to the character of landscapes and places within the North West.

They should be informed by and recognise the importance of:
• detailed landscape character assessments and strategies, which local authorities should produce, set in the context of the North West Joint Character Area Map. These will be used to identify priority areas for the maintenance, enhancement and/or restoration of that character and will under-pin and act as key components of criteria-based policies in LDFs;

• the special qualities of the environment associated with the nationally designated areas of the Lake District National Park, the Yorkshire Dales National Park, the Peak District National Park, the Forest of Bowland Area of Outstanding Natural Beauty (AONB), the Arnside and Silverdale AONB, the North Pennines AONB and Solway Coast AONB and their settings;

• the characteristics and setting of World Heritage Sites.

Policy EM1 (B): Natural Environment

Plans, strategies, proposals and schemes should secure a ‘step-change’ increase in the region’s biodiversity resources by contributing to the delivery of national, regional and local biodiversity objectives and targets for maintaining extent, achieving condition, restoring and expanding habitats and species populations. This should be done through protecting, enhancing, expanding and linking areas for wildlife within and between the locations of highest biodiversity resources, including statutory and local wildlife sites, and encouraging the conservation and expansion of the ecological fabric elsewhere.

Broad locations where there are greatest opportunities for delivering the biodiversity targets are shown on the Indicative Biodiversity Resource and Opportunity Diagram (see Diagram 9.1). More specific locations will be informed by sub-regional biodiversity maps and frameworks of statutory and local wildlife sites.

Local authorities should:

• develop a more detailed representation of this spatial information for use in their Local Development Frameworks; and
• develop functional ecological frameworks that will address habitat fragmentation and species isolation, identifying and targeting opportunities for habitat expansion and re-connection. Active arrangements will be needed to address ecological cross-boundary issues within areas such as the Pennines, Solway Firth, the Mersey Estuary, the Lune Estuary, the River Dee Estuary and the Cheshire Meres and Mosses, as well as including biodiversity policies in any developing Marine Spatial Planning System in the Irish Sea.

Plans, strategies, proposals and schemes should protect and enhance the region’s geological and geomorphological resources including statutory and local sites by contributing to the delivery of national, regional and local geodiversity objectives and targets.

Policy EM1 (C): Historic Environment

Plans, strategies, proposals and schemes should protect, conserve and enhance the historic environment supporting conservation-led regeneration in areas rich in historic interest, and in particular exploiting the regeneration potential of:

• the maritime heritage of the North West coast including docks and waterspaces, and coastal resorts and piers;
• the Pennine textile mill-town heritage that exists in East Lancashire and Greater Manchester; and the textile mill-town heritage of East Cheshire;
• Victorian and Edwardian commercial developments in Liverpool and Manchester city centres;
• the traditional architecture of rural villages and market towns of Cumbria, Cheshire and Lancashire;
• the historic Cities of Carlisle, Chester and Lancaster; and
• the Lake District Cultural Landscape.

Policy EM1 (D): Trees, Woodlands and Forests

Plans, strategies, proposals and schemes should:
• support the aims and priorities of the North West Regional Forestry Framework and sub-regional forestry strategies;
• encourage a steady targeted expansion of tree and woodland cover and promote sustainable management of existing woodland resources to enable the delivery of multiple benefits to society;
• support the continued role of community forestry;
• identify and protect ancient semi-natural woodland and veteran trees.”

4.64 The policy requires the identification of the Regions environmental assets and the preparation of plans, strategies, proposals and schemes to conserve, enhance and manage these assets. In developing in the countryside, Policy EM1 seeks an integrated enhancement and protection of environmental assets to include landscape (policy EM1 A), natural environment (policy EM2 B), the historic environment (policy EM1 C) and trees, woodlands and forests (policy EM1 D). In this regard, the Preesall site is not designated as a landscape area of international or national importance. The Project seeks to limit damage to the landscape by ensuring that pipelines are buried underground where possible; that the design of new buildings reflects the rural character of the area and that new landscaping is provided to mitigate visual impact. As set out above, the application proposals also include a strategic landscape scheme for the Preesall site which seeks to improve the natural habitat of the area as well as providing mitigation from visual impact of the new buildings and structures.

4.65 Although the Preesall area is not identified as a landscape of national or regional importance it is an area of ecological importance. Further details of the impact of the Project on landscape and ecology are provided in Section 3 of this Report.

4.66 Policy EM6 requires a strategic and integrated approach to the long term management of flood and coastal erosion risk by:-

• “taking account of natural coastal change and the likely impacts of climate change, to ensure that development is sited or re-sited carefully to avoid:-
• the risk of future loss from coastal erosion, land instability and flooding;
• unsustainable coastal defence costs;
• damaging existing defences and the capacity of the coast to form natural defences or to adjust to future changes without endangering life or property;
• making provision for mitigation of and adaptation to natural coastal change and the predicted effects of climate change over the medium to long-term (100 years) and supporting a ‘whole shoreline approach’ being taken to coastal risk management;

• minimising the loss of coastal habitats and avoiding damage to coastal processes; and avoiding adverse impacts now and in the future on coastal sites of international nature conservation importance;

• promoting managed realignment as a tool for managing flood and coastal erosion risk and delivering biodiversity targets and compensatory habitat requirements under the Habitats Directive.”

4.67 The plan states that the majority of the North West coastal zone lies below the ten metre contour and is particularly vulnerable to sea level rises and increased flooding resulting from climate change. The policy seeks to ensure that development has regard to flood risk and climate change. The ES includes a Flood Risk Assessment that has had regard to climate change. Further details are provided in Section 3 of this Report but the Flood Risk Assessment concludes that flood risk (having regard to climate change) is not a significant issue for the Project.

4.68 Policy EM7 deals with minerals extraction and states:-

“Plans and strategies should make provision for a steady and adequate supply of a range of minerals to meet the region’s apportionments of land-won aggregates and requirements of national planning guidance. This will take into account:-

• the national significance of the region’s reserves of salt, silica sand, gypsum, peat and clay (including fireclay);

• the need to maintain land banks of permitted reserves of certain minerals as identified in relevant government guidance including silica sand and materials for the cement industry;

• the contribution that substitute, secondary or recycled sources, or imports from outside the region, should make;

• the potential supply marine dredged aggregate in contributing towards overall regional aggregate needs, applying the principles of sustainable development alluded to in relevant government guidance and reflect any future Marine Spatial Planning arrangements.
Minerals extraction forms an exception to the sequential approach set out in the Core Development Principles.

Plans and strategies should:-

- include criteria-based policies to indicate the circumstances under which extraction might or might not be permitted;
- include opportunities for the transportation of minerals by pipeline, rail or water, including the maintenance of existing wharves and railhead facilities, the provision of new ones, and of facilities for on-shore processing and distribution of hydrocarbons;
- safeguard mineral resources from other forms of development and, where appropriate, reserve highest quality minerals for applications that require such grades;
- identify and protect sources of building stone for use in repairing and maintaining historic buildings and public realm improvements; and
- ensure sensitive environmental restoration and after care of sites including improved public access where they are of amenity value.”

4.69 There is no significant demand for the salt at Preesall. The Project seeks to make best use of this resource through the construction of caverns within the salt for underground gas storage. The creation of the caverns by washing ensures that the brine is exported from the site and disposed off by underground pipeline. As Mineral Policy Statements suggest, minerals can only be extracted where they are found and, as such, are an exception to the sequential approach to development set out in the core development principles of the RSS.

4.70 In summary, therefore, at the regional level planning policies seek to achieve sustainable development, including greater economic competitiveness and growth with associated social progress. Although there is a general presumption against development in the countryside, policy RDF2 allows for new development in the open countryside where it “has an essential requirement for a rural location, which cannot be accommodated elsewhere (such as mineral extraction)”.

4.71 Development should, however, have regard to environmental factors with particular emphasis on flood risk at coastal locations. The RSS contains general policies seeking to promote environmental quality (policy DP7) and to reduce emissions and adapt to climate change (policy DP9) Local planning policies set out in Structure Plans, Local Plans and Local Development Frameworks provide the policy context at the local level.
when environmental considerations can be considered in more detail. We, therefore, examine local planning policy applicable to the Preesall proposals below.

Local Planning Policies

4.72 The LPAs are progressing Local Development Frameworks (LDFs) and when completed these will form the development plan for their areas. Until the LDFs provide full coverage of the area, some of the policies within the old style Structure Plans and Local Plans have been saved.

Replacement Joint Lancashire Structure Plan 2001-2016

4.73 The Replacement Joint Lancashire Structure Plan 2001-2016 was adopted on the 31 March 2005 and was saved for a period of three years from the date of its adoption i.e. until 31 March 2008. The Plan was superseded by the new Regional Spatial Strategy ‘The North West of England Plan, Regional Spatial Strategy to 2021’ albeit that policy 29 concerning ‘gypsies and travellers’ has been retained. This policy, however, is of no relevance to the application proposals.

Lancashire Minerals and Waste Local Plan 2006

4.74 The Lancashire Minerals and Waste Local Plan 2006 was originally adopted in December 2001. A number of policies from this plan have been ‘saved’ until such time as the new complete Local Development Framework for Minerals and Waste is in place.

4.75 The concept of sustainable development forms the strategic basis for the Local Plan which is encapsulated within the following strategy:-

“To make an appropriate contribution to meeting necessary local, regional and national supplies of minerals and facilities for treating and disposing of waste, commensurate with the need to conserve where possible create opportunities to enhance the environment and quality of life of the residents of Lancashire.” (para 2.22)

4.76 Policy 2 deals with quality of life and seeks to ensure the full consideration of environmental impacts. Policy 2 states:-

“Proposals for minerals or waste developments will be permitted only if it is demonstrated to the satisfaction of the mineral and waste planning authority that all material impacts, by reason of traffic, visual impact, noise, dust, blasting, landfill gas, pollution, odour or other factors leading to loss of or damage to amenity which would adversely affect people, can be eliminated or
reduced to acceptable levels and in assessing the proposals account will be taken of the extent to which those factors can be controlled in accordance with current best site practice and recognised standards.”

4.77 The Project has the potential to cause disruption to local residents and communities and their environments due to the nature of its construction and operation. In effect, the Project is an industrial process and that part that is proposed to be sited at Preesall is in the open countryside with the associated impact of visual intrusion. The DCO application is supported by an ES that examines all of the environmental impacts arising from the development and, where appropriate, suggests mitigation measures.

4.78 Policy 31 deals with the public rights of way and states:-

“Proposals for minerals or waste developments which would have an unacceptable adverse impact on the amenity and recreational value of a Public Right of Way will not be permitted unless:-

i) adequate arrangements are made in advance of the development first commencing, to protect the existing route or provide acceptable alternatives, both during and after working; or

ii) it can be demonstrated that there is a need for the minerals or waste development which cannot be met from a less damaging alternative site or source of supply.”

4.79 Policy 32 of the Plan deals with recreational facilities and states:-

“Proposals for minerals or waste developments will not be permitted if they would have an unacceptable adverse impact on the recreational value of managed access areas, recreational routes, country parks, water-based or other recreational facilities or picnic areas, unless it can be demonstrated that there is a need for the development which cannot be met from a less damaging alternative site or source of supply”

4.80 The Project has been designed so that it does not physically affect the Wyre Way. A standoff between the Wyre Way and the Wellhead Compounds has been provided and in which no drilling activities would take place. During construction of the Project some of the existing bridleways and footpaths need to be crossed and alternative or temporary works are proposed to mitigate the impact.
4.81 The Plan specifically deals with the Preesall Saltfield and sets out the history of mining in the area (para 10.25). It makes the point that the mining of salt in the area has led to the creation of large underground voids which are filled with saturated brine. Although unlikely to collapse, the Plan adopts a precautionary approach when it comes to permitting surface development in the areas of these cavities (para 10.28).

4.82 Policy 71 seeks to protect the surface of the former Preesall saltfield from development and states:-

“The surface of the Preesall Salt Field shown on Insert Map 8 will be protected from development which may be adversely affected by land instability due to the existence of underground cavities.”

4.83 Through the geological work that has been undertaken, Halite has a complete understanding of the location and size of the cavities of Preesall and all of the proposed built development and pipelines forming part of the Project have been designed to avoid such areas.

4.84 Policy 72 dealing with salt provision, states:-

“Proposals for the extraction of salt or brine will be permitted, provided that:-

a) it is demonstrated that the need for the development overrides any adverse impact which it may have on people and the environment; and

b) the proposal makes adequate provision for the protection of existing development in or adjacent to the development area; and

c) the provisions made for the long term safety of cavities are adequate.”

4.85 The Plan acknowledges that areas of unwanted salt deposits remain in the Preesall area which may be worked at some time in the future. Proposals for the extraction of salt or brine may, therefore, be permitted providing that there is an overriding need for the mineral. In respect of the Project, the over-riding need relates to the creation of the caverns to store gas rather than the need for salt as a commodity.

Lancashire Minerals and Waste Development Framework


4.87 The Plan seeks to:-

- safeguard Lancashire’s Mineral Resources (Policy CS1);
• minimise the need for mineral extraction (Policy CS2);
• meet the demand for new minerals (Policy CS3);
• identify sites and areas for mineral extraction (Policy CS4);
• achieve sustainable minerals production (Policy CS5).

4.88 The extraction of salt to form caverns is required for the Project. There are no policies or proposals within the adopted Core Strategy that deal directly with salt extraction or brine discharge.

**Wyre Borough Local Plan**

4.89 The Wyre Borough Local Plan was adopted in July 1999. A review of the Local Plan was commenced and in 2004 the ‘Local Plan Review 1st Deposit Draft’ was published for consultation. The Review has, however, been abandoned in favour of the new Local Development Framework for which further details are given below. A number of the Local Plan policies have been ‘saved’ until such time as the new Local Development Framework is in place.

4.90 The Wyre Borough Local Plan aims ‘to encourage and guide investment and development in the Borough in a manner which is consistent with the changing social and economic needs and aspirations of the growing community of Wyre, in locations which reflect the concept of sustainable development, an in a form which represents the careful qualitative balance between development and the particular characteristics of the local environment’ (para 1.54).

4.91 On the Proposals Map, the application site includes land designated as:-

- Countryside Area (Policy SP13);
- Defined Open Coastline (Policy ENV2);
- Site of Special Scientific Interest (Policy ENV4) (not saved);
- County Heritage (Policy ENV5) (not saved).

4.92 Parts of the Proposals Map have been superseded by the adoption of the Fleetwood – Thornton Area Action Plan which is described in the next Section. The relevant policies of the Local Plan are:-

4.93 Policy SP13 deals with ‘development in the countryside’ and states:-

“Unless otherwise justified by the Policies of the Plan, development in that area designated as the countryside on the Proposals Map will not be permitted except for:-

a) the essential requirements of agriculture or forestry, suitable forms of tourism and related activities, or other uses appropriate to a rural area; or
b) fulfilling local housing need in accordance with housing Policies H14 and H15 of this Local Plan; or

c) The re-use or refurbishment of listed buildings or institutional buildings and associated facilities set within their own grounds; or

d) the conversion of rural buildings, such as barns, mills and stables (in accord with Policies H6 and EMP13); or

e) the development of a single infill plot within an established built up frontage of not less than five dwellings but only provided that it can be clearly demonstrated that such development would not have any detrimental effect on the character of that group or the locality.

All proposals for development will be considered with regard to issues of amenity, scale, design and materials and should not prejudice the provisions of other Policies of the Plan.”

4.94 The justification for this policy states that it ‘is a fundamental part of the Local Plan strategy that policies for the control of development outside settlements should restrict proposals to those which are actually required to support the area’s predominant land uses’ and that ‘the overriding intention of such policies is thus to redirect investment and development to the settlements and, in doing so, to protect the inherent qualities and rural characteristics of the countryside’. It goes on to state that ‘within the context of protecting the countryside, however, this policy acknowledges that certain forms of development may be necessary if the rural economy is it to remain viable and the character of the countryside, as we know it, is to be maintained’ and that ‘in many cases, the use proposed will be considered appropriate to the rural area if it provides for a particular rural need or addresses a recognised social, economic or environmental need’ (p.24).

4.95 As set out above, there is an overriding economic and social need for increased underground gas storage in the UK and Preesall is one of the few locations in the UK where salt caverns can be created.

4.96 Policy SP14 deals with ‘standards of design and amenity’ and states:-

“The council will seek to apply consistent principles and high standards of design and amenity for all types of development. Where development proposals generally accord with the principles of the development strategy and with other relevant Policies and Proposals of this Plan
the following criteria will therefore also need to be satisfied:

a) the proposal should be compatible with adjacent existing land uses and any other relevant adjacent proposal of this Plan;
b) the development should be acceptable in the local landscape in terms of its scale, mass, style, siting and use of materials, including any associated advertisement matter;
c) any development proposal should respect and accommodate existing important features of the site such as preserved trees, biological and heritage features and public footpaths;
d) the proposal should enjoy satisfactory access, parking and servicing facilities which should not prejudice the provision of such facilities for neighbouring properties on an individual basis or as a joint arrangement;
e) the traffic associated with the development should not have any adverse impact on the local environs nor on the local highway network generally;
f) suitable landscaping and/or screening should be employed to satisfactorily ameliorate the impact of the development and any necessary associated activities (for example parking, external storage);
g) where appropriate, and particularly in those developments where access is intended for the general public, adequate provision should be made in the design for the special access needs of the physically impaired and for the safety and convenience of other vulnerable groups;
h) the inter-relationship between buildings and open spaces in any layout should act to minimise the opportunities for criminal activity, consistent with good layout and architectural design.”

4.97 All of the proposed buildings are necessary for the operation of the Project. The Seawater Pump Station and the works to the Seawall are as proposed in earlier CGS applications that were acceptable to the LPAs. The Metering Station has been designed to be compatible and in character to the agricultural nature of the surrounding area. The Wellheads, the Booster Pump Station and the GCC would have a visual and landscape impact. These elements of the Project have been subject to special consideration and alternative sites on the west bank of the Wyre Estuary
have been considered. A comprehensive Landscape and Ecological Management Strategy Plan forms part of the application and this seeks to mitigate adverse impacts.

4.98 Policy ENV2 deals with the ‘open coastline’ and states:-

“Except for the purposes of fisheries, sea defence, coastal protection, navigation, informal recreation and amenity, or for development of the off-shore hydro-carbon, or renewable energy industries proposals for development will only be permitted where there is no detrimental effect on the open character of the defined open coastline, as shown on the Proposals Map.”

4.99 This policy reflects the importance of the open coastline and is aimed at preserving this scarce amenity and important nature conservation resource. Development associated with off shore hydro-carbon industries will only be permitted where there is no detrimental effect on the open character of the coastline. During the construction of the caverns, drilling rigs would be visible within the site but these would only be in place for a temporary period. The well heads would not be particularly visible and much of the pipe work and manifolds that would be provided are underground. The only permanent buildings in the defined countryside are the GCC and the Booster Pumping Station. The GCC has been located in the lee of a hill and landscaped to reduce its impact whilst the Booster Pumping Station has been located adjacent to the Hackensall STW and has been designed to reflect the local character of the area.

4.100 Policy ENV7 deals with ‘trees on development sites’ and states:-

“Proposals for development that are likely to affect trees within a site will only be approved in those circumstances:

A. Where the scheme includes measures for the selection, retention and protection of those trees which are healthy and have (or would have) a public amenity benefit, and

B. Where appropriate, new trees of a suitable species are proposed for planting in a scheme to be agreed with the local planning authority, and

C. Where the setting and character of trees (including where possible any trees adjacent to the site) is taken into account in considering the development of sites containing trees, and
D. Where development is sited so as to avoid damage to existing trees by ensuring adequate spacing, and
E. Where the proposals do not conflict with any other provisions of the local plan, and
F. Where the proposal does not have an adverse effect on the integrity of ancient woodland."

4.101 The Project does have an impact on trees along the route of the interconnector and at the junction of the haul road with the A558 and the degree of impact is set out in the ES.

4.102 Policy ENV 13 deals with ‘development and flood risk’ and states:-

“Development in areas at direct risk from flooding will only be permitted where:-

a) it would not cause or exacerbate flooding in other areas; and
b) a satisfactory standard of flood protection already exists; or
c) mitigation measures will be included in a scheme.”

4.103 Policy ENV14 deals with ‘development and flood defences’ and states:-

“Development will not be permitted where it would adversely affect the integrity and continuity of tidal and fluvial defences, or access arrangements to either watercourses or the coast for essential maintenance, or improvement and emergency purposes.”

4.104 Policy ENV15 deals with ‘surface water run off’ and states:-

“Development which will generate increased rates of surface water run-off will not be permitted where it would lead to adverse impacts such as an increased risk of flooding, river channel instability, or damage to habitats. Developers will be expected to cover the cost of assessing surface water drainage impacts and any appropriate mitigation works, including long-term maintenance.”

4.105 Policy ENV16 deals with ‘ground water protection’ and states:-

“Development proposals will not be permitted where they are likely to have an adverse impact upon the quality or supply of ground water
4.106 As set out above under regional policy, the majority of the North West coastal zone lies below the ten metre contour and is particularly vulnerable to sea level rises and increased flooding resulting from climate change. The policy seeks to ensure that development has regard to flood risk and climate change. The ES includes a Flood Risk Assessment that has had regard to climate change and also provides details of the impact of the Project on surface and ground water.

4.107 Policy EMP12 deals with 'diversification of the rural economy' and states:-

"Proposals which would facilitate the diversification of the rural economy will be approved where:-

a) the scale and nature of the activity is not detrimental to the character of the area; and
b) any new buildings are shown to be necessary and appropriate to a rural location; and
c) the proposed use does not conflict with adjacent land uses nor adversely affects the economic viability of a farming or other unit; and
d) the proposal fully satisfies Policy SP14."

4.108 The justification for this policy considers that ‘encouraging appropriate new employment uses into the rural area to provide alternative sources of job creation is essential to ensure its economic well being’ but that ‘if such development is permitted, strict control will be exercised in terms of its scale, location and design. The buildings will be expected to reflect the local style and relate well to other existing buildings and the character of the rural area’ (p.89).

4.109 The Project would create 30-40 permanent jobs and 200-300 construction jobs and, as set out above, the proposed buildings within the rural areas have been carefully sited and designed to reflect the character of the area.

4.110 Policy TREC12 deals with ‘public rights of way’ and states:-

“In order to ensure that public access to the countryside is maintained and enhanced, the Borough Council, as local planning authority, will, through its responsibility for controlling the development and use of land, safeguard all public rights of way including footpaths, bridleways, byways and unclassified county roads."
Proposals will not be permitted which:-

a) adversely affect any existing right of way, and the public's enjoyment of it unless a satisfactory alternative is provide; or
b) detract from the character of any existing right of way; or
c) do not accord with the need to improve and provide access to the countryside for the disabled.”

4.111 The Project does have an impact on a number of rights of way during construction and temporary alternative routes are proposed to mitigate the impact.

Fleetwood – Thornton Area Action Plan

4.112 The Fleetwood-Thornton Area Action Plan (AAP), adopted in 2009, looks ahead to the year 2021, setting out a comprehensive vision and spatial strategy for the Fleetwood-Thornton area. The Plan area is restricted by the west side of the Wyre Estuary but includes the site of the Fish Dock on which the Seawater Pump Station is proposed and the route of the brine pipeline. The Proposals Map shows the site of the Seawater Pump Station as being in the Fleetwood Docks Mixed Use Development Area.

4.113 Policy 2 states:-

“Housing Provision and Choice

1. Land for 1,300 dwellings is allocated as shown on the Proposals Map as follows:-
   a) Fleetwood Docks Mixed Use Development Area (FD1) – planning permission for 380 dwellings (reference 04/00240/OUT/MAJ).
   b) Former Power Station Site (PS1) – planning permission for 558 dwellings (reference 07/00824/FUL/MAJ).
   c) Fleetwood Docks Mixed Use Development Area (FD2) – land is allocated on the Proposals Map for 120 dwellings.
   d) Land to the west of the former power station site (PS2) – allocated on the Proposals Map for 242 dwellings.”

4.114 Policy 3 states:-

“Industry and Business
1. In order to protect and consolidate the Fleetwood fishing and port related industries and specialist industrial sector at the Hillhouse site, employment development for B1, B2 and B8 uses (business, general industrial and storage and distribution) will be permitted in the following areas as identified on the Proposals Map:-

   i) Fleetwood Docks Mixed Use Development Area (E1);
   ii) Fleetwood Docks Employment Area (E2);
   iii) Hillhouse Secure Site (100,000m² of gross floor space net of demolition) (E3);
   iv) Red Marsh Industrial Estate (E4);
   v) Burn Hall Industrial Estate (E5);
   vi) Lancashire Waste Technology Park (E6);
   vii) Land East of Fleetwood Road (E7).

4.115 Policy 5 states:-

“Transport Network Improvements

1. All planning applications for traffic generating development will be determined having regard to the Sustainable Transport Strategy.

2. All planning applications for developments likely to generate significant increases in traffic should be accompanied by a Travel Plan and a Transport Assessment, including any implications of deviating from the Sustainable Transport Strategy.

3. In considering planning applications for traffic generating development, appropriate contributions will be sought from developers towards sustainable transport measures, including safety measures and highway improvements in accordance with the Sustainable Transport Strategy. These contributions will be pooled and deployed as set out in the Strategy in consultation with the Highways Agency.

4. Sustainable transport measures referred to in 3) above will include measures to improve public transport provision, cycling and walking, travel information, traffic and
parking management and advice on Travel Plans and any other such means as deemed appropriate and/or supported by the Steering Group.

5. The highway improvements referred to in 3) comprise the highway junctions on the Strategic Road Network (SRN) and Local Road Network (LRN) requiring improvement as a result of development proposed in this AAP, as set out in the Sustainable Transport Strategy.

6. The Strategy establishes a Steering Group to:-

i) administer contributions;
ii) prioritise and manage the implementation of highway improvements; and
iii) monitor the effectiveness of sustainable transport measures.

7. All improvements to the highway networks should prioritise the need of pedestrians and cyclists.

8. The former rail corridor to Fleetwood via Poulton and Thornton will be safeguarded to provide alternative means of access to and from the area.”

4.116 The Seawater Pump Station accords with the designation on the Proposals Map and the building design is as previously found acceptable by the LPAs. The brine pipelines are underground and, as such, will not have a long term impact on the visual amenity or landscape of the area.

Emerging Plans

4.117 The emerging plans that are not yet part of the Development Plan comprise:-

- Lancashire Minerals, Waste and Development Framework; and
- Wyre Borough Local Development Framework.

Lancashire Minerals and Waste Development Framework

4.118 The Joint Authorities have begun consultation on the detailed Site Allocations and Development Control Policies. The Issues and Options consultation was completed in Spring 2009, with consultation on Possible Minerals and Waste Site Allocations and Development Management Policies ending in March 2010. A further round of consultation on an Addendum to the above document was carried out in June 2010.
Wyre Borough Local Development Framework

4.119 Wyre Borough Council is preparing a Core Strategy DPD and a Site Allocations DPD. The Core Strategy Issues and Options document was published in March 2008 and identifies a number of spatial planning objectives for the Borough as follows:-

- ensuring opportunities for work are provided locally;
- providing homes to meet local needs;
- reclaiming contaminated land;
- enhancing green infrastructure and Wyre’s natural environment;
- respecting local distinctiveness and promoting high quality design;
- ensuring accessibility to services;
- providing places for people to meet; and
- improving performance in sustainable buildings.

4.120 The Issues and Options document examines three broad spatial options for development as follows:-

- Option 1: Reducing inequality gaps
- Option 2: A range of jobs to reduce the need to travel
- Option 3: Responding to the communities of Wyre

4.121 Although priority is being given to the preparation of the Core Strategy no policies have yet been formulated. The Council hope to complete the Draft Preferred Options Core Strategy document by the end of this year and have the Core Strategy adopted by the end of 2012.

4.122 The preparation of the Site Allocations DPD is further behind the Core Strategy and the Council do not expect to publish the Submission Draft until early 2014 and adoption towards the end of that year.

4.123 Due to the fact that both the Core Strategy and Site Allocation DPD are at an early stage of preparation, little weight can be given to them.

Conclusions

4.124 In terms of planning policy, there is a significant need for the provision of underground gas storage facilities in the UK. Presaall is one of the few areas of the country which contains salt deposits which can be solution mined to provide gas storage caverns. The Project site has further advantages in that it is relatively close to the National Gas Transmission System and has access to a ready supply of sea water for salt washing.

4.125 Part of the Project is within open countryside where there is a presumption against industrial development except in particular circumstances. One of the identified circumstances is mineral extraction as Mineral Planning Guidance Note 1 accepts minerals can only be worked where they are found.
4.126 The Lancashire Minerals and Waste Local Plan (Policy 72) accept that proposals for the extraction of salt at Preesall will be permitted provided that:

- the need for the development overrides any adverse impact which it may have on people and the environment;
- the proposal makes adequate provision for the protection of existing development; and
- provisions made for the long term safety of the cavities are adequate.

4.127 Planning policy, at all levels, seeks to protect people and the environment from the adverse consequences of development. In effect that part of the Project located at Preesall is an industrial process which will have adverse environmental impacts in respect of visual, amenity, landscape, noise, nature conservation, traffic and risk. The application proposals seek to minimise the impact by ensuring:

- the built development is kept as low as possible and floorspace of buildings is minimised;
- high quality design of buildings;
- landscaping is provided throughout the development site;
- noise attenuation is provided to reduce noise levels by ensuring the use of ‘quiet’ plant where possible and by ensuring that ‘noisy’ equipment is provided within buildings or is appropriately insulated;
- no development is proposed within the areas of ecological interest and new nature conservation areas are being provided as part of the development proposals;
- new access roads are provided to access the site;
- the development does not have a physical impact on the Wyre Way. Where other bridleways and footpaths are affected by construction works, alternative arrangements will be made before the commencement of construction as required by Policy 31 of the Minerals Local Plan.

4.128 Details of the environmental impacts of the Project and the mitigation measures are set out in the ES.

4.129 The main planning policy issue raised by the DCO application relates to the impact of that part of the above ground development that is located on the east bank of the River Wyre. The LPAs consider that the Project is contrary to the provisions of the Development Plan in that the buildings are in the open countryside which will mean that they will have an adverse visual and landscape impact. However, this policy objection has to be balanced against those planning policies that recognise that minerals can only be worked where they are found and the national need for UGS facilities. It is also the case that the landscape of Preesall is not designated to be of national, regional or local importance. Therefore, on balance, the Project accords with the provisions of the development plan.
5.0 SUSTAINABILITY ASSESSMENT

Introduction

5.1 The planning system seeks to deliver sustainable development within the UK and sustainability appraisals are carried out by LPAs as part of the preparation of their plans and sustainability assessments often accompany planning applications for development. The emerging NPPF puts sustainable development at the heart of the proposed new planning system with a presumption in favour of sustainable development.

5.2 The NPPF states that for ‘the planning system delivering sustainable development means:

- **planning for prosperity (an economic role)** – use the planning system to build a strong, responsive and competitive economy, by ensuring that sufficient land of the right type, and in the right places, is available to allow growth and innovation; and by identifying and coordinating development requirements, including the provision of infrastructure

- **planning for people (a social role)** – use the planning system to promote strong, vibrant and healthy communities, by providing an increased supply of housing to meet the needs of present and future generations; and by creating a good quality built environment, with accessible local services that reflect the community's needs and supports its health and well-being; and

- **planning for places (an environmental role)** – use the planning system to protect and enhance our natural, built and historic environment, to use natural resources prudently and to mitigate and adapt to climate change, including moving to a low-carbon economy.

5.3 These three components should be pursued in an integrated way, looking for solutions which deliver multiple goals. There is no necessary contradiction between increased levels of development and protecting and enhancing the environment, as long as development is planned and undertaken responsibly. The planning system must play an active role in guiding development to sustainable solutions’ (para 10 and 11).

5.4 In order to assist those considering or interested in the DCO application, this Section carries out a Sustainability Assessment of the Project, having regard to the principles of sustainable development. Having regard to sustainability objectives and indicators produced at the national, regional and local level, a number of sustainability criteria are identified and used to assess Halite’s proposals.

5.5 NPS EN-1 identifies the need for new energy generation capacity and a diverse mix of fuels and technologies, including gas supply infrastructure and gas and oil pipelines in order to meet energy policy objectives. The way in which the need for new energy infrastructure is established in NPS EN-1 means that there is no need to consider at the level of individual...
projects whether there is a need for new energy infrastructure development of a particular type (see Part 3 of NPS EN-1). However, when an application is made for development consent, the decision-maker will need to consider whether the benefits arising from the proposed development (including the contribution which it would make towards satisfying the need for new energy infrastructure) outweigh any adverse impacts which it would have (see Section 4.1 of NPS EN-1).

5.6 At the national level, DECC published an ‘Appraisal of Sustainability for the National Policy Statement for Gas Supply Infrastructure and Gas and Oil Pipelines Infrastructure’ (2010) which sets out a number of sustainability criteria that are helpful in assessing the Project.

5.7 At the regional level, the North West Regional Assembly has produced a Sustainable Development Checklist to test the sustainability of developments against regional sustainability policy. Whilst it is not appropriate to complete the checklist for the Project because the checklist is meant for mixed use developments, the sustainability topics and principles in the checklist have been taken into account in undertaking the Sustainability Assessment.


5.9 We review the sustainability criteria set out at the national and local level below, prior to setting out a range of criteria which we use to assess the Preesall UGS Facility.

**National Sustainability Strategy**

5.10 In 2005, the Government published a new national sustainability strategy ‘Securing the Future’ which built upon the 1999 strategy entitled ‘A Better Quality of Life – A Strategy for Sustainable Development’. The aim of the strategy is to meet the needs of current and future generations and five guiding principles have been identified to meet this aim which include;

- Living within environmental limits;
- Ensuring a strong, healthy and just society;
- Achieving a sustainable economy;
- Promoting good governance; and
- Using sound science responsibly.

5.11 Minerals Policy Statement 1 (MPS1) ‘Planning and Minerals’ was published in November 2006 to replace Minerals Planning Guidance 1 (MPG1) ‘General considerations and the development Plan System’ (June
The Government’s objectives for minerals planning reflect the requirement to contribute to the achievement of sustainable development, as required by Section 39 of the Planning and Compulsory Purchase Act 2004 (MPS1, paragraph 9). These objectives are:

- to ensure, so far as practicable, the prudent, efficient and sustainable use of minerals and recycling of suitable materials, thereby minimising the requirement for new primary extraction;
- to conserve mineral resources through appropriate domestic provision and timing of supply;
- to safeguard mineral resources as far as possible;
- to prevent or minimise production of mineral waste;
- to secure working practices which prevent or reduce as far as possible, impacts on the environment and human health arising from the extraction, processing, management or transportation of minerals;
- to protect internationally and nationally designated areas of landscape value and nature conservation importance from minerals development, other than in the exceptional circumstances detailed in paragraph 14 of this statement;
- to secure adequate and steady supplies of minerals needed by society and the economy within the limits set by the environment, assessed through sustainability appraisal, without irreversible damage;
- to maximise the benefits and minimise the impacts of minerals operations over their full life cycle;
- to promote the sustainable transport of minerals by rail, sea or inland waterways;
- to protect and seek to enhance the overall quality of the environment once extraction has ceased, through high standards of restoration, and to safeguard the long-term potential of land for a wide range of after-uses;
- to secure closer integration of minerals planning policy with national policy on sustainable construction and waste management and other applicable environmental protection legislation; and
- to encourage the use of high quality materials for the purposes for which they are most suitable.

5.12 In summary, the Government’s sustainability strategy ‘Securing the Future’ (2005) aims to evolve and develop, rather than depart from, the aims of the 1999 sustainability strategy ‘A Better Quality of Life – A Strategy for Sustainable Development’. The 2005 strategy has stronger international and societal dimensions with an explicit focus on environmental limits and four agreed priorities including sustainable consumption and production, climate change, natural resource protection and sustainable communities.

5.13 MPS1 (1996) recognises the importance of minerals in achieving sustainable development through the provision of an adequate and steady supply of materials for buildings, infrastructure and goods that society, industry and the economy needs. MPS1 accepts that because minerals
can only be extracted from where they occur, there can often be conflicts between mineral extraction and the benefits to society. Therefore, MPS1 advocates an integrated approach to considering the social, environmental and economic factors to meeting the nation’s need for minerals in a sustainable manner.

5.14 The mineral extraction proposed at Preesall is a by-product of the proposed UGS Facility for which there is no market. Whilst the removal of salt from Preesall and its disposal in the Irish Sea is not a sustainable use of this mineral, it needs to be balanced against the need for Gas Storage within the UK.

5.15 Table 5.1 sets out the range of sustainability objectives identified in the ‘Appraisal of Sustainability for the National Policy Statement for Gas Supply Infrastructure and Gas and Oil Pipelines Infrastructure’ (AoS) produced by DECC.

Table 5.1: National Appraisal Objectives

<table>
<thead>
<tr>
<th>No.</th>
<th>Topic</th>
<th>Objective</th>
</tr>
</thead>
<tbody>
<tr>
<td>1.</td>
<td>Climate Change</td>
<td>To minimise detrimental effects on the climate from greenhouse gases and ozone depleting substances and maximise resilience to climate change.</td>
</tr>
<tr>
<td>2.</td>
<td>Ecology</td>
<td>To protect and enhance protected habitats, species, valuable ecological networks and ecosystem functionality.</td>
</tr>
<tr>
<td>3.</td>
<td>Resources and Raw Material</td>
<td>To promote the sustainable use of resources and natural assets and to deliver secure, clean and affordable energy.</td>
</tr>
<tr>
<td>4.</td>
<td>Economy and Skills</td>
<td>To promote a strong and stable economy with opportunities for all.</td>
</tr>
<tr>
<td>5.</td>
<td>Flood Risk and Coastal Change</td>
<td>To avoid, reduce and manage flood risk (including coastal flood risk) from all sources and coastal erosion risks by locating infrastructure in lower risk areas and ensuring that it is resilient over its lifetime without increasing risks elsewhere.</td>
</tr>
<tr>
<td>6.</td>
<td>Water Quality</td>
<td>To protect and enhance surface (including coastal) and groundwater quality (including distribution and flow).</td>
</tr>
<tr>
<td>7.</td>
<td>Traffic &amp; Transport</td>
<td>To minimise the detrimental impacts of travel and transport on communities and the environment, whilst maximising positive effects.</td>
</tr>
<tr>
<td>8.</td>
<td>Noise</td>
<td>To protect both human and ecological receptors from disturbing levels of noise.</td>
</tr>
</tbody>
</table>
9. Landscape, Townscape & Visual
To protect and enhance landscape quality, townscape quality and to enhance visual amenity.

10. Archaeology & Cultural Heritage
To protect and where appropriate enhance the historic environment including heritage resources, historic buildings and archaeological features.

11. Air Quality
To protect and enhance air quality on local, regional, national and international scale.

12. Soil & Geology
To promote the use of brownfield land and where this is not possible to prioritise the protection of geological important sites and agriculturally important land.

13. Health & Well-Being
To protect and enhance the physical and mental health of the population.

14. Equality
To encourage equality and sustainable communities.

Source: Derived from ‘Appraisal of Sustainability for the National Policy Statement for Gas Supply Infrastructure and Gas and Oil Pipelines Infrastructure (EN-4)

5.16 As these national sustainability criteria have been developed with specific reference to Gas Supply Infrastructure and Pipelines they provide a good basis for assessing the Project.

Local Sustainability Strategy

5.17 LCC signed the Charter of European Cities and Towns Towards Sustainability (the Aalborg Charter) on 6 February 1995. The adopted Lancashire Minerals and Waste Local Plan (MWLP) (2006) identify a number of strategic objectives which seek to ensure sustainable mineral development as follows;

- To resist the location of minerals developments where they could cause unacceptable impact on people and the environment;
- To minimise the adverse impacts of minerals developments on people and the environment and to seek, where appropriate, environmental and social benefits;
- To identify the requirement for and ensure a supply of land to enable Lancashire to make an appropriate contribution towards meeting necessary local, regional and national supplies of minerals;
- To safeguard mineral resources for the future through avoiding the excessive release of new reserves and protecting the resources from sterilisation by other forms of development;
• To encourage the use of secondary materials, in order to reduce the requirements for primary-won minerals and encourage the efficient use of minerals; and
• To minimise the adverse impacts from the transport of minerals developments.


• Natural resources including water, air, soil and biodiversity are protected from harm and opportunities are taken to enhance them;
• Features and landscapes of historic and cultural importance and their settings are protected from harm and opportunities are taken to enhance them;
• Workings will not adversely contribute to fluvial flood risks or surface water flooding;
• Proposals for mineral workings incorporate measures to conserve, enhance and protect the character of Lancashire’s landscapes;
• The amenity, health, economic well-being and safety of the population is protected by the introduction of high operating standards, sensitive working practices and environmental management systems that minimise harm and nuisance to the environment and local communities throughout the life of the development;
• Essential infrastructure and services to the public will be protected; and
• Sensitive environmental restoration and aftercare of sites takes place, appropriate to the landscape character of the locality and the delivery of national and local biodiversity action plans.

5.19 In essence, the adopted Lancashire Minerals and Waste Local Plan (MWLP) (2006) aims to ensure that growth proceeds in an environmentally friendly way. The MWLP is guided by clear principles of futurity, equity and quality of life within environmental limits and aims to bring together environmental, economic and social progress through sustainable development.

5.20 The emerging Minerals and Waste Development Framework Submission Draft (2007) seeks to minimise any conflicts between mineral exploitation and potential disruption to the environment and local communities. Minerals are recognised as being essential raw materials and the good planning of minerals is fundamental to the way cities, towns and villages appear and function.

5.21 Table 5.2 sets out the main environmental characteristics and issues for sustainable development identified within the Sustainability Appraisal
Sustainability Assessment

Report for the Joint Lancashire Minerals and Waste Development Framework Core Strategy. Given that the application proposals represent ‘mineral development’ the key issues form a sound basis for a sustainability assessment of the Project.

TABLE 5.2: Main Issues for Sustainable Mineral Development identified for Lancashire

<table>
<thead>
<tr>
<th>Receptor</th>
<th>Key Issues</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>The Human Population and Environment</strong></td>
<td></td>
</tr>
<tr>
<td>Education</td>
<td>Levels of education, skills and training in more than a third of areas within Lancashire fall within the worst 25% of areas nationally although the County is home to two universities. In both The Northern Way and the Draft RSS, developing a well educated and skilled workforce is recognised as a top priority.</td>
</tr>
<tr>
<td>Communities</td>
<td>Lancashire has a diverse range of issues relating to community cohesion and involvement. A Life in Lancashire Study (2003) found that reducing crime and protecting the environment were top priorities among residents, as were issues surrounding derelict land.</td>
</tr>
<tr>
<td>Health and Well-Being</td>
<td>Many districts in Lancashire remain below the national average in terms of life expectancy and almost half the wards in Lancashire are among the most deprived in England. Some areas in Lancashire are above the national average, pockets of severe health deprivation still exist.</td>
</tr>
<tr>
<td>Transport</td>
<td>Freight transported by road is higher than any other region and the number of road traffic incidents in Lancashire is a significant problem. The north west sees more private car journeys and lower use of public transport than the UK as a whole.</td>
</tr>
</tbody>
</table>
| Crime                                         | A survey by the Audit Commission in 2004/5 revealed that although the proportion of people feeling safe in their communities in Lancashire is similar to that nationally, other significant crime issues remain. Crime and the fear of crime are mostly associated with neglected, underused and derelict sites in the region because crime statistics demonstrate that 1 in 10 arson fires were in outdoor or derelict areas with deliberate car fires accounting for 40% of arson in Lancaster District. More than 60% of residents in Pendle, Burnley, Rossendale, Hyndburn, Wyre and Lancaster felt that vandalism was a fairly serious problem in a
### Natural Resources and Environmental Assets

#### Climate Change
Since 1990, carbon dioxide emissions have increased nationally by 7.5%, although emissions of methane fell by nearly 50% over the same period, largely due to improvements in waste management and reductions in coal burning. In the North West, a total of 315MW of energy was produced from non-fossil fuel sources, mostly from landfill gas. In Lancashire 48% of renewable energy sources were from landfill but the region is currently some way from meeting the target of 1213MW from renewable sources by 2010.

#### Biodiversity
There are 17 sites of international conservation importance in Lancashire, two AONB’s, 69 SSSI’s, as well as a large number (1,554) of locally important Biological Heritage Sites. The County also has large areas of moorland including tracts of peat bog and associated species.

#### Historic Environment and Landscape Quality
The industrial mill towns and rural market towns of Lancashire are recognised as significant assets along with the quality of the rural landscape and the diversity of Lancashire’s built environment. The County has significant assets in the form of Regionally Important Geological Sites and areas of open space and Green Belt.

#### Local Environmental Quality
There is an estimated 2,400ha of derelict or underused land in Lancashire and in a report by the Regional Assembly, the amount of derelict land in Lancashire and the North West was identified as having a significant effect on the image and level of investment in the region.

#### Image
Physical assets in the County including landscape and cultural heritage are identified as having a key role in the future of the development of the County and the wider region. Despite continuing problems associated with deprivation and industrial decline in the County the image of Lancashire as a place to live and work has improved significantly. LCC has been recognised at a local level for the contribution it has made to rural development and its progress with recycling.

### The Economy

#### Economy
Many areas of Lancashire perform worse than the regional or national average although improvements in economic performance have been made. The minerals industry and businesses associated with the minerals industry are strong in
Lancashire and although employment in minerals related industries is low it is compensated for by above average wages and levels of payment.


5.22 The environmental characteristics illustrated in Table 6.1 above, must be reflected in the sustainability appraisal objectives of the Minerals and Waste Development Framework and the polices of the Core Strategy. The objectives highlighted below in Table 5.3 were used in the appraisal process for the development of the Core Strategy policies and as a result, reflect the key issues in Lancashire.

### TABLE 5.3 Local Appraisal Objectives

<table>
<thead>
<tr>
<th>Encouraging sustainable economic growth</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Achieve a sustainable supply of minerals and reduce the need for imported products</td>
</tr>
<tr>
<td>2. Promote waste minimisation and ensure the maximum recovery through reuse, recycling and energy recovery</td>
</tr>
<tr>
<td>3. Promote investment in core sectors and support growth in new business and technologies</td>
</tr>
<tr>
<td>4. Reduce the disparities of sub-regional economic performance</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Encouraging diversification in business sectors</th>
</tr>
</thead>
<tbody>
<tr>
<td>5. Diversify production and promote the use of locally produced goods and materials</td>
</tr>
<tr>
<td>6. Address the skills gap and enable skills progression</td>
</tr>
<tr>
<td>7. Provide a broad range of jobs and employment opportunities</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Encouraging the provision of community services and enabling community involvement</th>
</tr>
</thead>
<tbody>
<tr>
<td>8. Encourage community involvement in design and the provision of community services</td>
</tr>
<tr>
<td>9. Promote community involvement in planning applications</td>
</tr>
<tr>
<td>10. Develop strong and positive relationships between local communities, planners and operators</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Improving the health of local residents and communities</th>
</tr>
</thead>
<tbody>
<tr>
<td>11. Promote healthier lifestyles</td>
</tr>
<tr>
<td>12. Improve the quality of life</td>
</tr>
<tr>
<td>13. Reduce crime, disorder and the fear of crime</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Improving access to and use of basic goods, services and amenities for all groups</th>
</tr>
</thead>
<tbody>
<tr>
<td>14. Improve access to facilities and amenities</td>
</tr>
<tr>
<td>15. Improve access to locally sourced, basic goods</td>
</tr>
<tr>
<td>16. Improve access to good quality affordable housing and resources efficient housing</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Reducing the need to travel, increase sustainable transport and lessen road haulage</th>
</tr>
</thead>
<tbody>
<tr>
<td>17. Encourage sustainable transport</td>
</tr>
<tr>
<td>18. Reduce freight movement</td>
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</tbody>
</table>

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<tbody>
<tr>
<td>19.</td>
<td>Provide alternatives to road based transport</td>
</tr>
<tr>
<td><strong>Protecting areas of heritage, the built environment and high quality landscapes</strong></td>
<td></td>
</tr>
<tr>
<td>20.</td>
<td>Protect areas of cultural heritage</td>
</tr>
<tr>
<td>21.</td>
<td>Maintain and strengthen local distinctiveness and sense of place</td>
</tr>
<tr>
<td>22.</td>
<td>Site restoration is sympathetic and the after-use is suitable</td>
</tr>
<tr>
<td>23.</td>
<td>Provide an adequate and long-term supply of materials</td>
</tr>
<tr>
<td>24.</td>
<td>Encourage appropriate design</td>
</tr>
<tr>
<td><strong>Protecting and improving local environmental quality</strong></td>
<td></td>
</tr>
<tr>
<td>25.</td>
<td>Reduce light, dust and noise pollution and improve air quality</td>
</tr>
<tr>
<td>26.</td>
<td>Redress environmental inequalities</td>
</tr>
<tr>
<td>27.</td>
<td>Reduce the amount of underused, derelict or vacant land</td>
</tr>
<tr>
<td>28.</td>
<td>Protect ground and surface water</td>
</tr>
<tr>
<td>29.</td>
<td>Improve the quality of coastal waters</td>
</tr>
<tr>
<td><strong>Protecting and enhancing biodiversity, conservation sites and sites of geological importance</strong></td>
<td></td>
</tr>
<tr>
<td>30.</td>
<td>Protect existing designated wildlife and geological sites</td>
</tr>
<tr>
<td>31.</td>
<td>Protect and enhance priority habitats and species</td>
</tr>
<tr>
<td>32.</td>
<td>Reverse historic losses caused by mineral activity</td>
</tr>
<tr>
<td><strong>Restore and protect land and soil</strong></td>
<td></td>
</tr>
<tr>
<td>33.</td>
<td>Reduce the loss of high quality agricultural land and soils</td>
</tr>
<tr>
<td>34.</td>
<td>Promote best practice in site restoration including Soil Management Plans</td>
</tr>
<tr>
<td><strong>Mitigation and adaption to climate change</strong></td>
<td></td>
</tr>
<tr>
<td>35.</td>
<td>Reduce or minimise greenhouse gas emissions</td>
</tr>
<tr>
<td>36.</td>
<td>Protect water resources and provide opportunities to reduce flood risk</td>
</tr>
<tr>
<td>37.</td>
<td>Reduce the vulnerability of key services to the impacts of climate change</td>
</tr>
<tr>
<td><strong>Ensuring the prudent use of natural resources</strong></td>
<td></td>
</tr>
<tr>
<td>38.</td>
<td>Minimise demand for primary won materials</td>
</tr>
<tr>
<td>39.</td>
<td>Support the repair and reuse of existing buildings</td>
</tr>
<tr>
<td>40.</td>
<td>Protect mineral resources from sterilisation</td>
</tr>
<tr>
<td>41.</td>
<td>Promote the use of secondary and recycle materials</td>
</tr>
<tr>
<td>42.</td>
<td>Minimise need for energy especially from non-renewables</td>
</tr>
<tr>
<td>43.</td>
<td>Maximise opportunities for production and use of renewables</td>
</tr>
<tr>
<td>44.</td>
<td>Encourage energy efficient technologies</td>
</tr>
<tr>
<td>45.</td>
<td>Minimise the production of waste</td>
</tr>
<tr>
<td>46.</td>
<td>Reduce the amount of residual waste for landfill</td>
</tr>
</tbody>
</table>

**Source:** Derived from ‘Sustainability Appraisal Report’ to accompany the Preferred Options for the Core Strategy of the Joint Lancashire Minerals and Waste Development Framework (November 2006)

5.23 As these local sustainability criteria have been developed with specific reference to minerals development in Lancashire they provide a good basis for assessing the Project.
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5.24 Table 5.4 sets out a summary of the impact of the Project against the 14 national sustainability criteria set out in Table 5.1 and the 46 local sustainability objectives set out in Table 5.3.

<table>
<thead>
<tr>
<th>N</th>
<th>National Objective</th>
<th>Impact of UGS Facility</th>
</tr>
</thead>
<tbody>
<tr>
<td>1.</td>
<td>To minimise detrimental effects on the climate from greenhouse gases and ozone depleting substances and maximise resilience to climate change.</td>
<td>DECC consider that the expansion of oil and gas network infrastructure, as promoted through NPS EN-4, will have neutral effects on climate change in the short-term, as it will continue to support a reliance on fossil fuel based energy production, although the replacement of old, less efficient infrastructure with new, more efficient infrastructure will contribute positively to the climate change objective. This continued support is required to provide security of supply and allow for the development of low carbon energy technology. As such, in the medium to longer term NPS EN-4 could contribute beneficially to the climate change objective as long as the reduction on the reliance of fossil fuels remains a key focus. However, as it is recognised that oil and gas will continue to play an important part in the UK’s fuel mix for years to come, it is assessed that the expansion of oil and gas network infrastructure will have negative effects on climate change, although the significance of the effect is uncertain. In the context of Preesall, the UGS Facility will ensure that there is an improved security supply of gas in the UK.</td>
</tr>
<tr>
<td>2.</td>
<td>To protect and enhance protected habitats, species, valuable ecological networks and ecosystem functionality.</td>
<td>DECC state that there are a number of generic effects on ecology that are applicable to all energy infrastructure development, including gas supply infrastructure and pipelines. There are also several effects on ecology specific to gas infrastructure as the creation of underground gas storage caverns within salt strata has the potential for aquatic ecological impacts from the disposal of large quantities of brine. This saltwater is denser than seawater and freshwater and</td>
</tr>
</tbody>
</table>
will sink to the bottom impacting on benthic communities and bottom feeding fish and other species. The expansion of gas infrastructure has the potential for negative effects on ecology, particularly in coastal and estuarine locations which are often heavily protected. Robust and effective mitigation is required to avoid or minimise negative effects (positive effects may even be possible through the implementation of enhancement opportunities). However, it is considered that the overall effects are uncertain as their significance is dependent on the location of the development and the sensitivity of the receiving environment. The construction of the Project does not directly affect any internationally or nationally designated wildlife site. However, there will be an impact on local wildlife sites and ecology and mitigation measures are set out in the application proposals and the ES.

3. To promote the sustainable use of resources and natural assets and to deliver secure, clean and affordable energy.

| DECC does not anticipate that UGS Facility’s will generate notable volumes of waste or impact on the sustainable use of raw materials and resources. Exceptions to this include the disposal of spoil and the disposal of brine associated with the solution mining of underground gas storage caverns. Mitigation measures will help to avoid or minimise negative effects and, therefore, DECC considers that effects of minor negative significance may arise particularly in the short-term; however, these effects will be experienced at a local level and are, therefore, assessed as of neutral significance. In general, no effects are considered likely in the medium and longer-term. At Preesall, the brine is being disposed of in the Irish Sea and although the concentration of salt will have a local impact on ecology in the vicinity of the outfall the salt is quickly diluted by distance from the outfall. The EA has already granted a Discharge Consent for the disposal of brine at the outfall. |

4. To promote a strong and stable economy with opportunities for

| Through promoting the expansion of the oil and gas infrastructure network, DECC consider that there is the potential to |
all.

promote an increased certainty to developers; facilitate the planning process; and provide for strategic positive effects on the economy of England and Wales from local to national levels through the provision of a secure supply of energy which is recognised as vital to economic prosperity and social well-being. UGS has the potential to have minor negative effects on the local rural economy through the temporary loss of agricultural production associated with long distance pipelines, although compensation removes these effects. As such, DECC consider that UGS will have no effects to economy and skills in the short-term, and minor positive effects in the medium and long-term as the effects are considered to be of national significance. The Preesall UGS Facility represents an investment of £600 million and would generate 300-400 construction and 30-40 operational jobs. Other than specialist personnel, the Facility will require skilled and semi-skilled personnel who could be sourced locally. The Facility, particularly during construction, would provide a broad range of employment opportunities including site managers, engineers, technicians, landscapers and hauliers.

| 5. | To avoid, reduce and manage flood risk (including coastal flood risk) from all sources and coastal erosion risks by locating infrastructure in lower risk areas and ensuring that it is resilient over its lifetime without increasing risks elsewhere. | DECC consider that promoting the expansion of the oil and gas infrastructure network, NPS EN-1 and NPS EN-4 have the potential for limited negative effects on flood risk at local levels, particularly through changes to hydrological flow regimes and increased surface run-off associated with above ground facilities. However, it is likely that these impacts can be effectively mitigated such that no effects arise in the short, medium or long-term. The DCO application is supported by a flood risk assessment which concludes that the proposals will not exacerbate or add to the risk of flooding. |
| 6. | To protect and enhance surface (including coastal) and groundwater quality (including distribution | DECC advise that there are a number of generic effects on the water environment that are applicable to all energy infrastructure development, including gas supply infrastructure and pipelines. The |
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and flow). significance of the effects and effectiveness of mitigation depends on the location of development and will need to be evaluated during studies for project level EIAs. The mitigation measures outlined in NPS EN-1 with regard to water quality and resources, including the requirement for an assessment of the impacts of new development on the water environment, should help to minimise negative effects on the water environment. Through promoting the expansion of gas infrastructure network, DECC considers that NPS EN-4 has the potential for increased negative effects on local water quality and resources, particularly associated with disposal of large qualities of highly saline water and during the construction and testing stages of long distance pipelines. Both NPS EN-1 and NPS EN-4 contain mitigation measures which will help to avoid or minimise negative effects, and as effects are largely local, it is considered that the overall effects are of neutral significance in the short, medium and long term. At Preesall, a Discharge Consent has been obtained from the EA for the disposal of brine to the Irish Sea. The built development associated with the Project is small scale and would not have an adverse affect on ground and surface water.

7. To minimise the detrimental impacts of travel and transport on communities and the environment, whilst maximising positive effects.

DECC states that other than for some minor negative effects during construction associated with the installation of long distance pipelines, which will be temporary in nature, NPS EN-4 with NPS EN-1 is considered to have very little to no effects in terms of travel and transport in the short, medium and long-term. In addition, these effects can be effectively managed through generic traffic management measures. The construction of the UGS Facility and the pipeline will generate traffic movements that will have an impact on the community. The application is supported by a Transport Assessment that concludes that these impacts will be short-term and not significant.

8. To protect both human

DECC states that NPS EN-4 has the
and ecological receptors from disturbing levels of noise.  

potential for increased negative noise effects on both human and ecological receptors at a local level, associated with the drilling of new boreholes to create underground gas storage caverns, with brine pumping during the solution mining process, and with operational plant. Noise may also arise at a local level during the operation of the plant. Temporary construction noise may also arise during the installation of gas pipelines, resulting in effects to particularly sensitive rural communities, landscapes and biodiversity. However, both NPS EN-1 and NPS EN-4 include robust mitigations which will help to reduce negative effects to acceptable levels throughout most stages of the development. It is considered that the overall effects are likely to be of neutral significance, with no significant effects beyond the local level in the short, medium to long term. A noise assessment has been prepared to support the Presall application and this concludes that acceptable levels of noise attenuation can be achieved through the implementation of mitigation measures.

9. To protect and enhance landscape quality, townscape quality and to enhance visual amenity.

DECC advises that NPS EN-4 includes negative landscape and visual effects from permanent above ground infrastructure associated with each element. Whilst mitigation measures are available to reduce the effects, full mitigation of large scale structures can be difficult. EN-4 also identifies temporary (short term) construction effects to specific elements of the landscape within or adjacent to pipeline routes. In most instances it is possible to fully mitigate for these effects. Through promoting the expansion of the gas infrastructure network, DECC considers that NPS EN-4 with NPS EN-1 has the potential for increased strategic negative visual effects on landscape across England and Wales. Although both EN-1 and EN-4 include robust mitigations which will help to minimise negative effects, it is considered that the overall effects are likely to be of minor negative significance for the short and medium term.
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and unknown for longer term, as effects will be dependent on decommissioning and remediation. At Preesall, the main visual impact arises from the construction of the GCC and the Booster Pump Station as these buildings are located in the countryside. An Alternative Site Assessment has been undertaken to identify sites on the west bank of the Wyre Estuary that is more urban in nature but no alternative sites have been identified. In order to mitigate the impact of these buildings on the countryside they have been sited and designed to minimise impact. A comprehensive landscaping strategy is also proposed as part of the development proposals. As the Seawater Pump Station is situated at the Fleetwood Fish Dock in an existing urban area and the pipelines are all underground the visual impact of these elements is low.

<table>
<thead>
<tr>
<th>10</th>
<th>Protect and where appropriate enhance the historic environment including heritage resources, historic buildings and archaeological features.</th>
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<tbody>
<tr>
<td></td>
<td>With regard to archaeology and cultural heritage, DECC state that NPS EN-4 is considered to have no effects in addition to the generic potential negative effects, identified within NPS EN-1, of large scale energy infrastructure on the historic environment, largely associated with the footprints of development and with the settings of assets within surrounding areas. The generic mitigation measures identified in NPS EN-1 are applicable to all elements of gas supply infrastructure, including pipelines, and largely involve avoidance of assets through careful siting. Therefore, it is considered that NPS EN-4 will have no significant effects in the short, medium and long term, however, as with all energy infrastructure, instances will arise where proximity to a historic asset cannot be avoided altogether, and full mitigation to the setting of the asset may be difficult to achieve. As the significance is dependent on the location of the development and the sensitivity of the receiving environment, some uncertainty exists with regard to the overall significance. The proposed Preesall UGS Facility does not have a significant adverse impact on the historic or cultural</td>
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</tr>
<tr>
<td>11</td>
<td>To protect and enhance air quality on local, regional, national and international scale.</td>
</tr>
<tr>
<td>12</td>
<td>To promote the use of brown field land and where this is not possible to prioritise the protection of geological important sites and agriculturally important land.</td>
</tr>
</tbody>
</table>
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The Geological Assessment of Preesall has identified all of the potential hazards to ensure that the gas caverns are constructed in the most appropriate part of the site. Where possible, i.e. the Seawater Pump Station, the above ground development has been located on brownfield land.

13 To protect and enhance the physical and mental health of the population.

Through promoting the expansion of the gas infrastructure network, DECC states that NPS EN-1 has the potential for effects on health and well being, both negative and positive, the majority of which are applicable to all kinds of infrastructure covered by NPS EN-4. It is, therefore, considered that the overall effects of NPS EN-4 are likely to be of neutral significance in the short, medium and long term, throughout all stages of the development. As well as assisting security of energy supply for all sectors of the community, the Project includes a nature conservation area. Public access to the area in the vicinity and the Project Site at Preesall for recreational purposes has also been maintained. A Health Impact Assessment has also been submitted as part of the DCO application.

14 To encourage equality and sustainable communities.

Through promoting the expansion of the gas infrastructure network, DECC states that NPS EN-1 has the potential for positive effects on equality, through the distribution of power, the provision of security of supply and access to locally generated community facilities, services, employment opportunities, transport, education and training, public areas and other potential community benefits. Although NPS EN-4 will contribute to achieving this, it is considered that the overall effects of NPS EN-4 are likely to be of neutral significance throughout all stages of the development. The Project will assist in meeting the objectives of security of supply and local employment opportunities.

<table>
<thead>
<tr>
<th>Local Objective/Indicator</th>
<th>Impact of UGS Facility</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Achieve a sustainable</td>
<td>The Project would reduce the UK’s short</td>
</tr>
</tbody>
</table>
2. Promote waste minimisation and ensure the maximum recovery through reuse, recycling and energy recovery

<table>
<thead>
<tr>
<th>Supply of minerals and reduce the need for imported products</th>
<th>Term dependency on gas imports and, assist in security of energy supply. In doing so, it would assist in stabilising gas prices from short term market fluctuations.</th>
</tr>
</thead>
<tbody>
<tr>
<td>2. Promote waste minimisation and ensure the maximum recovery through reuse, recycling and energy recovery</td>
<td>Not relevant to the proposals.</td>
</tr>
<tr>
<td>3. Promote investment in core sectors and support growth in new business and technologies</td>
<td>The Project represents a major investment of £600 million in the County. Energy supply is a core industrial sector and the proposals will assist in ensuring security of gas supply to homes and business throughout the UK. Secure energy supplies would support the growth of new business and new technologies as well as safeguarding existing business.</td>
</tr>
<tr>
<td>4. Reduce the disparities of sub-regional economic performance</td>
<td>The Project represents a major investment in the sub-regional economy and will assist in the security of energy supply for local homes and businesses.</td>
</tr>
<tr>
<td>5. Diversify production and promote the use of locally produced goods and materials</td>
<td>The Project would, when operational, assist in diversifying options for gas supply in the UK. The proposal would also generate local jobs during construction and operation as well as longer term investment in the local economy through maintenance.</td>
</tr>
<tr>
<td>6. Address the skills gap and enable skills progression</td>
<td>The Project is a modern proven technology that is operating successfully in the rest of the world. The expertise required for the construction, operation and on-going maintenance of such facilities is not, however, abundant in the County and it will be necessary to improve existing skills amongst the local workforce.</td>
</tr>
<tr>
<td>7. Provide a broad range of jobs and employment opportunities</td>
<td>The Project would generate construction and operational jobs. Other than specialist personnel, the Facility will require skilled and semi-skilled personnel who could be sourced locally. The Project, particularly during construction, would provide a broad range of employment opportunities including site managers, engineers, technicians, landscapers and hauliers.</td>
</tr>
<tr>
<td>8. Encourage community involvement in design and the provision of Halite has sought to encourage community involvements in the design of the Project</td>
<td></td>
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<tr>
<td></td>
<td>Community services</td>
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<tr>
<td>9.</td>
<td>Promote community involvement in planning applications through the measures set out in its Consultation Report and through discussions with key stakeholders such as LCC, WBC, the Environment Agency, Natural England and with the general public through public exhibitions and information provided on its web site.</td>
</tr>
<tr>
<td>10</td>
<td>Develop strong and positive relationships between local communities, planners and operators</td>
</tr>
<tr>
<td>11</td>
<td>Promote healthier lifestyles As well as assisting security of energy supply from all sectors of the community, the Project includes a nature conservation area and landscape area and public access to the Preesall sites for recreational purposes is maintained.</td>
</tr>
<tr>
<td>12</td>
<td>Improve the quality of life The Project Facility will improve the quality of life not just for local residents through the provision of employment and industry diversification but also at a national level by increasing the security of gas supplies which in the long term may help to reduce gas prices in the UK.</td>
</tr>
<tr>
<td>13</td>
<td>Reduce crime, disorder and the fear of crime The Project will require skilled and semi-skilled workers, who will be employed, where possible from the local area. This can potentially reduce crime by increasing job opportunities and income in the form of wages which are then likely to be spent within the locality.</td>
</tr>
<tr>
<td>14</td>
<td>Improve access to facilities and amenities The Project is a new facility in the locality. The nature conservation and landscaping areas represent an improvement to the amenity of the Preesall site</td>
</tr>
<tr>
<td>15</td>
<td>Improve access to locally sourced, basic goods The Project will improve access and security to gas supplies which will be stored locally rather than being transported from other countries into the UK. Gas is a basic good used throughout the UK and security of supply is important in reducing the rising cost of fuel due to unsecured supplies.</td>
</tr>
<tr>
<td>16</td>
<td>Improve access to good quality affordable housing and resources efficient housing Not relevant to these proposals</td>
</tr>
<tr>
<td>17</td>
<td>Encourage sustainable transport Unless UGS facilities are constructed, the UK will become increasingly dependent on imported gas. High gas prices and lack of supply would inevitably bring about the import of LNG by ship. Whilst the Project</td>
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<tr>
<td><strong>18</strong></td>
<td>Reduce freight movement</td>
</tr>
<tr>
<td><strong>19</strong></td>
<td>Provide alternatives to road based transport</td>
</tr>
<tr>
<td><strong>20</strong></td>
<td>Protect areas of cultural heritage</td>
</tr>
<tr>
<td><strong>21</strong></td>
<td>Maintain and strengthen local distinctiveness and sense of place</td>
</tr>
<tr>
<td><strong>22</strong></td>
<td>Site restoration is sympathetic and the after-use is suitable</td>
</tr>
<tr>
<td><strong>23</strong></td>
<td>Provide an adequate and long-term supply of materials</td>
</tr>
<tr>
<td><strong>24</strong></td>
<td>Encourage appropriate design</td>
</tr>
<tr>
<td><strong>25</strong></td>
<td>Reduce light, dust and noise pollution and improve air quality</td>
</tr>
<tr>
<td><strong>26</strong></td>
<td>Redress environmental inequalities</td>
</tr>
<tr>
<td><strong>27</strong></td>
<td>Reduce the amount of underused, derelict or vacant land</td>
</tr>
<tr>
<td><strong>28</strong></td>
<td>Protect ground and surface water</td>
</tr>
<tr>
<td><strong>29</strong></td>
<td>Improve the quality of coastal waters</td>
</tr>
<tr>
<td><strong>30</strong></td>
<td>Protect existing designated wildlife and geological sites</td>
</tr>
</tbody>
</table>
### Sustainability Assessment

<table>
<thead>
<tr>
<th>Number</th>
<th>Description</th>
<th>Details</th>
</tr>
</thead>
<tbody>
<tr>
<td>31</td>
<td>Protect and enhance priority habitats and species</td>
<td>The Project includes a comprehensive landscape and nature conservation scheme for the Preesall site which seeks to protect and enhance the habitats and species in the locality.</td>
</tr>
<tr>
<td>32</td>
<td>Reverse historic losses caused by mineral activity</td>
<td>The Project does not affect the former caverns created by historic mining. It is, however, proposed that the existing caverns would be maintained so that any adverse affects such as ‘crown hole’ collapse could be appropriately dealt with.</td>
</tr>
<tr>
<td>33</td>
<td>Reduce the loss of high quality agricultural land and soils</td>
<td>The Preesall site contains some high quality agricultural land and soils. The Project seeks to minimise the impact on the agricultural land and seeks to allow its continued use for agriculture.</td>
</tr>
<tr>
<td>34</td>
<td>Promote best practice in site restoration including Soil Management Plans</td>
<td>Following the cessation of use, a decommissioning programme would be implemented to ensure that the site is appropriately restored.</td>
</tr>
<tr>
<td>35</td>
<td>Reduce or minimise greenhouse gas emissions</td>
<td>The Project will ensure that there is an improved security of supply of gas in the UK.</td>
</tr>
<tr>
<td>36</td>
<td>Protect water resources and provide opportunities to reduce flood risk</td>
<td>The ES provides a flood risk assessment which concludes that the proposals will not exacerbate or add to the risk of flooding.</td>
</tr>
<tr>
<td>37</td>
<td>Reduce the vulnerability of key services to the impacts of climate change</td>
<td>The Project will assist key services in meeting their energy needs, thereby reducing their vulnerability to adverse impacts of price and security of supply.</td>
</tr>
<tr>
<td>38</td>
<td>Minimise demand for primary won materials</td>
<td>Not relevant to the proposals.</td>
</tr>
<tr>
<td>39</td>
<td>Support the repair and reuse of existing buildings</td>
<td>Higher Lickow Farm and outbuildings are being refurbished to provide security and administrative facilities for the Project.</td>
</tr>
<tr>
<td>40</td>
<td>Protect mineral resources from sterilisation</td>
<td>The Project will not sterilise future mineral extraction from the area.</td>
</tr>
<tr>
<td>41</td>
<td>Promote the use of secondary and recycle materials</td>
<td>Secondary and recycled materials could be used in the construction of the new buildings associated with the Project.</td>
</tr>
<tr>
<td>42</td>
<td>Minimise need for energy especially from non-renewables</td>
<td>The Project will assist the security of supply of natural gas in the UK.</td>
</tr>
<tr>
<td>43</td>
<td>Maximise opportunities for production and use of renewables</td>
<td>The Project will encourage development and investment in the UK’s energy infrastructure and with greater security of</td>
</tr>
</tbody>
</table>
44 Encourage energy efficient technologies
Gas storage would form part of the UK’s energy supply and would improve security of supply.

45 Minimise the production of waste
The production of waste will be minimised through efficient construction, extraction and production methods.

46 Reduce the amount of residual waste for landfill
The primary waste from construction is soils/mud from the drilling process and these will be used on site to reinforce the coastal defences and to provide landscape bunds.

5.25 In addition to the summary contained in Table 5.4, the Project provides other benefits which are pertinent to many of the sustainability objectives set out above. NPSs have already set out the importance of UGS facilities in ensuring the security of gas and electricity supplies in the UK.

5.26 UGS facilities also have a role in supporting the development of renewable energy technologies. The electrical output of renewables, such as wind and solar power, are naturally subject to fluctuation which by their very nature are unpredictable. In order to accommodate renewable energy sources in the Grid, standby generation capacity needs to be maintained to ‘fill the gap’ for unexpected supply problems. For the most part, the standby capacity is provided by gas fired power stations as they are the most responsive to changes in short term supply.

5.27 Because of its capacity and its ability for high gas withdrawal rates, the Project would assist in ensuring adequate and cost effective gas supply to achieve the required standby capacity.

5.28 In addition, the Project has a particularly low energy cost and ‘carbon footprint’. The overall energy cost of a UGS facility is related to that expended during construction (including the manufacture of materials) and that expended during operation. There is no available data for the energy costs of construction although it can be assumed that energy costs increase with the size of above ground development and installations, cavern size, depth and proximity to existing infrastructure. The energy expended during operation has two main components:-

- That required to compress the gas to the pressure needed to inject into the cavern or reservoir or to compress the gas on withdrawal to pipeline pressure; and
- That required to re-heat and de-hydrate the gas if it has been reduced materially in pressure (and hence in temperature) on withdrawal.
5.29 Generally, the closer that the gas storage pressure is to that within the National Gas Transmission System, the less energy is required for compression, heating and hydration.

5.30 At Preesall, the caverns forming the Project would be provided at depth such that the costs of construction are unlikely to be significant when compared with alternative projects elsewhere in the UK. Similarly, the operating costs are likely to be lower than competing projects as the gas at Preesall is stored at a pressure close to that found in the National Gas Transmission System. Indeed, the pressures are so similar that there is unlikely to be a need for significant re-heating gas and excessive compression. For these reasons, the ‘carbon footprint’ of the Project will be significantly less than similar proposals at Portland, Hornsea and Cathorpe.

5.31 In conclusion, once operational, the Project will form part of a sustainable energy supply for the UK. It assists in ensuring that the UK has a long-term sustainable energy supply that reduces reliance on the import of gas with its financial and political uncertainties. The UK needs to ensure, as part of a sustainable development strategy, that it has security of supply and a less volatile energy market. Without such facilities as those proposed for Preesall, the UK will be subject to volatile energy prices and, at worst, energy shortages.

5.32 The Preesall site has a long history of salt extraction and the Project represents a continuation of this use. The sustainability credentials of the Project would be improved by the subsequent use of the extracted brine, but, as recognised by the Secretary of State, there is no market in the foreseeable future. The use of the Preesall salt fields for UGS is sustainable, however, as it does make good use of this underused resource.

5.33 The Project has sought to meet many of the sustainability objectives set out in Table 5.4 by making best use of existing resources and landscape. The Project seeks to limit the landscape and nature conservation impact of the site and ensure that the amenity, health and economic well being of the population are protected. Sustainable development is about protecting future generations from the adverse consequences of current actions and secure energy supply is vital to the well being of all households and businesses.
6.0 CONCLUSIONS AND ASSESSMENT OF PROJECT AGAINST SECTION 104 PLANNING ACT 2008

6.1 In developing the Project, Halite has sought to

- overcome the concerns raised by the Local Planning Authorities and the Secretary of State in previous planning applications for UGS facilities at Preesall.
- deal with the generic and technology specific matters raised by the NPSs
- ensure that the Project complies with the provisions of the development plan and emerging planning policy.
- ensure that the Project is sustainable.

6.2 NPSs make clear that there is a national need for UGS facilities in the UK. All development projects however, have an environmental impact and the role of the decision maker (in this case the IPC) is to balance the need against impact.

6.3 Section 104 of the Planning Act 2008 sets out the basis on which the IPC must make decisions on applications for DCOs. The IPC must have regard to:

(a) any national policy statement which has effect in relation to development of the description to which the application relates;
(b) any local impact report;
(c) any matters prescribed in relation to development of the description to which the application relates; and
(d) any other matters which the Panel or Commissioner thinks are both important and relevant to its decision.

6.4 The relevant National Policy Statements are NPS EN-1 and NPS EN-4 and an assessment of the Project against them has been made Section 3 of this Report.

6.5 The NPS makes reference to the provisions of the development plan and the relevant planning policies have been assessed in Section 4.

6.6 The LPAs will prepare a Local Impact Report (LIR) following acceptance of the application by the IPC. As such, it is not possible to comment on the contents of the LIR at this time. However, the planning history and the reasons that led to the previous planning application at Preesall being refused and the results of the Section 42 consultation provide a good indication of the matters of concern to the LPAs. Through the Section 42 consultation process the LPAs have highlighted their concerns about the impact of the surface development on the visual and landscape amenity of the Preesall area. This is the main issue which the IPC will need to deal with in its balance with the need for UGS. This Report has made reference to and dealt with the previous reasons for refusal and the issues raised in
the LPAs Section 42 response. Halite will, however, review and comment on the LIR when it is available as part of the examination process.

6.7 The matters prescribed in relation to development of the description to which the application relates are set out in The Infrastructure Planning (Decisions) Regulations 2010. The Regulations set out matters that regard must be had when deciding applications as follows:

- listed buildings, conservation areas and ancient monuments (Reg 3);
- deemed licences under Part 2 of the Food and Environment Protection Act 1985 (FEPA) (Reg 4);
- deemed consents under Section 34 of the Coast Protection Act 1949 (CPA) (Reg 5);
- deemed hazardous substances (Reg 6); and

6.8 Both FEPA and CPA have since been replaced by a deemed marine consent under Section 149A of the Planning Act 2008.

6.9 The DCO application affects the setting of a Grade II Listed Buildings at Rossall School. The brine pipeline would be constructed at the school playing fields and would have a potential minor temporary effect on the setting of the buildings during the construction phase. The proposals do not affect a conservation area or ancient monument. Full details are provided in the ES.

6.10 A deemed marine consent is required for the construction of the brine pipeline in the Irish Sea and a ‘Report in respect of applications for deemed Marine Consent Application include draft conditions’ (Document Ref: 4.2) is included with the DCO application.

6.11 A deemed hazardous substances consent is required and a ‘Report in respect of an application deemed Hazardous Substances Consent Application including draft Conditions’ (Document Ref: 4.1) forms part of the DCO application.

6.12 In relation to the United Nations Environmental Programme Convention on Biological Diversity of 1992, the UK’s obligations under this Convention are delivered through the UK Biodiversity Action Plan (BAP).

6.13 In determining the DCO application a balance needs to be struck between the need for UGS and the adverse impact it may have on the environment. The NPSs confirm that there is an acknowledged need for UGS facilities in the UK. NPS EN-1 makes the point that the UK is ‘highly dependent on natural gas’ (para 3.8.1) with ‘strong seasonal variations in demand’ (para 3.8.3) such that it needs a diverse mix of gas storage and supply infrastructure to respond effectively in future to the large daily and seasonal changes in demand and to provide endurance capacity during a cold winter (para 3.8.7). The NPS makes the point that a range of gas
Conclusions and Assessment of Project Against Section 104 Planning Act 2008

infrastructure is required but that UGS facilities can assist in responding to changing market conditions (para 3.8.12).

6.14 The Project would be an energy efficient gas storage project as the gas is stored virtually at the same pressure as the NTS which means that it requires far less energy to store and return the gas than is used in storage schemes that operate at greater depth and pressure.

6.15 Preesall has a number of particular advantages in that it provides a unique combination of scale, speed, location and flexibility in gas storage. The completed Project would play a significant role in the UK’s ability to provide the gas network with a capability to quickly react to need.

6.16 Preesall is a good location in the UK to develop the Project because:-

- **Ideal salt deposit:** The salt formation is not too deep and the geological assessment that has been carried out confirms that the salt body is capable of storing gas safely.

- **Excellent water source:** Leaching salt caverns requires large amounts of water. Preesall’s proximity to the sea allows the use of seawater for cavern washing and thus avoids significant demands on fresh water resources. The location also offers the opportunity to use the existing underutilised infrastructure at the Fleetwood Fish Dock as a water source.

- **Large reliable existing electrical connection:** The ICI Hillhouse complex at Thornton has historically been fed from the Stanah substation. The Stanah substation is one of the most robust and reliable connections to the NTS electrical grid. The Stanah feed to the Preesall Project allows quiet, environmentally friendly electrical gas compression to be used and minimises the amount of new electrical infrastructure on the site needed to supply the Project.

- **The existing NTS infrastructure:** The National Gas Transmission System (NTS) pipe system near Preesall was designed to handle the variable swing production from Morecambe Bay. It is extremely robust and ideally suited to supply and receive gas from Preesall.

- **The location is at a physical midpoint on the NTS:** The proposed pipeline connection is near the midpoint of the NTS. As pipelines are essentially pressure maintenance systems, ideally gas should enter any system at the midpoint. The midpoint connection is especially good for system pressure maintenance during periods of high system demand or terminal interruption.

- **Replacement of Morecambe Bay’s capabilities:** The Morecambe Bay Gas Field was developed by British Gas as a super peaking gas supply. With the privatisation of British Gas, Morecambe Bay was used as a low load, high swing field that acted as a very large
backstop to the capacity of the terminals. Morecambe Bay is now in decline and can no longer provide the swing it once could. The Project would have the ability to increase the swing capacity to make up part of that which is being lost from Morecambe Bay.

- **West coast terminals**: The western leg of the Gas NTS has three main sources of supply, Fergus in Scotland, Barrow from Morecambe Bay and Burton Point from Liverpool Bay. These terminals are in decline and will continue to supply less gas each year to the UK. The Project would add capacity to the western leg of the NTS and assist the replacement of some of the lost terminal capacity.

6.17 The Project would be an energy efficient gas storage project as the gas is stored virtually at the same pressure as the NTS which means that it requires less energy to store and return the gas to the NTS than is used in storage schemes that operate at greater depth and pressure.

- **Scale**: The Project, upon completion, would have a working gas capacity of 600 million cubic metres, which would make a valuable addition to the very low gas storage capacity in the UK. The Project would provide about 3 days (or about 20%) additional capacity to that currently available in the UK.

- **High injection and withdrawal rates**: The Project has been designed to operate in the same pressure range as the NTS. The NTS system near Preesall also has a very large capacity and can supply and receive large amounts of gas to and from the Project. The high injection rates mean that when gas is available in the system for storage, the Project can absorb it. The Project’s high rates of withdrawal also mean that when gas is required by the system, the Project can supply a significant proportion (about 10%) of the UK’s daily gas requirements, particularly in high demand winter days.

The UK system is susceptible to large-scale interruption if supplies are curtailed during periods of high demand. The Project would represent an important source of stored gas for short-term gas system requirements. The high injection and withdrawal rates are also useful for the NTS operations. Diurnal pressure swings on the NTS can be mitigated very efficiently by the Project and National Grid Gas would benefit from better system efficiency and operating costs.

- **Winter refill capability**: Gas is available during the winter for injection, albeit it is typically available on an intermittent basis. The Project would cope with winter injection; the combination of high injection rates and fast reaction time allow the Project to absorb gas when it is available.
• **Fast reaction time:** Deep storage facilities operating in the UK are predominantly used as single turn, one cycle facilities. They are primarily used to store gas during the temperate months and to deliver gas to the system during the winter. The design and operating regime of this type of facility, particularly their low injection capability, limits their ability to react quickly. The Project is different as it has been designed to have very fast reaction times and, additionally, can change the direction of gas flow very quickly. The Project would provide hourly balancing, pressure maintenance, short-term storage services and gas system needs at speeds, scale and efficiency, which other deep storage facilities cannot match.

• **Reliability:** Multiple caverns, manifolds, pipeline and electrical connections are designed to achieve very high levels of reliability. Many of the UK’s existing terminals and associated gas infrastructure are ageing. Whilst the Health and Safety Executive (HSE) ensures continued safety of all gas storage and transmission infrastructure, ageing equipment inevitably means greater risk of outage, with a predictable decline in reliability. The Project would be new, modern, on shore and would add to the overall reliability of the UK gas system.

• **Cost:** Cost is an important factor in the development and construction of essential gas infrastructure. Some deep storage schemes that are proposed and even consented may not come to fruition because of the high costs of construction and commissioning. In contrast, the Project would be relatively low cost as the caverns are not as deep.

• **Flexibility:** The physical capabilities of the Project would create a storage facility that would be able to provide a complete portfolio of storage services. The Project would be able to provide large scale, seasonal storage, and medium-term and fast cycle storage. It would also provide balancing, pressure maintenance and physical back-up to the NTS. These capabilities would also create new storage products currently limited or unavailable in the UK and boost the options for gas users to use energy reserves efficiently and cost effectively.

6.18 These locational and project specific capabilities give the Project specific advantages of scale, speed, reliability and costs in assisting security of gas supply in the UK.

6.19 The Project would have an impact on the environment but the ES concludes that mitigation measures reduce these impacts to an acceptable level.

6.20 The Project would have an environmental impact during its construction and operation. The construction of that part of the Project in the countryside has been identified by the LPAs is an issue with concerns
about landscape and visual impact. Halite has examined alternative options for the siting of the plant, particularly the GCC, but alternative sites have been rejected for operational and safety reasons. In order to minimise the environmental impact of development Halite has carefully sited and designed those buildings that must be located in the countryside. Halite are also proposing earth bunding and landscaping as a means of mitigating their impact.

6.21 The landscape at Preesall is not designated as being of national, regional or local importance and, as planning policy recognises, minerals can only be worked where they are found. Policy acknowledges that there are only a limited number of opportunities in the UK where the geology is able to support UGS and Preesall is one of these areas.

6.22 In the planning balance, it is considered that the national need for UGS, particularly when coupled with the specific locational advantages of Preesall as summarised above, outweigh the limited environmental impact such that the DCO application should be granted.
<table>
<thead>
<tr>
<th>Abbreviation</th>
<th>Description</th>
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<tbody>
<tr>
<td>AAP</td>
<td>Area Action Plan</td>
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<tr>
<td>BGS</td>
<td>British Geological Survey</td>
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<td>CCS</td>
<td>Carbon Capture Storage</td>
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<tr>
<td>CCR</td>
<td>Carbon Capture Readiness</td>
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<tr>
<td>CEMP</td>
<td>Construction Environmental Management Plan</td>
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<tr>
<td>CGS</td>
<td>Canatxx Gas Storage Limited</td>
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<td>COMAH</td>
<td>Control of Major Accidents and Hazards</td>
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<td>DECC</td>
<td>Department of Energy and Climate Change</td>
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<tr>
<td>DCO</td>
<td>Development Consent Order</td>
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<td>DPD</td>
<td>Development Plan Document</td>
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<tr>
<td>EA</td>
<td>Environment Agency</td>
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<td>EIA</td>
<td>Environmental Impact Assessment</td>
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<tr>
<td>ES</td>
<td>Environmental Statement</td>
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<tr>
<td>FRA</td>
<td>Flood Risk Assessment</td>
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<td>GCC</td>
<td>Gas Compressor Compound</td>
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<tr>
<td>GSR</td>
<td>Geology Summary Report</td>
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<tr>
<td>HSE</td>
<td>Health and Safety Executive</td>
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<tr>
<td>IPC</td>
<td>Infrastructure Planning Commission</td>
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<tr>
<td>LCC</td>
<td>Lancashire County Council</td>
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<tr>
<td>LEMSP</td>
<td>Landscape and Ecological Management Strategy Plan</td>
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<tr>
<td>LPA</td>
<td>Local Planning Authority</td>
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<tr>
<td>MMO</td>
<td>Marine Management Organisation</td>
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<tr>
<td>MWDF</td>
<td>Minerals and Waste Development Framework</td>
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<td>MWLP</td>
<td>Minerals and Waste Local Plan</td>
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<td>NPS</td>
<td>National Policy Statement</td>
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<td>NTS</td>
<td>National Transmission System</td>
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<td>PA2008</td>
<td>Planning Act 2008</td>
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<td>PPG</td>
<td>Planning Policy Guidance</td>
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<tr>
<td>PPS</td>
<td>Planning Policy Statement</td>
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<tr>
<td>RA</td>
<td>Risk Assessment</td>
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<td>Royal Society for the Protection of Birds</td>
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<td>RSS</td>
<td>Regional Spatial Strategy</td>
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<td>SMP</td>
<td>Shoreline Management Plan</td>
</tr>
<tr>
<td>SPA</td>
<td>Special Protection Area</td>
</tr>
<tr>
<td>SSSI</td>
<td>Site of Special Scientific Interest</td>
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<tr>
<td>STW</td>
<td>Sewage Treatment Works</td>
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<tr>
<td>UGS</td>
<td>Underground Gas Storage</td>
</tr>
<tr>
<td>UK</td>
<td>United Kingdom</td>
</tr>
<tr>
<td>WBC</td>
<td>Wyre Borough Council</td>
</tr>
</tbody>
</table>
APPENDIX 1
Surface Infrastructure: Alternative Site Assessment
Natural Gas Storage Facility, Preesall
August 2010
Proposed Underground Gas Storage Facility, Preesall

Surface Infrastructure : Alternative Site Assessment

August 2010
Proposed Under Gas Storage Facility, Preesall

Surface Infrastructure: Alternative Site Assessment
1.0 INTRODUCTION

1.1 This Report has been prepared for Halite Energy Group Limited to examine alternative sites for surface infrastructure associated with proposals for an Underground Gas Storage (UGS) Facility at Preesall in Lancashire.

1.2 Canatxx Gas Storage Limited (CGS) has sought unsuccessfully to obtain planning permission for the development of a UGS Facility at Preesall. Amongst the concerns raised by the Local Planning Authority (LPA) was the location of surface infrastructure in the open countryside on the east bank of the Wyre Estuary. In particular, the LPA had concerns about the location of the proposed booster pump stations, compressor station and the associated yards and access roads. The LPA considered that the buildings

‘would be substantial in scale and would remain visually incongruous in the area being uncharacteristic in design. It is considered that they would have some adverse visual impact in the otherwise predominantly rural landscape characterised by low hills, hedgerows and woodland and designated as a Countryside Area in the Wyre Borough Local Plan’ (p 62 of Committee Report on Application No 02/09/0159 dated 27th January 2010).

1.3 The LPA would prefer to see the relocation of as much of the surface infrastructure as possible from the East Bank to the West Bank of the Wyre Estuary. The aim of this Report is to examine the options for the relocation of the infrastructure and the mitigation measures that might be appropriate in reducing the overall impact of the development.

1.4 The surface infrastructure comprises:

- Seawater Pumping Station
- Booster Pumping Station
- Gas Compressor Compound
- Well heads
- Manifolds and pipelines

1.5 The proposed Seawater Pumping Station is already to be sited at the Fish Dock on the West Bank of the Wyre Estuary and, in the determination of the planning application for
the previous proposals, the LPA had no issues with this location. Similarly, much of the brine pipeline route is on the West Bank of the Wyre Estuary. Those parts of the gas pipeline and the manifolds that are to be provided on the East Bank are provided underground and, therefore, have limited or no environmental impact.

1.6 For operational reasons the Booster Pumping Station and the Well heads must be located on the East Bank. The Booster Pumping Station incorporates the de-brining facility which is required to remove excess gas from the brine prior to it being pumped under the Wyre Estuary and out to the Irish Sea. The Booster Pumping Station is a relatively small facility comprising a compound and a building of approximately 500 sq metres. As Mineral Planning Statement 1 (PPS1) acknowledges minerals can only be exploited where they are found and the geological studies have accepted that the drilling platforms and the wellheads will need to be located on the East Bank. However, the drilling platforms are only required for a temporary period to create the caverns and once drilling is complete can be removed from the site. The Well heads are low level and can be screened by low earth bunds.

1.7 Since the last planning application the number of booster pumping stations has been reduced; the revised proposals require only one booster pumping station rather than the two included in the previous scheme. The opportunity has also been taken to re-consider the design of the building so that it reflects, to a greater degree, the rural character of the area.

1.8 The greatest scope to reduce the impact of the development on the countryside is in the re-location of the Gas Compressor Compound (GCC) to the West Bank. In terms of scale, the GCC is the largest part of the surface infrastructure and is of an industrial nature that is not easy to assimilate into the countryside. This Report, therefore, concentrates on and examines alternative sites and the scope for re-locating the GCC to the West Bank of the River Wyre. This Alternative Sites Report is divided into the following:

Section 2 : Assessment Methodology
Section 3 : Area of Search
Section 4 : Identification of Potential Sites for the Gas Compressor Compound
Section 5 : Assessment of Sites
Section 6 : Conclusions
2.0 ASSESSMENT METHODOLOGY

2.1 A staged approach to the assessment is proposed. First, an area of search for potential sites on the West Bank of the River Wyre is identified in Chapter 3. Second, following a review of the practicalities of constructing the GCC and the connecting gas pipelines/manifolds on the West Bank, a range of potential sites is identified. The range of sites set out in Chapter 4 is based on a review of local planning policies in the area of search, discussions with landowners and a review of sites on the market.

2.2 Following the identification of the potential sites, Chapter 5 sets out an assessment of each site having regard to land already with planning permission, environmental impact, economics and health and safety issues. In respect of the latter, Lloyd’s Register has carried out preliminary calculations of land use planning zones around each installation which have been discussed with the Health and Safety Executive. The conclusions of the assessment are set out in Chapter 6 and a copy of Lloyd’s Report ‘Preliminary Land Use Planning Zones, Gas Storage Facility. Summary Report’ is attached at Appendix 1.

2.3 It is accepted that the assessment is very much a ‘snap-shot’ in time and changes to planning policy and the implementation (or otherwise) of outstanding planning permissions can change the health and safety assessment and, therefore, the conclusions of the study. Similarly, in time, new sites might become available on the West Bank that may be large enough to accommodate the GCC. It is, therefore, important that the assessment is kept under review.
3.0 AREA OF SEARCH

3.1 The area of search for examining alternative sites for the GCC is defined as the area of the Fleetwood-Thornton Area Action Plan (AAP) as this includes all the land on the west bank in the vicinity of the site of the UGS Facility. The AAP area covers a total of approximately 512 hectares (See Figure 1) of land stretching from the north-east of Thornton to Fleetwood and is bordered to the east by the Wyre Estuary. It is diverse in character and encompasses a variety of land uses including housing, retail, employment and recreation, extensive tracts of vacant, derelict and contaminated land, and also areas recognised for their importance for nature conservation.

3.2 Broadly the AAP area can be described as comprising of zones of “Open Coastal Marsh - Wyre Marshes)” and, “Coastal Plain (The Fylde)” in terms of its landscape character. Areas of open coastal marsh (the Marsh) comprise expansive areas formed on marine alluvium and include salt marshes and intertidal flats, separated from the wider area primarily by man made sea dykes. Despite the proximity of the urban areas of Fleetwood and Thornton to the west, the Marsh is relatively inaccessible to recreational users and the salt marshes have been reduced in size by encroaching industrial development and landfilling. The salt marshes and mudflats are of ecological significance for their vegetation as roosting and feeding grounds for wildfowl and wading birds. They are recognised as an area of international, national and county nature conservation importance, being designated as a Biological Heritage Site, SSSI, SPA, SAC and Ramsar site.

3.3 In land-use terms, the AAP area can be divided into sub-areas, each containing different land-uses and activities. In the north of the Area is the Harbour Village, which includes the Freeport Retail Outlet Village and the established area of housing comprising largely flats and terraced properties. To the south of the Harbour Village lies Fleetwood Docks, which remain in active use as a port for fishing vessels and as a marina for leisure craft. The Docks area remains the focus for Fleetwood’s fishing industry where development related to the port and fishing industry are located. Adjacent to the Dock area are extensive tracts of derelict, vacant and underused land.

3.4 Further south is the Fylde Coast (United Utilities) Wastewater Treatment Works, which treats up to 200 million litres of wastewater and rainfall a day. The waste transfer station operated by Wyre Waste lies to the east of the Treatment Works. Further to the east is Fleetwood Nature Park, which is bounded to the south by the Jameson Road Landfill Site, still actively used for the tipping of household waste for the foreseeable
future. The steep landform of the landfill site contrasts with the remainder of the Area, which is relatively flat in profile. A further non-operational landfill site is situated to the south of Jameson Road and includes lagoons, which were subject to an incomplete landfill operation undertaken by ICI in connection with disposal of waste from the Hillhouse Chemical Works. To the west of the Jameson Road landfill site are two established caravan sites, the Broadwater Holiday Centre and the Cala Gran Holiday Park, which are situated within land designated as Green Belt in the adopted Wyre Borough Local Plan. Further south again, the Hillhouse industrial estate forms a major land use component of the Area and still remains a major focus for industrial related activity in the Borough. The Hillhouse site is dominated by large scale industrial buildings, which have been a prominent feature within the Borough. A major use of the Hillhouse site relates to chemical based industry and provides a significant contribution to employment opportunities within the Area and to the local economy.

3.5 Surrounding Hillhouse to the west is the district of Burn Naze, which forms the main residential component of the Area and includes Poolfoot Farm. To the southern boundary of the area, beyond the Hillhouse site is a caravan park (Kneps Farm), which lies adjacent to the Wyre Estuary Country Park.
4.0 IDENTIFICATION OF POTENTIAL SITES FOR THE GAS COMPRESSOR COMPOUND

4.1 The GCC is the largest part of the surface infrastructure that is required to construct and operate the UGS Facility as it comprises the following:

- Pig Launchers and Receivers
- Slug Catchers
- Large diameter above ground high pressure pipelines.
- High pressure Glycol Contactors to dry the gas.
- Low pressure Glycol Regeneration system
- MOPICO Compressors
- High Pressure Compressor Knock Out Separators
- High Pressure Compressor Aftercoolers
- High Pressure NTS gas metering system
- High Pressure NTS gas filters
- High Pressure Gas Heaters
- Various utility systems, plant drainage and power supply
- Emergency vent stack
- A Control Room, Maintenance Shop/Stores and Instrument Rooms

4.2 The GCC requires a site of approximately 2.6 hectares and this forms the minimum site area for the purposes of the assessment.

4.3 Physically, there are no technical problems in locating the GCC on the West Bank of the Wyre Estuary as there are a number of locations where 2.6 hectares of land is available for its siting. Provision would need to be made for the pipeline connections to both the underground caverns and the gas National Transmission System (NTS) at Nateby. The main withdrawal/injection pipeline is approximately 11 km long and operates at pressures up to 80 bar. It is required to supply the gas from the NTS to the storage facility and to return the gas to the NTS from the storage facility. The corridor width for the pipeline would be in the order of 15 metres and an additional width of 10-15 metres would be desirable during construction. A potential route to the West Bank of the Wyre Estuary has been identified and this would pass from a location close to Carter’s Farm on the East Bank, make use of the northern crossing point of the River Wyre, to finish at a location just south of the Vitrex facility on the West Bank. The potential route on the West Bank is similar to that for the proposed route of the smaller Wyre Power gas supply line.
4.4 A route making use of the southern River crossing has been discounted on the basis that it would be necessary to cross the area of the former ICI caverns.

4.5 It is also necessary to provide a pipeline to transport gas from the GCC to the caverns and a return through a manifold system. To gain maximum flexibility more than 1 pipe is required; the bare minimum being 2 pipes such that the facility can operate and dewater during the initial phases. A potential route would run the manifolds from the caverns across the Wyre at the northern crossing point and then south towards the GCC through the AAP area. Three general route options have been considered which give the possibility of providing pipeline access to much of the land within the AAP area as follows:

- **Option 1 - Disused Railway Line Corridor**: The disused railway is already a severance line although there is significant existing development at the southern and middle sections. Existing bridges on the railway would be ‘pinch points’ and part of the railway corridor is required for the brine discharge pipeline. Longer term, there are also plans to restore and re-open the railway.

- **Option 2 - Middle Route Corridor**: The northern end is relatively open giving flexibility for detailed routing options. Towards the south, existing and proposed development constrains route options, particularly as it would need to traverse the Riverside Development Park.

- **Option 3 – Riverbank Corridor**: A route alongside the River would have least severance and would avoid areas of existing and proposed housing development. As is the case with Option 2, however, the route would also traverse the site of the proposed Riverside Development Park.

4.6 These indicative routes are shown on Figure 2. Although none of the pipeline routes are ideal, it should be possible to construct the GCC on the West Bank and to link it with the underground caverns and the NTS.

4.7 Having regard to the minimum site area, potential sites for the GCC have been identified following:

- A review of local planning policies and sites allocated for industrial development;
- A review of sites on the market; and
Discussions with local landowners

Planning Policy

4.8 As set out above, the land on the west bank of the River Wyre is subject to the policies and proposals of the Fleetwood-Thornton Area Action Plan (AAP) which was adopted in September 2009. The AAP sets out a vision for the AAP as follows:

“The Fleetwood-Thornton Area will be an accessible, diverse and vibrant location for mixed development; an area which encourages distinctive enterprise in an established quality location attracting a range of high profile businesses and investment. Through consolidation and further growth, the Fleetwood fishing and port related industries and specialist industrial sector at the Hillhouse site will continue to be important to the economic functioning of the Area providing a significant contribution to the region’s prosperity.

The Fleetwood-Thornton Area will offer an attractive place to live, work and visit, a location for development, which utilises, enhances and protects its own natural and environmental assets. There will be an emphasis on creating sustainable patterns of development and the encouragement of renewable forms of energy. Consequently development will provide a growing proportion of its energy needs on site.

High standards of urban design and an attractive gateway into the Area (comprising a landmark development) will contribute to the achievement of a high quality environment for all and a prestige location for business investment. The distance in which people have to travel by car will be minimised through the provision of an integrated public transport system and there will be a strong emphasis on the use of a variety of transport modes to achieve quicker and more environmentally friendly movement throughout the locality, including good linkages to Fleetwood town centre. Travel times and
distance will also be reduced through the location of housing and employment sites being in proximity to each other. The local community will be served by an excellent range of leisure, retail, health and educational facilities. A variety of opportunities will exist for informal recreation, capitalising on the areas' natural assets, including a continuous multi-user route along the Wyre Estuary, which will be a major recreational attraction for use by pedestrians, cyclists and horse-riders. This, together with an integrated network of footpaths, will increase access throughout the area.”

4.9 To realise the vision for the AAP area, several objectives have been identified as follows:

- Objective 1: Protect and Enhance the Natural and Built Environment;
- Objective 2: Encourage Housing Choice;
- Objective 3: Encourage Employment Opportunities;
- Objective 4: Improve Accessibility and Movement Throughout the Plan Area;
- Objective 5: Ensure Provision of Accessible Local Services and Facilities;
- Objective 6: Encourage Recreational Activity and Tourism;
- Objective 7: Encourage Sustainable Patterns of Development.

4.10 The policies seek to identify development areas as well as areas of nature conservation. Thus, Policy 1 seeks to ensure that new development contributes towards an attractive and high quality urban and natural environment. Policies 2 and 3 allocate land for housing, industry and business whilst Policy 4 identifies ‘contingency sites’ for additional housing development should it prove necessary. Policy 5 and 6 seek improvements to the transport network and movement/accessibility respectively.

4.11 Policies 7 and 8 identify locations for community facilities, services and recreation/leisure whilst Policy 10 seeks to increase the role of tourism. Policy 9 deals with energy efficiency and seeks to encourage new development to reduce energy consumption.

4.12 The Proposals Map is shown on Figure 3 and identifies the proposed land uses for the AAP area.
4.13 The infrastructure associated with the UGS Facility is predominantly industrial in nature. The AAP states that there are significant opportunities for further employment related development within the Area, and employment-generating uses should generally be encouraged. The Proposals Map identifies areas where employment development would be encouraged. A major focus should continue to be the specialist industrial sector, at the Hillhouse secure site, and the Fleetwood fishing and port related industries which are both important to the economic functioning of the Area, the Borough as a whole and the wider region.

4.14 It is also acknowledged that a diverse mix of employment generating uses should be encouraged within the Area. In particular, the AAP states that there are significant opportunities to introduce a range of commercial, business, and leisure related uses around Fleetwood Docks. This could involve the relocation of the fish-processing park away from the Docks area. The Masterplan of Fleetwood town centre and the immediate surroundings including Fleetwood Docks and Freeport retail outlet village, when finalised, will set out a detailed land use framework for this location. There is also a need for further office development, which could be incorporated in a new enterprise park within the AAP, catering for the same market as the industrial estate at Poulton.

4.15 The Council’s Employment Land Review concludes that the amount of land allocated for employment amounts to a 70 year supply given past take up rates, and while it does not advocate de-allocating any employment land within the AAP, it recognises that at some point during the life of the AAP it may be appropriate to reconsider this provision, and utilise any unwanted employment allocation to meet any increased housing demand that may have been highlighted through a review of the RSS or through the needs of a Growth Point.

4.16 The AAP identifies a number of key development sites as follows:

- Fleetwood Docks (Sites 1-3)
- Burn Naze (Sites 4-6)
- Hillhouse Employment Area (Sites 7-8)

4.17 The location of the 8 sites is shown on Figure 4. At Fleetwood Docks, Site 1 is identified for housing development; Site 2 for mixed use development and Site 3 for employment uses. The Burn Naze sites (Sites 4-6) are all allocated for housing development. The Hillhouse Employment Area (Sites 7-8) are both allocated for
employment use. Thus, having regard to the detailed planning policies for the area, Sites 3, 7 and 8 are worthy of consideration for the siting of the GCC.

**Land Availability**

4.18 Sites 3, 7 and 8 comprise significant areas of land which are more than large enough to accommodate the GCC. Like most of the major development sites set out in the AAP, the sites are in the control of two major landowners: NPL Estates Limited and Associated British Ports. Both landowners have their own plans for the development of their land but discussions have been held with both parties to examine options to develop the GCC on their land. In addition, local Agents – PFK – have carried out a review of land in the area to identify sites that are available and on the market.

4.19 The potential sites and locations for the GCC that have been identified include:

**Site 3** is currently vacant and is allocated for employment development as part of the Fleetwood Dock Employment Area. Immediately to the south of Site 3 is an additional area of land forming part of the Waste Transfer Station allocation but which is also currently available for development.

**Site 7** comprises the Hillhouse Secure Area; the majority of which has been previously developed. The most obvious site within this area is the Wyre Power Site which is located centrally within Site 7. Wyre Power Limited is progressing proposals for an 850MW Combined Cycle Gas Turbine (CCGT) Power Station, a 25MW Open Cycle Gas Turbine (OCGT) Power Station and future Carbon Capture Plant. From a planning viewpoint, this site is ideal as there are a number of synergies that would occur if the two projects were physically next to each other. For example, the GCC requires 25MW of power which would be readily available from the CCGT plant. The Power Station could also make use of gas supplied form the UGS Facility at times of need.

**Site 8** comprises the northern part of the Hillhouse Secure Area for which there are proposals to remove the Secure Area designation. The land is allocated as a Contingency Site for residential development should the need arise for more housing in the AAP Area. Part of the land is currently being decontaminated.
Conclusion

4.20 In conclusion, having regard to the policies of the AAP, discussions with land-owners and the review of available sites by the local agents, the following sites are identified for detailed consideration and assessment:

Location 1: Fleetwood Docks Site 3
Location 2: Hillhouse Employment Area Site 7, particularly the Wyre Power site
Location 3: Hillhouse Employment Area Site 8
5.0 ASSESSMENT OF SITES

5.1 The main constraints that need to be considered in the identification and evaluation of alternative sites on the West Bank for the GCC are:

- Outstanding planning permissions
- Environmental impact
- Economics
- Health and Safety

5.2 We set out below the constraints that have influenced the selection of the alternative sites.

**Outstanding Planning Permissions**

5.3 Land with outstanding planning permission for development, particularly for housing, is best avoided as the GCC is an industrial process and not a good neighbour. Significant progress has already been made in implementing specific development proposals of the AAP during its preparation and submission stages. A number of major planning applications have been approved which either relate to specific policies or are in accordance with the general objectives of the Plan. **Table 1** below identifies the main planning permissions that have already been granted.

**Table 1 : Outstanding Planning Permissions in the AAP Area**

<table>
<thead>
<tr>
<th>Reference No.</th>
<th>Location</th>
<th>AAP Policy Ref:</th>
<th>Description</th>
<th>Status</th>
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</thead>
<tbody>
<tr>
<td><strong>RESIDENTIAL</strong></td>
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<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>03/10591/OUTMAJ &amp; 05/00353/REMMAJ</td>
<td>Pool Foot Farm, Heys Street, Thornton</td>
<td>N/A</td>
<td>Outline application for 19 dwellings (&amp; reserved matters)</td>
<td>Permitted</td>
</tr>
<tr>
<td>04/00240/OUTMAJ &amp; 08/00398/REMMAJ</td>
<td>Land at Fleetwood Docks, Fleetwood</td>
<td>Policy 2 - Phase 1</td>
<td>Outline application for 380 dwellings (&amp; reserved matters for 121 in Phase 1)</td>
<td>Permitted</td>
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<tr>
<td>07/00824/FULMAJ</td>
<td>Land at Bourne Road, Thornton</td>
<td>Policy 2 - Phase 2</td>
<td>Demolition of power station and erection of 558 dwellings</td>
<td>Permitted subject to S106 Agreement</td>
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<td><strong>COMMERCIAL/INDUSTRIAL</strong></td>
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</tr>
<tr>
<td>02/08/0585</td>
<td>Jameson Road</td>
<td>Extension to</td>
<td></td>
<td>Permitted</td>
</tr>
<tr>
<td>Reference</td>
<td>Location</td>
<td>Policy</td>
<td>Description</td>
<td>Status</td>
</tr>
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<td>--------</td>
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<td>--------</td>
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<tr>
<td>02/99/0704</td>
<td>Jameson Road</td>
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<tr>
<td>03/01523/FUL</td>
<td>Victrex Hillhouse, Thornton</td>
<td>Policy 3</td>
<td>Extension to existing filtration building</td>
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<td>04/00351/FUL</td>
<td>Victrex Hillhouse, Thornton</td>
<td>Policy 3</td>
<td>Siting of temporary building for use as a quality control laboratory</td>
<td>Completed</td>
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<td>04/00399/FUL</td>
<td>Victrex Hillhouse, Thornton</td>
<td>Policy 3</td>
<td>Provision of Portakabin</td>
<td>Completed</td>
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<tr>
<td>04/00472/FUL</td>
<td>Victrex Hillhouse, Thornton</td>
<td>Policy 3</td>
<td>Portakabin for training facility</td>
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<td>04/00885/FUL</td>
<td>Victrex Hillhouse, Thornton</td>
<td>Policy 3</td>
<td>Retention of quality control laboratory building (removal of condition 2 on App. No. 04/00351/FUL which requires the building to be removed at the end of a period of 2 years)</td>
<td>Implemented</td>
</tr>
<tr>
<td>04/00979/FUL</td>
<td>Euro Rubber Lines Ltd Hillhouse</td>
<td>Policy 3</td>
<td>Erection of portal framed structure for storage and light refurbishment of rubber processing machinery</td>
<td>Completed</td>
</tr>
<tr>
<td>04/01094/OUTMAJ</td>
<td>Land East of Fleetwood Road North, Thornton</td>
<td></td>
<td>Outline application for B1 offices</td>
<td>Permitted</td>
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<td>04/01411/FUL</td>
<td>UU, Hillhouse, Thornton</td>
<td></td>
<td>Extension to existing electrical sub station including new control and relay room and extension of existing 2.4m palisade security fencing</td>
<td>Completed</td>
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<td>05/003567/FUL</td>
<td>Victrex Hillhouse, Thornton</td>
<td>Policy 3</td>
<td>Siting of Portakabin (renewal of application 02/03/00500)</td>
<td>Completed</td>
</tr>
<tr>
<td>05/00423/FULMAJ</td>
<td>Victrex Hillhouse, Thornton</td>
<td>Policy 3</td>
<td>Erection of building to provide new PEEK (TM) manufacturing facility and associated plant</td>
<td>Completed</td>
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<tr>
<td>05/00539/FUL</td>
<td>SLP Engineering Ltd Hillhouse, Thornton</td>
<td>Policy 3</td>
<td>Single storey building for the manufacture and storage of precast concrete units</td>
<td>Completed</td>
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<tr>
<td>05/00756/FUL</td>
<td>Euro Rubber Lines, Thornton</td>
<td>Policy 3</td>
<td>Extension to form separate storage facility</td>
<td>Permitted</td>
</tr>
<tr>
<td>Document Reference</td>
<td>Location</td>
<td>Company/Project Details</td>
<td>Policy</td>
<td>Description</td>
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<td>-------------</td>
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<tr>
<td>05/00977/LCC (&amp; 06/01335/LCC)</td>
<td>Land forming part of former ICI site, Thornton</td>
<td>Waste Technology Park</td>
<td>Under Construction</td>
<td></td>
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<tr>
<td>05/00993/FULMAJ</td>
<td>Asahi Glass Fluoropolymers UK Ltd Hillhouse, Thornton</td>
<td>Policy 3</td>
<td>Construction of manufacturing facility and associated buildings</td>
<td>Completed</td>
</tr>
<tr>
<td>05/01289/FUL</td>
<td>Victrex Hillhouse, Thornton</td>
<td>Policy 3</td>
<td>Renewal of planning permission 02/03/01368 for siting of a Portakabin for meeting room</td>
<td>Implemented</td>
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<tr>
<td>05/01374/FUL</td>
<td>Hillhouse, Thornton</td>
<td>Single storey building to form security gatehouse (relocation)</td>
<td>Permitted</td>
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<tr>
<td>05/01421/FUL</td>
<td>Victrex Hillhouse, Thornton</td>
<td>Construction of a pedestrian footbridge</td>
<td>Permitted</td>
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</tr>
<tr>
<td>06/00049/FUL</td>
<td>Invibic Ltd, Hillhouse, Thornton</td>
<td>Policy 3</td>
<td>Alterations and relocating of existing building and extension to provide Laboratory/Product Development accommodated and associated meeting/office facilities+</td>
<td>Completed</td>
</tr>
<tr>
<td>06/00416/FUL</td>
<td>Victrex Hillhouse, Thornton</td>
<td>Policy 3</td>
<td>Extension and modification to existing workshop/office building to accommodate Victrex Finesse Project</td>
<td>Completed</td>
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<tr>
<td>06/00116/FUL</td>
<td>Asahi Glass Fluoropolymers UK Ltd Hillhouse, Thornton</td>
<td>Policy 3</td>
<td>Raw Material (ARK) recovery plant</td>
<td>Completed</td>
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<tr>
<td>06/00689/HAZ</td>
<td>AG Fluoropolymers UK Ltd. Hillhouse, Thornton</td>
<td>Policy 3</td>
<td>Application for Hazardous Substances Consent for storage and use of raw materials for the production of ETFE polymer</td>
<td>Implemented</td>
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<td>06/00924/FULMAJ</td>
<td>Hillhouse, Thornton</td>
<td>Policy 3</td>
<td>Erection of factory unit, SLP Engineering</td>
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<td>06/01129/FUL</td>
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<td>Butts Road, Thornton</td>
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<tr>
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<td>Policy 3</td>
<td>Extension to existing melt filtration building to accommodate additional extrusion</td>
<td>Completed</td>
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5.4 The location of these sites is shown on Figure 5.

Environmental Impact

5.5 All of the Sites are allocated for industrial development, with preference given to the development uses under B1, B2 and B8 of the Town and Country Planning (Use Classes) Order. The GCC is ‘sui generis’ and, therefore, a case would need to be made as an
exception to normal planning policy. The sites are, however, located in a predominantly industrial areas and no environmental constraints have been identified that preclude the development of the GCC at any of these sites.

**Economics**

5.6 It is assumed that all of the sites are available for the GCC and that the landowners would be willing to sell. The acquisition of land for the GCC would be an additional cost when compared with development on the East Bank but, within the overall project cost, this is not significant.

5.7 Additional lengths of pipelines and manifolds would be required to link the GCC to the caverns and the NTS but again, in the overall costs of the project, the on cost is not significant. Indeed, significant cost savings could be achieved if it was possible to make use of the proposed NTS pipeline being provided by Wyre Power as part of the development of the CCGT Power Station. Sharing the construction and operation costs of the pipeline route would provide significant savings to both projects. However, there are regulatory issues that would need to be resolved with the Grid as the function and operation of the pipeline would be different for each project.

5.8 The siting of the GCC on the West Bank would impair the efficiency of the UGS Facility. A West Bank location for the GCC means that it is close to the caverns and a third manifold can be economically justified as it allows cavern staging operations, beneficial for short term large volume trading. It is unlikely that the third manifold can be justified for the West Bank location.

5.9 Notwithstanding the above, the costs of providing the GCC on the West Bank are not as significant as to make the proposal uneconomic.

**Health and Safety**

5.10 As a potential hazardous installation, the Health and Safety Executive (HSE) provides advice - ‘HSE’s Current Approach to Land Use Planning (LUP)’ - on land use planning to mitigate the effects of a major accident on the population nearby. HSE undertakes a detailed assessment of the hazards and risks from a hazardous installation and produces a map with three risk contours - inner, middle and outer zones - representing defined levels of risk or harm which any individual at that contour would be subject to. The risk or harm to an individual is greater the closer to the installation. In each case the risk relates to an individual sustaining the so called ‘dangerous dose’ or specified level of
harm. Lloyds Register has calculated the extent of these zones for the above ground section of the manifold line between the wellhead and the GCC and the results are set out in Table 2.

**Table 2 : Manifold between Well Head and Gas Compressor Compound : Fire Hazard Range**

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<tr>
<th>Zone</th>
<th>Distance (m)</th>
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<tr>
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<td>Corrected – Using Fireball Mass Calculated from PHAST Results, Multiplied by 3</td>
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<tr>
<td>Outer</td>
<td>664</td>
</tr>
<tr>
<td>Middle</td>
<td>489</td>
</tr>
<tr>
<td>Inner</td>
<td>436</td>
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**Note:** The results for the current application for a fireball from the above-ground part of the NTS connection are shown in Table 2. Since the fireball mass calculation converges at around 18 seconds after the start of the release, a correction factor of 3 is considered appropriate.

**Source:** Derived from Table 4 of Lloyd’s Register Report ‘Preliminary Land Use Planning Zones, Gas Storage Facility’ Summary Report (July 2010)

5.11 The hazard ranges for other events (catastrophic vessel failures and explosions in compressor houses) were significantly lower than those presented in the above Table and, therefore, the extent of the zones is considered to be the ‘worst case’ scenario. For the purposes of this assessment, the extent of each zone is defined as follows:

- Inner Zone - 440m
- Middle Zone - 490m
- Outer - 660m

5.12 The HSE’s approach to LUP uses the extent of the zones to make recommendations on whether or not planning permission should be granted for new development having regard to their location close to a hazardous facility. When consulted on planning applications, HSE firstly identifies which of the three defined zones the proposed development is in. Secondly, the proposed development is classified into one of four “Sensitivity Levels”. The main factors that determine these levels are the numbers of persons at the development, their sensitivity (e.g. vulnerable populations such as children, old people) and the intensity of the development. With these two factors known, a simple decision matrix is used to give a clear ‘Advise Against’ (AA) or ‘Don’t Advise Against’ (DAA) response to the LPA. **Table 3** sets out the HSE Decision matrix.
Table 3 : HSE Decision Matrix

<table>
<thead>
<tr>
<th>Level of Sensitivity</th>
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<tr>
<td>4</td>
<td>AA</td>
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</table>

Note: Sensitivity Level 1 - Example Factories  
Sensitivity Level 2 - Example Houses  
Sensitivity Level 3 - Example Vulnerable Members of Society eg. Primary Schools, Old People’s Homes  
Sensitivity Level 4 - Example Football Ground/Large Hospital  
DAA means Do Not Advise Against Development  
AA means Advise Against Development

5.13 The decision matrix above was developed taking into account the experience of 30 years of HSE advice on LUP. It is built into a software tool known as PADHI (Planning Advice for Developments near Hazardous Installations) which was provided to LPA’s to assist them in assessing planning applications for development within each of the zones around a hazardous installation.

5.14 Conversely, it is possible to use the extent of the zones for the GCC to assess its impact on existing or planned development. Thus, for the GCC, the decision matrix would suggest that HSE would advise against the development of houses, schools and old people’s homes in the inner zone i.e. within 440 metres of the site of the GCC. This assessment has, therefore, sought to use the 440 metre inner zone as a constraint for the siting of the GCC where it includes houses, schools and old people’s homes.

5.15 Figure 6 shows the extent of the GCC zones at the three alternative Sites. To assist the assessment, we have specified particular locations within Sites 3, 7 and 8 for the GCC. The locations are selected on the basis of seeking the optimum location but it is clear from the plan the effect of amending the location within each Site. The assessment shows that in:

5.16 Site 3 - The location on the land adjacent to the Waste Water Treatment Works means that the inner zone includes the Marina at the Fish Dock to the north and part of land with planning permission for housing. Relocating the GCC in Site 3 (i.e. to the north west) would mean that the inner zone would include housing in Hazeldene Road, Linden Road, Lingfield Road and Mayfield Place.

5.17 Site 7 - A location on the Wyre Power site, shows that housing on Heys Street and Omerod Street are within 250m of the plant and there also is a school on Heys Street –
all within the Inner Zone. Locating the GCC on other parts of the site exacerbate the situation with more housing areas falling within the Inner Zone.

5.18 **Site 8** - A location adjacent to the River means that the Inner Zone includes land with outstanding planning permission for housing at Bourne Road. Relocating the GCC to the south and east exacerbates the situation as it would include within the Inner Zone housing at Eagle Blow Road, Gamble Road and Saltash Road.

5.19 In conclusion, the health and safety assessment shows that none of the locations are suitable for the GCC. Notwithstanding this fact, it should also be recognised that the pipe route between the Wellheads and the GCC also are subject to safety criteria. Lloyd's Register has calculated the following distances for the pipeline route as follows:

- Inner Zone - 200 metres
- Middle Zone - 250 metres
- Outer Zone - 330 metres

5.20 Thus, even if a site for the GCC could be found then it would be necessary to ensure that no residential properties were within 200 metres of the connecting pipeline. Figures 2 shows 3 options for the routing and it will be noted that both Option 1 and 2 are in close proximity to the Cala Gran caravan site.
6.0 CONCLUSION

6.1 The aim of this Report is to examine the options for the relocation of the surface infrastructure for the proposed UGS Facility at Preesall. Previous proposals have shown a significant amount of surface development in the countryside on the East Bank of the River Wyre. Planning policies are generally restrictive towards development in the open countryside and the LPA has requested that consideration is given to the re-location of buildings and plant to the West Bank of the Wyre Estuary. Here planning policies are more flexible and there is significant existing and proposed industrial land that is available.

6.2 The surface infrastructure comprises:

- Seawater Pumping Station
- Booster Pumping Station
- Gas Compressor Compound
- Well heads
- Manifolds and pipelines

6.3 A site for the Seawater Pumping Station has already been identified on the West Bank and, in previous planning applications, the LPA has accepted the proposed site. For geological and operational reasons, the Well heads and the Booster Pumping Station must be located on the East Bank. The Wellheads are, however, low structures whose visual impact can be easily mitigated by earth screening and planting. Unlike previous schemes, where two Booster Pumping Stations were required, the new proposal includes only one such Station. The building is relatively small and can be designed to reflect the agricultural character of the area. The area contains a number of scattered dwellings and barns and the Pumping Station can be designed as a ‘barn like’ structure to assist its assimilation into the landscape. The manifolds and pipelines are, for the most part, underground and there is therefore little or no impact on the countryside.

6.4 The greatest scope to reduce the impact of the development on the countryside is in the re-location of the Gas Compressor Compound (GCC) to the West Bank. In terms of scale, the GCC is the largest part of the surface infrastructure and is of an industrial nature that is not easy to assimilate into the countryside. This Report, therefore, concentrates examines alternative sites and the scope for re-locating the GCC to the West Bank of the River Wyre.
6.5 Having regard to local planning policies set out in the AAP and the availability of land, a number of alternative sites on the West Bank of the Estuary have been examined for the siting of the GCC. A review of their planning, environmental and economic potential has been undertaken and Sites 3, 7 and 8 identified within the AAP are all acceptable locations. However, the GCC is a hazardous installation and the HSE have safety zones where development around such plant is restricted as being incompatible in land use terms. The hazardous zones have been calculated for the potential Sites and, in all cases, the GCC would have a potential effect on existing and proposed residential properties. As such each of the identified sites is unsuitable from a health and safety viewpoint.

6.6 In conclusion, therefore, whilst physically there are alternative sites available for the GCC on the West Bank, the health and safety assessment shows that none of the locations is suitable.
FIGURES 1-6
FIGURE 1
The Fleetwood-Thornton AAP Area
FIGURE 2
Gas Pipeline Options on the West Bank of the Wyre Estuary at Fleetwood
FIGURE 3
Fleetwood-Thornton AAP
Proposals Map
FIGURE 4
The Fleetwood-Thornton AAPK Key development sites and planning obligations
FIGURE 5
AP Area Commercial and major applications 2003 - present
Consultation Zones from perimeter of Compressor Station site

- Inner Zone: 440m
- Middle Zone: 490m
- Outer: 660m
APPENDIX 1
Land Use Planning Zones, Gas Storage Facility. Summary Report

Gas Storage, Preesall

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Our ref ABN1091616-R02 Rev 1
Date 14th July 2010
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1. Introduction

The gas storage facility proposed at Preesall is currently under review. Natural gas will be received at the facility by pipeline through a connection to the National Transmission System (NTS). The proposal is then to store the gas underground in salt cavities. The above ground facilities will comprise wellheads, compressors and associated process equipment. The revised proposal will be the subject of an application to the local authority for Hazardous Substances Consent. The Health and Safety Executive (HSE) advises local authorities on the safety implications of all such applications. As one input to the development of revised proposals, Lloyd's Register EMEA has been asked to provide an indication of the size of the land use planning (LUP) zones that HSE would apply to the facility.

Prior to a meeting with HSE on 9th July 2010, calculation of the land use planning zones was performed. Following the detailed discussions with HSE, the calculations were refined. This report describes the final set of calculations and the results obtained. The study has focused on the zones around the wellhead areas and the Gas Processing Plant (GPP).

1.1 Facility Description

1.1.1 Current (Revised) Application

The design of the facility is at an early stage and full details are not currently available. The gas stored will be received from the NTS. Gas may then be sent to the NTS from storage (via processing and compression, if required). Gas is injected into/extracted from the storage cavities via wells. At the wellheads connecting pipes are above ground. Between the wellheads and the Gas Processing Plant (GPP), the pipes are buried. At the GPP, pipes are generally buried but come above ground to connect with equipment.

Key parameters are:

(1) Maximum operating pressure in gas-containing plant: 80 barg

Compressor house dimensions: 15 m x 15 m x 8 m

Sizes of major vessels:

- Slugcatcher: 2 off vertical vessels - 3.7m ID x 5m T/T
- Gas Heaters: 2 off shell & tube exchangers - 1.5m ID x 5m T/T
- Glycol Contactors: 2 off vertical packed columns - 3.0m ID x 11m T/T
- Glycol Separators: 2 off vertical vessels - 3.0m ID x 5m T/T
- Compressor KO Drums: 2 off vertical vessels - 3.7m ID x 5m T/T
- NTS Filter: 2 off vertical vessels - 2.5m ID x 5m T/T

Typical cavern depth: 400 m
Sizes of major lines:

Manifold between wellheads and GPP: 30” (750 mm)

Pipeline between GPP and NTS: 30” (750 mm)

GPP maximum line size: May be 30” (750 mm) or 42” (1050 mm)

It has been assumed that the well production tubing is as specified in an earlier Basis of Design Document\(^{(2)}\), with a diameter of 8 5/8” (220.5 mm).
2. Methodology

2.1 Introduction

This section summarises Lloyd’s Register EMEA’s current understanding of HSE’s LUP assessment approach. This understanding is based on previous experience of dealing with HSE, on HSE internal guidance (the Planning Case Assessment Guide (5), (9) and Planning Case Assessment Support (6), (7) documents), HSE research reports (8), the technical literature (10) and information gained at a meeting held with HSE (4).

For the wellhead and GPP parts of the facility, HSE performs a ‘protection-based’ assessment (as opposed to a quantitative risk assessment or QRA). The protection-based assessment involves evaluation of the consequences of a set of ‘representative worst-case major accidents’. The LUP inner, middle and outer zone distances correspond to different levels of harm to people who may be exposed to the effects of the accident. The level of harm that could result decreases as the distance from the location of the accident increases.

2.2 Harm Criteria

The types of potential major accident of interest in this case are fires. For accidents of this type, the HSE calculates thermal radiation hazards to different levels of thermal radiation ‘dose’, expressed in thermal dose units (tdu). In simple terms, the ‘thermal radiation dose’ reflects the amount of radiated heat given off by the fire to which the person is exposed, and the time for which they are exposed. Where appropriate, the calculation takes into account the behaviour of people who may be exposed moving away from the fire and seeking shelter from its effects.

Land use planning (LUP) zone distances generally correspond to the following (5):

- Inner zone (IZ): distance to 1800 tdu for a ‘typical’ person (who is able to move away from the fire relatively quickly, at 2.5 m/s);
- Middle zone (OZ): distance to 1000 tdu for a ‘typical’ person (who is able to move away from the fire relatively quickly, at 2.5 m/s); and,
- Outer zone (OZ): distance to 500 tdu for a more vulnerable person (who is only able to move away from the fire at a lower speed, at 1 m/s).

2.3 Calculations

The characteristics (type, size, shape and intensity) of major accident fires depend on a number of factors, including:

- The properties of the fuel involved in the fire (natural gas in this case);
- The pressure and temperature at which the gas is kept at the time that a leak occurs;
- The size and location of the leak;
- The weather conditions at the time of the leak;

\[ 1 \text{ tdu} = 1 \text{ (kW.m}^{-2}\text{)}^{\frac{2}{3}}\text{.s} \]
• The time elapsed between the start of the leak and ignition occurring.

These factors are taken into account when calculating the effects of the fire.

The calculations have been performed using commercially available, widely used software (PHAST version 6.53.1, produced by DNV). Although HSE tends to produce its own software for performing these calculations, the scientific basis of the models within the HSE software is very similar to that in PHAST. Every effort has been made to emulate the HSE’s approach, using the information available when selecting the inputs for the software.

The assessment has considered the scenarios below. For each it is assumed that a leak of gas is ignited, giving rise to a fire. As indicated above, the characteristics of the fire depend on the details of the scenario. The scenarios are:

• A leak and fire at a wellhead; and,

• Rupture of the pipeline connecting the wellheads to the GPP, followed by fire.

The first of these scenarios was used by HSE to establish the sizes of the zones around the wellhead areas for the previous application. The second scenario was used by HSE to set the sizes of the zones around the GPP.
3. **Results**

The recommended zone boundaries are summarised in Table 1. The distances are based on the consequence analysis results, rounded to the nearest 10 m.

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<td>GPP</td>
<td>440</td>
<td>490</td>
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4. **References**

1. Email from M Healy, Costain to A Franks, Lloyd’s Register 8/6/2010.

2. Costain (2010). Preesall Gas Storage Project. Basis of Design – Gas Facilities. Ref.: 7183-0200-064-01-1001 Rev 0. (Note that several of the parameters in this document are superseded by the information in the email from Mr Healy).


4. Franks A (9th July 2010). Note of Meeting with HSE 9th July 2010.


