

**Marine Works (Environmental Impact Assessment) Regulations 2007 (as amended, 2011), Regulation 22 – EIA Consent Decision**

**Title: Islandmagee Gas Storage Facility**

**Applicant: Islandmagee Energy Limited**

**Location: Larne Lough/Islandmagee**

**Environmental Impact Consent Decision: March 2021**



Department of  
**Agriculture, Environment  
and Rural Affairs**

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## **1. Introduction**

- 1.1.1 This document constitutes an EIA consent decision under Regulation 22 of the Marine Works (Environmental Impact Assessment) Regulations 2007 (as amended 2011) (Marine Works Regulations), in respect of an application submitted by Islandmagee Energy Limited. The application was to construct a new high pressure natural gas storage facility beneath Larne Lough and was accompanied by an Environmental Statement.
- 1.1.2 In March 2010, Islandmagee Storage Limited (now called Islandmagee Energy Limited) submitted a planning application accompanied by an Environmental Statement to the DOE Planning Service. This applied to the terrestrial component of the project. In August 2011, an Addendum to the Environmental Statement (ES) was submitted in response to a Planning Service NI request for further information in accordance with Regulation 15 of the Planning (Environmental Impact Assessment) Regulations (Northern Ireland) 1999. The Department of Environment (NI) subsequently granted planning permission for the Natural Gas Storage Facility at Islandmagee in October 2012 (Application No: F/2010/0092/F). This permitted the construction of the terrestrial elements of the Gas Storage facility and associated development at Islandmagee, Co Antrim, subject to certain conditions.
- 1.1.3 The planning permission did not cover any works beyond the high water mark as marine works are subject to a Marine Licence application under the Marine and Coastal Access Act 2009. On 22nd October 2012, Islandmagee Storage Limited submitted an application for a Marine Licence. The application included details of the associated marine infrastructure to enable seawater abstraction and the subsequent discharge of brine required for the creation of the caverns by solution mining. On the 10th of July 2014, a Draft Marine Licence was issued to the Islandmagee Storage Ltd for discussion, by the Department of the Environment, Marine Division (ML 28\_12) with pre-construction conditions.
- 1.1.4 In 2018, Islandmagee Energy Limited (IMEL) corresponded with DAERA Marine & Fisheries Division in regards to recommencing the application for a Marine Licence to facilitate the commencement of construction of the seawater intake and outfall. A review of the Environmental Statement (ES) submitted with the original planning application was subsequently undertaken by DAERA Marine & Fisheries Division. DAERA identified that some of the marine data used to inform the Environmental Statement in 2012 was now out-dated and therefore should be supplemented with more recent information. In addition, new nature conservation designations have been made in the area in the intervening period. It was agreed that Islandmagee Energy Ltd would proceed with the baseline survey works which would by default cover any information that could be considered out dated and that updated studies would be required.
- 1.1.5 In 2019, DAERA clarified that the specific areas requiring update are: Avian and Marine Biodiversity including food web considerations, Underwater Noise, Cumulative Effects and an update to the Brine Dispersion Model to consider the conclusions of the Front-End Engineering Design (FEED). On the 31 October 2019, the Updated Marine Environmental Conditions Report was submitted to DAERA in response to the further information request from DAERA Marine & Fisheries Division. The primary objective of this report was to

supplement the marine elements of the Environmental Statement and Addendum Report submitted as part of the Marine Licence Application with more recent survey information before the marine licence can be fully considered. An update to the previous shadow Habitats Regulation Assessment (sHRA) was also submitted.

## **2. Decision making**

2.1.1 This Decision has been made in accordance with Regulation 22 of the Marine Works Regulations, as amended 2011. The application, its supporting information and responses received in relation to Regulation 17 and Regulation 21 (representation from the public consultation following the outcome of the process set out in Schedule 5) have been considered by DAERA Marine Licensing (Marine Licensing Authority) when making the decision. The Department has received over 700 consultation responses from the public in relation to this application. In considering these responses, the Department has used the provision in Regulation 21(2) and has grouped those that are similar in nature. These have been presented as a Questions and Answers document and have been considered as per Schedule 5 of the Regulations.

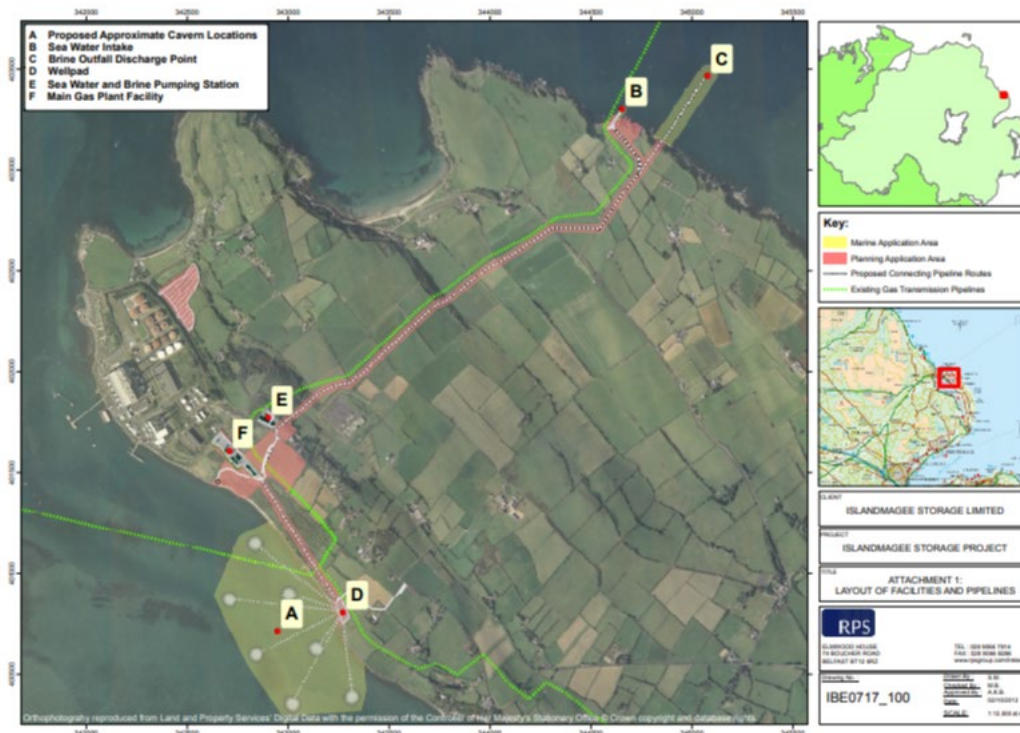
## **3. Project Description**

3.1.1 Islandmagee Gas Storage Facility; comprising the construction by solution mining of seven underground caverns in the Permian salt strata approximately 1,700m below Larne Lough, off Islandmagee, County Antrim. The project includes the design and construction of a surface brine pumping facility, a gas compression facility, associated gas pipelines, a brine and seawater pipeline and associated infrastructure.

3.1.2 The components of the Project which are subject to marine licence, are those elements below mean high water spring tide level, i.e.

- i. the boreholes and subsurface caverns to be leached
- ii. the seawater intake structure and
- iii. the brine discharge pipeline
- iv. the monitoring buoys required to ensure that salinity, temperature and pH levels are compliant with the Water Order discharge consent conditions and are as predicted by the model (located close to C – discharge point).

3.1.3 The locations in the application are shown below.



#### **4. Legislative and Policy Framework**

4.1.1 The Marine Works (Environmental Impact Assessment) Regulations, 2007, as amended are part of retained law post the UK exit from the EU. This is reflected in Regulation 6 of The Environment, Food and Rural Affairs (Environmental Impact Assessment) (Amendment) (EU Exit) Regulations 2019.

4.1.2 Regulations reflect the requirements in the marine environment for the EU Council Directive 2001/92/EU (the EIA Directive), which sets out measures for consideration of private and public projects which have the potential to impact the environment through their nature, scale or location. The Directive sets out assessment requirements to ensure project impacts are included in any consenting considerations.

4.1.3 Following the original EIA work described in the Introduction, planning permission was granted for the terrestrial elements of the project by the Department of the Environment in October 2012 (Application No: F/2010/0092/F), subject to certain conditions. The elements below Mean High Water Spring Tide are subject to a Marine Licence under the Marine and Coastal Access Act, 2009, and this EIA decision.

#### **4.2 Water Environment (Water Framework) Regulations (Northern Ireland) 2017, as amended**

4.2.1 The project is located within two separate water bodies: the gas caverns would be situated under the Larne Lough Mid water body, which is currently in WFD Moderate status, whilst the water abstraction and discharge lie within the WFD North Channel water body, which is in Good status. The project is also close

to the Larne Lough Shellfish Water and Brown's Bay Bathing Water, both of which are protected areas under the Water Framework Directive.

- 4.2.2 The water quality objectives for these sites are to retain the current 'good status' in the North Channel and Brown's Bay bathing water. The objective for the Larne Lough Mid water body is to achieve Good Status by 2021 and to retain Class B shellfish water status within the protected shellfish water. The objectives will be further refined within the draft River Basin Management Plan to be published in 2021.
- 4.2.3 WFD elements and status were considered by the Department, by teams in the Northern Ireland Environment Agency, Bathing and Shellfish Waters Team and the Marine Assessment Team. None of the consultation responses indicate that the proposals will impact on the WFD status of any of the water bodies in the vicinity of the proposal.
- 4.2.4 The Marine Licensing Authority is satisfied that the requirements of the Water Framework Directive have been adequately met in this decision.

### **4.3 Waste Regulations (Northern Ireland) 2011, as amended**

- 4.3.1 The consideration of terrestrial waste was considered in detail within the original Environmental Statement, Chapter 4.9 and conditions were included within the planning permission to cover terrestrial construction elements.
- 4.3.2 Full consideration was also given to alternative uses of the brine discharge in Section 1.4.3.1 and Appendix 1.2 of the Environmental Statement. Alternative uses in food processing, the chemical industry, textiles and salt products were considered, but given the temporary nature of the discharge, these were not considered to be viable options economically or environmentally.
- 4.3.3 The Marine Licensing Authority is satisfied that the requirements of the Waste Framework Directive have been adequately met in this decision.

### **4.4 The Conservation (Natural Habitats etc) Regulations 1995, as amended**

- 4.4.1 When IMEL approached the Department in 2018, DAERA explained that a further assessment needed to be undertaken to cover new and proposed designations since the draft Marine Licence had been issued in 2014, along with the Water Order Discharge Consent and the Abstraction Licence.
- 4.4.2 Protected sites and species potentially affected by the project were given consideration initially through a shadow Habitats Regulation Assessment (sHRA) provided by the applicant to support the application. This was reviewed by DAERA (both by Marine and Fisheries Division as the Marine Licensing Authority and the Water Regulation team of NIEA Resource Efficiency Division). Advice was received from the DAERA nature conservation teams. The HRA has also been reviewed by a third party expert.
- 4.4.3 All likely significant effects were identified in respect of the brine discharge, seawater abstraction, construction, habitat loss, noise and collision impact on the relevant designated sites. Following an appropriate assessment, and on the understanding that all the necessary mitigation measures are secured by

means of conditions or restrictions which will form part of the Draft Marine Licence, Draft Consent to Discharge and Draft Abstraction Licence, it is possible to conclude that there will be no adverse effect to the integrity of the site.

#### **4.5 Marine Act 2013 – Marine Conservation Zones**

- 4.5.1 Section 116 of the 2009 Act sets out powers brought forward through the Marine (Northern Ireland) Act 2013 to designate sites as Marine Conservation Zones (MCZ). The aim is to create a network of ecologically coherent and managed marine protected areas.
- 4.5.2 The nearest MCZ is Outer Belfast Lough designated for Ocean quahog (*Arctica islandica*). Advice from DAERA's Conservation and Reporting Branch did not raise concerns for the MCZ.
- 4.5.3 The Marine Licensing Authority is satisfied that no MCZ or pMCZ will be impacted as a result of the project.

#### **4.6 Wildlife and Countryside Act 1981 (as amended)**

- 4.6.1 Areas of Special Scientific Interest (ASSI) are designated and monitored by DAERA's Conservation, Designation and Protection Branch. The project is situated close to Portmuck ASSI, the Gobbins ASSI and Larne Lough ASSI. The Environmental Statement did not identify any expected impacts on the ASSI as a result of the project. Correspondence with NIEA's Conservation Designation and Protection Branch did not raise concerns on any impacts to any ASSI designated sites.
- 4.6.2 The Marine Licensing Authority is satisfied that no ASSI will be negatively impacted as a result of the project.

#### **4.7 UK Marine Policy Statement and Draft Marine Plan for Northern Ireland**

- 4.7.1 The UK Marine Policy Statement is the framework for preparing Marine Plans and taking decisions affecting the marine environment. The Marine Licensing Authority must make licensing decisions in accordance with the MPS and marine plans (where in place), unless relevant considerations indicate otherwise (in which case the licensing authority must state its reasons).
- 4.7.2 There is currently a draft Marine Plan for Northern Ireland, and the project has been assessed with consideration to the UK Marine Policy Statement and the draft Marine Plan.
- 4.7.3 The UK Marine Policy Statement states that a secure, sustainable and affordable supply of energy is of central importance to the economic and social well-being of the UK. The marine environment will make an increasingly major contribution to the provision of the UK's energy supply and distribution. This contribution includes the oil and gas sectors which supply the major part of our current energy needs, and a growing contribution from renewable energy and from other forms of low carbon energy supply in response to the challenges of tackling climate change and energy security. Contributing to securing the UK's

energy objectives, while protecting the environment, will be a priority for marine planning.

- 4.7.4 The UK faces a significant challenge in achieving a secure, affordable low carbon energy supply. The Climate Change Act 2008 established a long-term framework to cut greenhouse gas emissions by at least 80% below 1990 levels by 2050, and the Climate Change Committee recommended that the electricity sector needed to be largely decarbonised by 2030. This target was amended in 2019 to commit the UK to at least 100% below 1990 levels by 2050.
- 4.7.5 Relevant issues for consideration of the marine licensing authority for this proposal are
- The overall need for the project as outlined in the Strategic Energy Framework for Northern Ireland
  - The UK's policy objective to maximise economic development of the UK's oil and gas resources reflecting their importance to the UK's economic prosperity and security of energy supply
  - The physical resources and features that form suitable sites for gas storage (this is possible in very few locations, of which the salt layers under Larne Lough are one.)
- 4.7.6 Although the UK plans to reduce its reliance on fossil fuels, transition will take a significant time and gas will continue to play an important part in the UK fuel mix for years to come.
- 4.7.7 The proposal has been assessed against the core policies within the draft Marine Plan, of which the most relevant are stakeholder engagement, climate change, natural heritage and water quality. Within the draft Marine Plan for Northern Ireland, there is a presumption in favour of energy proposals that improve the security and diversity of energy supply, where it can be demonstrated:
- a) there will be no unacceptable adverse impact throughout the lifetime of the proposal on marine activities, uses and/or the marine area and any potential adverse impact is, in order of preference – avoided, minimised and/or mitigated; and
  - b) restoration/decommissioning measures have been agreed, where necessary.

## **5. Consultation Process**

- 5.1.1 As part for the consideration for the project, and in accordance with Regulation 17 and Regulation 21 of the Marine Works Regulations, the Marine Licensing Authority undertook a consultation exercise. Representation was sought publicly and from stakeholders, bodies with statutory responsibilities and advisors within DAERA.
- 5.1.2 A full outline of all of the consultation that has taken place is given in Attachment #14a – Consultations (2009/2010) of the Updated 2019 Application document. Attachment #14b of that document also gives a summary of the 2018-19 engagement with the Department and the consultation process.

5.1.3 The first consultation period of the updated application ran from 20 December 2019 through to 27 March 2021. In total over 700 responses were received to this consultation.

5.1.4 A further advertisement period was held under Regulation 43(4) of the Conservation (Natural Habitats, etc) Regulations (Northern Ireland) 1995, on the review of the Water Abstraction Licence and the Discharge Consent between 16 December 2020 and 20 January 2021. A further 244 responses were received through this process.

5.1.5 Public drop-in sessions were held on the following dates and locations.

Date	Location
1 March 2019	Ballygalley Castle Hotel – Company met with local political representatives
20/21 March 2019	The Gobbins Visitors Centre Company met members of public (approx. 12)
30 April 2019	Company ran drop in session for public (approx. 56)
22 May 2019	Islandmagee Orange Hall – two drop-in sessions (approx. 26)
27 June 2019	Islandmagee Orange Hall - two drop-in sessions (approx. 29) DAERA in attendance
30 July 2019	Islandmagee Orange Hall – two drop-in sessions (approx. 31) DAERA in attendance
21 August 2019	Islandmagee Orange Hall – two drop-in sessions (approx. 37) DAERA in attendance
25 September 2019	Larne Town Hall – drop-in session (approx. 38) DAERA in attendance
23 January 2020	The Gobbins Visitors Centre drop-in session (approx. 42) DAERA in attendance
24 January 2020	Larne Town Hall – drop-in session (approx. 12) DAERA in attendance
25 January 2020	Ballygalley Castle Hotel - drop-in session (approx. 6) DAERA in attendance
20 February 2020	The Gobbins Visitors Centre drop-in session (approx. 8) DAERA in attendance.



## 5.2 Consultation with Statutory Authorities

5.2.1 Responses were received from the following bodies with a statutory remit during the marine licence consultation.

Body	Response Received
Ref :- AE1 19 129575 Communication Register IMEL ML 28_12(3)	
DfE Gas Policy	27/03/2020
DfE Energy Co-ordination	05/02/2020
Commissioners of Irish Lights	
CNCC	
The Crown Estate	12/02/2020
Earth Science, Geological Survey of NI	17/02/2020
Maritime and Coastguard Agency	19/02/2020
DfI Rivers	18/02/2020
UK Hydrographic Office	28/01/2020
DAERA Conservation Designation & Protection	07/02/2020
DAERA Biodiversity & Conservation Science	10/03/2020
DAERA Marine Conservation & Reporting (Ornithology)	03/02/2020
DAERA Inland Fisheries	29/01/2020
DAERA Marine Conservation & Reporting	28/01/2020
DAERA MCR Archaeology	07/02/2020
DAERA Monitoring & Assessment Team & Benthic Survey (Tim Mackie)	03/02/2020 05/03/2020
DAERA Marine Strategy and Licensing Branch Bathing & Shellfish	28/01/2020
DAERA Sea Fisheries (Included concerns direct from industry)	
DAERA Water Management Unit	10/02/2020

## **6. The Environmental Statement**

6.1.1 The Department completed a Scoping Opinion in January 2009, outlining the marine topics to be covered within the Environmental Statement. The topics requested were as follows:

- Geological and hydrogeological setting of the proposed caverns
- Water and benthic ecology
- Coastal processes and hydrodynamics
- Marine navigation
- Marine mammals
- Fisheries, including commercial, recreational and indigenous
- Ornithology, including Article 6 assessment on ASSI/SPA features
- Marine archaeology and cultural heritage and
- Seascape / Landscape

6.1.2 These topics complement the issues that planners raised in the terrestrial process.

6.1.3 The original Environmental Statement was produced in March 2010. The topic covered in both documents are summarised below:

<b>Chapter</b>	<b>Environmental Statement March 2010</b>
1. Introduction	1.1 Islandmagee Storage, 1.2 Project summary, 1.3 Project justification, 1.4 Consideration of alternatives, 1.5 Planning policies, 1.6 Planning legislation, 1.7 Scope and format of EIS.
2. Consultations	2.1 Introduction, 2.2 Statutory and relevant bodies consultation, 2.3 Stakeholder consultation, 2.4 Further public consultation, 2.5 Press and internet, 2.6 Conclusions.
3. Site Description	3.1 Site location, 3.2 Site context and land use, 3.3 Larne Lough, 3.4 Islandmagee, 3.5 Infrastructure, 3.6 Larne and eastern shore of Larne Lough,
4. Project description	4.1 Proposed development, 4.2 Pipeline construction, 4.3 Wellpad construction, 4.4 Seawater intake, 4.5 Provisional construction vehicles and plant equipment 4.6 Well drilling and cavern construction, 4.7 Phasing and timescales, 4.8 Waste management, 4.9 Operations, 4.10 Decommissioning
5. Terrestrial flora, fauna and birds	5.1 Introduction, 5.2 Methodology, 5.3 Baseline assessment, 5.4 Impact assessment, 5.5 Mitigation, 5.6 Residual impacts, 5.7 Compensatory measures
6. Intertidal and underwater flora and fauna, fisheries and marine mammals	6.1 Introduction, 6.2 Intertidal field surveys, 6.3 Benthic video baseline survey, 6.4 Dive survey, 6.5 Sediment infaunal survey, 6.6 Brine discharge impacts, 6.7 Fisheries, 6.8 Marine Mammals, 6.9 Marine water quality
7. Air and Climate	7.1 Climate, 7.2 Noise, 7.3 Vibration, 7.4 Air quality

8. Material assets	
9. Coastal processes	9.1 Study methodology, 9.2 Modelling system, 9.3 Brine dispersion model, 9.4 Suspended solids, 9.5 HDD Breakout discharge conditions, 9.6 Summary and conclusions.
10. Cultural heritage	10.1 Terrestrial and intertidal archaeology, 10.2 Subtidal archaeology
11. Landscape and visual impact assessment	11.1 Introduction, 11.2 Statement of authority, 11.3 Methodology, 11.4 A statement of source material, 11.5 Baseline landscape setting, 11.6 Summary, 11.7 Landscape and visual assessment, 11.8 Design recommendations and mitigating measures, 11.9 Residual impacts.
12. Geology and hydrogeology	12.1 Regional settings, 12.2 Hydrogeology, 12.3 Drainage, 12.4 Slope stability, 12.5 Subsidence, 12.6 Impact assessment, 12.7 Residual impacts.
13. Human beings	13.1 Introduction, 13.2 Socio-economic profile, 13.3 Tourism, 13.4 Corporate and social responsibility, 13.5 Safety, 13.6 Conclusions.
14. Summary of Impacts and Mitigation Measures	14.1 Introduction, 14.2 Technical difficulties, 14.3 Conclusions.

6.1.4 This Environmental Statement was supplemented by an Addendum produced in 2011, following a request for further information under Regulation 15 of the Planning (EIA) Regulations, 1999.

6.1.5 The company re-engaged with the Department on the proposal during 2018 and on 20 August 2018, the Department advised that aspects of the EIA were now out of date and would have to be revisited, along with the Habitats Regulations Assessment. In 2019, the Department clarified the specific areas requiring updates to be

- avian and marine biodiversity, including foodweb considerations,
- underwater noise,
- cumulative effects and
- an update to the Brine Dispersal Model to consider the conclusions of the Front-End Engineering Design (FEED). A new third party audit of the model would also be required.

6.1.6 These are the primary areas where new information was required on receptors which were identified as more sensitive through the first consultations, or where there have been new developments through advances in modelling, or new designations. The information was presented in an updated Marine Licence application, a Marine Environmental Conditions Update and a shadow Habitats Regulations Assessment all produced in December 2019.

6.1.7 Under Regulation 22 of the Marine Works (EIA) Regulations, 2007, (as amended 2011) which this proposal is being considered under, the EIA Consent Decision must take account of the direct and indirect effects of the project on

- human beings, fauna and flora;

- soil, water, air, climate and the landscape;
- material assets and the cultural heritage; and
- the interaction between any two or more of the things mentioned in the preceding sub-paragraphs.

6.1.8 The main concerns expressed by consultees and the public around the marine elements of this project are;

- the potential impacts on water quality from both construction phases, the brine discharge and the follow-on impacts for marine flora and fauna, including seabirds, mammals and humans through tourism impacts;
- the impacts of noise during construction and operations;
- the overall safety of the cavern construction, operations and potential impacts on local residents;
- the arrangements for decommissioning the caverns infrastructure and how this is safely completed should the company fail; and
- the overall need for this project in the context of climate change and the Net Zero targets in the UK Climate Change Act, as amended.

## **7. Potential Environmental Impacts and Proposed Mitigation**

7.1.1 In assessing potential environmental impact and mitigation, it is useful to step through these in the order of the main concerns outlined above. The mitigation below is taken directly from the Environmental Statement, Addendum and the Marine Environmental Conditions Update. It should be noted that the mitigation and monitoring directly relates to the consultation responses from the statutory authorities and also from the public. The applicant plans to submit an Environmental Monitoring Programme to be agreed with the Department in advance of works commencing. The EMP will be overseen by and Environmental Clerk of Works.

7.1.2 The predicted impacts on all elements of flora and fauna have been updated in the Marine Environmental Conditions Report, 2019. This report also updated the baseline on Important Ecological Features. Section 7.4 examines the ecological receptor that may be impacted by the brine discharge, and scopes those receptors that may need further consideration.

### **7.2 Water Quality from Brine Discharge**

7.2.1 Concerns have been expressed throughout the consultation that the brine discharge will negatively impact the North Channel waters into which it flows. DAERA requested that the plume was modelled to show the overall impact. This key element also required an update in 2019 (in Appendix B of the 2019 documents), along with a third party audit, as is normal practice for the Department, which has no in-house modelling expertise.

7.2.2 The modelling shows that the most severely impacted area is restricted to 100 metres radius from the two discharge diffusers. Maximum salinity increases of more than 0.5psu (practical salinity units) above background are not anticipated to occur more than a few hundred metres from the diffuser and salinities in excess of 36 psu are not predicted to occur more than 100m from the diffuser.

The background salinity of the study area is approximately 34.2psu. Dilution and dispersion means that the brine discharge does not pose a threat to marine water quality beyond a 100m radius from the discharge diffusers. As the brine will be denser than surrounding sea water, it will impact on the bottom layers only and not on the whole water column. It will therefore not present a barrier to fish or mammal passage. Benthic infauna within the high salinity area 100m from the diffusers will be impacted. Motile organisms are likely to move out of the impacted zone, facilitated by a slow start-up to the brine discharge. Non-motile sediment dwellers will be impacted within the small area.

- 7.2.3 The rate of discharge is controlled through the Water (NI) Order 1999 consent. Monitoring will be a licence condition to ensure that the impact is no greater than that predicted by the model. The discharge will be temporary in nature for the duration of the solution mining process of creating the caverns and is likely to last for between 5 and 9 years only.

### **7.3 Mitigation to minimise the zone of influence of the brine discharge**

- The outfall pipe will comprise of two diffuser ports pointing vertically upwards and fitted with duckbill diffuser valves to maximise the dispersion and mixing of discharged brine and to prevent entrainment during any periods of shut down.
- Three real-time monitoring buoys will be deployed for the duration of the brine discharge. Two buoys will be located northwest and southeast of the marine outfall in positions that will enable brine monitoring 100m from the discharge point along the axis of the main tidal flow. The third buoy will be sited as a control. The buoys will monitor salinity at 3 depths, typically 1 metre from the seabed, 1 metre below the surface and mid water column. A plan for the deployment of the monitoring buoys will be submitted to the Department before that deployment.
- At the start of the solution mining process, a slow start trial discharge regime will be required for at least 1 month or longer (as agreed by DAERA), covering spring and neap tide events and slack water. Salinity monitoring will be required throughout to verify the modelling results and ensure that the impacted area is no larger than predicted.
- The real time water quality monitoring will be designed to send text messages to the Environmental Clerk of Works and the regulator. In the event that salinity levels are breached an immediate shut down must be initiated and this is a condition in the Water Order Consent.
- The monitoring buoys which provide real time water quality will be complemented by six brine tracking surveys in the first year of operation of the discharge to verify the findings of the modelling and be reviewed by the Department.

### **7.4 Impacts of Water Quality changes on Flora and Fauna**

- 7.4.1 Ecological receptors that were scoped out of further assessment were birds because there is no impact-receptor pathway between the saline discharge and

bird species. Marine mammals were also scoped out because the impact of the discharge is highly localised and small given the travel distances and behaviours of marine mammals.

- 7.4.2 The HRA highlighted that marine mammals, and in particular the Harbour porpoise use shallower water and eddies preferentially to the deeper waters of the North Channel. The modelling shows clearly that the maximum height of the saline discharge within the water column is about 7 metres. At no tidal state does the plume form a 'barrier' to the movement of fish or mammals and so it is clear that the integrity, structure and function of the North Channel SAC is maintained.
- 7.4.3 The elements scoped in for further study where there may be an impact are benthic ecology, Fish and shellfish ecology and plankton.
- 7.4.4 Although there is an impacted area for benthic ecology, the overall impact is considered low, because the impacted area is small and the size is controllable through the Water Order consent. In addition, the discharge is temporary in nature and expected to last for 5 years only, during the solution mining process. Once the discharge of saline water ceases, the salinity of the surrounding waters is expected to return to background levels within a few tidal cycles and normal ecological succession will recommence. Overall, the impact of the discharge is considered to be low.

## **7.5 Construction and Operational Noise**

- 7.5.1 The assessment of underwater noise is fully considered in Chapter 6 of the Marine Environmental Conditions Update Report, 2019. Underwater noise will arise principally from the pipeline construction for the water intake and discharge pipes. The formation of the caverns more than 1000m below the seabed will not result in measurable noise emissions. Noise from tunnelling, excavation and directional drilling for the pipes represent the worst-case noise events during construction and noise modelling has been carried out for these. The noise model results highlight that the underwater source levels are quite low intensity and barely exceed the injury threshold levels for fish and marine mammal species at close range from the source, which means that the impact radius will be small.
- 7.5.2 There are no projected underwater noise impacts due to either the operation of the seawater intake or brine discharge outfall. The operational noise from both of these will be close to the baseline levels of those arising from ferry traffic.
- 7.5.3 No blasting or use of explosives which would generate impulsive noise is anticipated. However, should this become necessary this will need to be tightly controlled through noise conditions on the Marine Licence to ensure that marine species, and in particular mammals, are protected.

## **7.6 Impacts of Noise on Flora and Fauna**

- 7.6.1 Ecological receptors that were scoped out of further assessment (Chapter 7.4) were plankton (excluding fish larvae), benthic communities, shellfish and birds, because there is no impact-receptor pathway between construction noise and

these ecological elements. Fish (including larvae) and marine mammals were scoped in for further study because there may be an impact from construction noise on these elements.

- 7.6.2 Noise produced as a result of tunnelling, excavation and drilling for the intake and outfall has the potential to generate underwater noise, which may impact on fish (including larvae and marine mammals). The construction of the intake and outfall pipes will be undertaken over a relatively short time period of 6 months and the type of noise generated will be non-impulsive and confined to a geographically-small area. Drilling and tunnelling are intermittent and will operate at full noise output for less than half of the overall construction time (3 months). The impact is expected to be of short-term duration, reversible and localised. The worst-case scenarios for construction activities are presented in Table 7-17 of the Marine Environmental Update Report, 2019.
- 7.6.3 The results have been compared to known noise sensitivities in different groups of fish, with and without swim bladders, larvae and eggs. The risk of mortality or impairment to all groups is deemed to be low and the effect is therefore also assessed as minor. Similarly, behavioural effects are assessed as minor.
- 7.6.4 In the case of mammals, the expected noise levels have been compared to Permanent Threshold Shift (PTS) and Temporary Threshold Shift (TTS) thresholds for continuous noise. Modelled noise levels during the construction phase is not predicted to exceed thresholds for any of the mammal species found in the location. The risk of auditory injury or disturbance is therefore expected to be negligible or of minor significance only.

## **7.7 Mitigation of Noise Impacts**

- 7.7.1 Precautionary measures must be implemented to minimise the risk of disturbance or injury to marine mammals during the construction activities, as is standard practice for most marine construction projects. The marine licence will include conditions to ensure that:
- Prior to works commencing, a marine mammal protocol shall be submitted and approved by the Department. The protocol shall be written and implemented in accordance with JNCC Guidance 'The protection of marine European Protected Species from injury and disturbance October 2010' Appendix C. This will involve a trained and experienced Marine Mammal Observer working to the UK National (JNCC) Marine Mammal Protocol.
  - Although blasting or activities that would involve impulsive noise are not anticipated, a specific condition is included to protect marine species as outlined in JNCC Guidance, should this become necessary.
  - Exclusion zones are put in place for divers and marine traffic – to be agreed in advance of construction works.

## **7.8 Sea Water Abstraction**

- 7.8.1 A seawater intake is required to provide sea water for the solution mining of the storage caverns. The proposed seawater intake is located on the east side of Islandmagee, extracting water from a depth of approximately 10 metres from the North Channel. A 450mm HDPE pipeline is to be installed from the intake head to the onshore sump by way of a tunnel and shaft. The water will be

abstracted and pumped across Islandmagee from the pumphouse located close to the shaft.

- 7.8.2 Concerns were raised during consultation about the possible impacts on marine species. During seawater intake, small marine fauna are vulnerable to both entrainment (direct intake via the intake head of fauna which are small enough to pass through the intake screen mesh into the salt caverns and then discharged with the brine, and impingement (when animals which are sufficiently large to avoid going through the intake screen are trapped against the surface by the force of the flowing water.

## **7.9 Impacts of Entrainment and Impingement on Flora and Fauna**

- 7.9.1 Ecological receptors that were scoped out were benthic communities because these are sessile, marine mammals because the diameter of the outfall pipe is 450mm and the flow of waters is calculated to be <0.1 m/s, with a maximum velocity of 0.15m/s. This is almost equivalent to the lowest expected tidal velocity. Marine mammals are too large to be entrained and too agile to be impinged and have therefore been scoped out of further assessment. Birds were also scoped out as there is no impact-receptor pathway. Plankton, fish and shellfish were scoped in.
- 7.9.2 Although plankton are fully passive, lacking the ability to avoid intake flow regardless of velocity, the numbers of entrained plankton are modelled to be low. Plankton are deemed to be of medium vulnerability and high recoverability. The overall impacts on plankton species is expected to be of minor adverse significance.
- 7.9.3 As the entrance velocities at the screen intake are low, fish impingement is also likely to be minor. Even fish of 20mm in length have a critical swimming speed of 20cm/s, which is greater than the velocity of the intake. The level of entrainment is also expected to be low because at the expected velocity of intake, even juvenile fish will have the ability to swim away, and because of the position of the intake located above the sea floor. Fish receptors are deemed to be of low vulnerability and high recoverability and therefore the significance of the effect is also deemed to be of minor significance.

## **7.10 Mitigation on Abstraction**

- 7.10.1 A grill with a mesh of 12mm across the intake will be installed to prevent, in particular, European eel and salmonid smolts from being entrained. As stated above, smolts and eels (above 20 mm in length) have the critical swimming speed of 20cm/sec necessary to avoid entrapment against a 12mm screen, operating at an intake velocity of 0.15m/sec. The overall maximum daily abstraction will be restricted to 24,000 cubic metres per day as a condition of the abstraction / impoundment licence. This abstraction is classed as non-consumptive as all the sea water will be returned to the marine environment.

## **7.11 Water Quality Impacts on Humans and on Tourism**



- 7.11.1 Concerns have been raised through the consultation process as to whether there will be an impact on water quality would extend to Brown's Bay, which is an identified bathing water. This is explored along with whether there is any possibility of a knock-on effect on tourism from reduced water quality in Chapter 14 of the original Environmental Statement.
- 7.11.2 The small footprint of the brine discharge has already been explained above and the impacted area will be restricted to 100m radius from the diffuser heads. The reworked modelling in Appendix B of the 2019 documents clearly shows there is no impact from the discharge to Brown's Bay bathing water. In addition, the discharge does not contain the bacteria that would cause a failure of a bathing water.
- 7.11.3 There have been concerns that impacted water quality will have a knock-on effect on bird populations and therefore on visitor trips to Islandmagee for bird watchers, or visitors to the Gobbin's Coastal Path. As shown above, the brine plume will not have a negative impact outside the small area of seabed around the diffusers of the discharge point. It is highly unlikely that the proposal will impact on tourism in the area.

## **7.12 Safety of Cavern Construction and Operation**

- 7.12.1 The construction and operation of the gas caverns fall under the Control of Major Accident Hazards Regulations (COMAH) (Northern Ireland) 2000, for which the Health and Safety Executive (NI) is joint competent authority with NIEA. The proposed development is an 'Upper Tier' COMAH site. This requires the applicant to ensure that adequate engineering or procedural safeguards will be in place to control risk for major accident scenarios and that risk are reduced to a level that is as low as reasonably practicable (ALARP).
- 7.12.2 The Environmental Statement (13.5.4) states that a pre-construction safety report will be submitted to the competent authority three to six months before construction starts. Construction cannot commence until the competent authority has advised of conclusions. On-site emergency plans will be prepared by Islandmagee Storage Limited, and off-site emergency plans will be developed in consultation with the local authority. Operations at the site will be subject to regular inspections by HSENI.
- 7.12.3 Under COMAH, the operator will have to submit a safety report before construction. This safety report must demonstrate;
- Justification of the design chosen, standards and specifications used.
  - An explanation of how they provide a defence against the various potential failure modes identified
  - The physical integrity of plant and equipment from design through construction to operation and maintenance.
  - Suitable materials are selected for construction and provide structural integrity for the containment of dangerous substances, including measures to protect against overpressure.
- 7.12.4 The COMAH Competent Authority (consisting of HSENI and NIEA) will review the Safety Report before construction commences. The review of a Safety Report of a project of this complexity will require specialists from various fields.

7.12.5 The construction activity will come under the Construction (Design and Management) Regulations (NI) 2016, which are enforced by HSENI.

7.12.6 As the proposed development includes underground storage caverns, an additional requirement under COMAH is a demonstration of compliance with the Offshore Installations and Wells (Design and Construction, etc.) Regulations (NI) 1996 or an equivalence at a minimum. This will include the requirement for;

- An independent well verifier to be appointed to develop and review the well design.
- Drilling reports to be provided weekly or at other intervals, as agreed with HSENI.

7.12.7 The duty to comply with the relevant health and safety legislation, including controlling and mitigating risks, is with the developer/operator.

### **7.13 Mitigation on Safety Aspects**

7.13.1 DAERA will include an informative on the Marine Licence to ensure that the COMAH requirements are fully understood by the Company.

### **7.14 Decommissioning of Caverns and Associated Infrastructure**

7.14.1 Concerns have been raised as to how the caverns and infrastructure will be decommissioned at the end of the project life. There are legitimate queries as to what guarantees can be provided in the event of company failure?

7.14.2 Outline arrangements for the decommissioning of the caverns and infrastructure will be conditioned in the marine licence and there will be a requirement for a new marine licence at that time, which will take on board legislative changes at that time. However, the marine licensing system under the Marine and Coastal Access Act does not provide an appropriate mechanism for underwriting liabilities associated with decommissioning. The Department has discussed this with both the Department for the Economy and the landowners of the seabed, The Crown Estate.

7.14.3 IMEL is responsible for the safe decommissioning of the gas storage caverns at the end of the project life and for ensuring that arrangements are made in respect of any residual liabilities.

7.14.4 For offshore oil and gas projects in Great Britain, there is a decommissioning regime administered by the Department of Business, Energy and Industrial Strategy (BEIS) and the Oil and Gas Authority. A similar regime does not exist within Northern Ireland. Discussions will need to be advanced on that between Northern Ireland and GB Departments. The Crown Estate, will require that IMEL prepares an acceptable Abandonment Programme applicable to the works including the arrangements for residual liabilities. The Crown Estate agreement requires that conditions are satisfied before any lease can be entered into or any works in the marine space can be carried out; these also relate to residual liabilities and the 'decommissioner of last resort' issue.

## **7.15 Mitigation on the Residual Liabilities and the Decommissioner of Last Resort**

7.15.1 An informative will be placed on the licence to advise that construction in the marine area cannot commence until a full lease is in place from The Crown Estate.

## **7.16 Climate Change and Net Zero Commitments**

7.16.1 One of the comments coming forth from consultees has been around the overall need for the project, and how this fits with Northern Ireland's aspirations around energy policy and meeting Net Zero commitments.

7.16.2 The primary considerations around the licensing of this facility rest on the overall need for the project as outlined in the Strategic Energy Framework 2010. All of Northern Ireland's natural gas requirements are provided via an undersea pipeline from Scotland, and there are established arrangements to ensure gas security of supply, including consideration on a UK / Ireland basis.

7.16.3 The 2010 Strategic Energy Framework noted that a gas storage facility in Northern Ireland would provide additional security of supply for electricity and gas consumption and had the potential to benefit both parts of the island and the UK mainland. The document noted concerns about security of gas supply, and commented that it encouraged investment and research in underground energy storage, including work aimed at realising the potential for gas storage. It also noted commercial interest in developing a gas storage facility in the Larne / Islandmagee area.

7.16.4 The Department for the Economy supported the Islandmagee Gas Storage project's applications for designation as a Project of Common Interest under the EU TEN-E Regulation, and subsequent applications for Connecting Europe Facility grant funding, on the basis that, while there are established arrangements to ensure gas security of supply, Northern Ireland is wholly dependent on imported gas, and a local storage facility would enhance security of energy supply.

7.16.5 The context for energy has changed substantially since the 2010 Strategic Energy Framework was published. In June 2019, the UK became the first major economy to establish a target to bring all greenhouse gas emissions to net zero by 2050.

7.16.6 The Department for the Economy has begun the process of developing a new Energy Strategy and, as part of the on-going public engagement process to help inform and shape this strategy, issued a Call for Evidence which closed on 3 April 2020. Following analysis of this, a consultation paper was launched on 31 March 2021 on draft options for the future Energy Strategy. The new Energy Strategy will require Ministerial and NI Executive endorsement. The Energy Strategy may consider issues like security of supply risks and energy storage considerations.

7.16.7 IMEL has also indicated the caverns could be repurposed in the future for hydrogen or compressed air storage, as reliance on natural gas diminishes. Although that is not part of the current application, or planning permission, the potential for repurposing is a consideration. There are very few areas where caverns can be safely created below ground and the area under the vicinity of Islandmagee / Larne Lough is unique in Northern Ireland.

7.16.8 Within the draft Marine Plan for Northern Ireland, there is a presumption in favour of energy proposals that improve the security and diversity of energy supply, where it can be demonstrated:

- a) there will be no unacceptable adverse impact throughout the lifetime of the proposal on marine activities, uses and/or the marine area and any potential adverse impact is, in order of preference – avoided, minimised and/or mitigated; and
- b) restoration/decommissioning measures have been agreed, where necessary.

7.16.7 The conclusions of this assessment are that there are no unacceptable adverse impacts throughout the lifetime of the proposal and that local impacts can be mitigated. The arrangements with The Crown Estate, mean that DAERA is satisfied that the building work below MHWS cannot commence without a lease in place which resolves all the decommissioning issues.

## **7.17 Cumulative Effects**

7.17.1 DAERA had requested an assessment of cumulative effects of the project with other developments in the area and this is covered in Section 8 of the Marine Environmental Conditions Update Report, 2019. The most significant nearby project was the similar proposed Gaelectric Energy Storage Scheme for compressed air in sub seabed gas caverns. However this scheme proposal was withdrawn in July 2019. Other projects considered in the assessment included Ballylumford Harbour Remedial Works, Ferries Bay Waste Water Treatment Works, Ballylumford Waste Water Treatment Works and Coastal Erosion defences at Blue Circle island. The cumulative assessment concluded that due to the nature of these projects, there will be no resulting cumulative effects when considered in combination with the Islandmagee Gas Storage facility.

## **7.18 Other Mitigation Measures**

7.18.1 In addition to the main issues raised above, there are other important areas for which mitigation measures are required. These are outlined below:

## **7.19 Construction Environmental Management Plan**

7.19.1 The successful contractor will be required to produce a Construction Environmental Management Plan (CEMP) before works commence. This will be submitted to DAERA M&FD 2 months before construction is due to start, and will follow best practice construction guidelines covering the following – the prevention of water pollution, the prevention of disturbance through noise, vibration, dust and visual impacts. Overseen by Ecological Clerk of Works.

## **7.20 Social and Economic**

7.20.1 As Islandmagee lacks the infrastructural requirements to supply natural gas to each household, the local community will receive few direct benefits from the proposed project. Job opportunities post-construction are also relatively small. As a compensatory measure, the Company proposed to set up a community benefit scheme as part of the overall proposal. A community fund of £1M has been created by Islandmagee Energy Ltd, with the aim of supporting local projects and initiatives over the life of the project. A committee is responsible for the allocation of the trust fund, and will act as a selection panel to fairly and appropriately allocate investment.

## **7.21 Navigational**

7.21.1 The construction and operation of the proposed project must not compromise safety of life at sea and navigation. As such, the competent authority, the Maritime and Coastguard Agency requests the following conditions on the licence.

- The Licensee must ensure that HM Coastguard, in this case nmoccontroller@hmcg.gov.uk, The National Maritime Operations Centre is made aware of the works prior to commencement.
- The Licensee must notify the UK Hydrographic Office to permit the promulgation of maritime safety information and updating of nautical charts and publications through the national Notice to Mariners system.
- The Licensee must issue local notification to marine users - including fisherman's organisations, neighbouring port authorities and other local stakeholders - to ensure that they are made fully aware of the activity.
- Any consented cable/pipeline protection works must ensure existing and future safe navigation is not compromised. The MCA would accept a maximum of 5% reduction in surrounding depth referenced to Chart Datum but under no circumstances should depth reductions compromise safe navigation.

7.21.2 In addition the following informatives are to be added.

- The Consent Holder should ensure suitable bunding, storage facilities are employed to prevent the release of fuel oils, lubricating fluids associated with the plant and equipment into the marine environment. This informative will be part of the Construction Environmental Management Plan.
- Any jack up barges / vessels utilised during the works/laying of the cable, when jacked up, should exhibit signals in accordance with the UK Standard Marking Schedule for Offshore Installations.
- The cavern site is within port limits and the applicant should gain the approval/agreement of the responsible local navigation authority or the Harbour Authority/Commissioners/Council. They may wish to issue local warnings to alert those navigating in the vicinity to the presence of the works, as deemed necessary. (Applicable to site within Port of Larne SHA jurisdiction only.)
- If in the opinion of the Secretary of State for Transport, the assistance of a Government Department, including the broadcast of navigational warnings,

is required in connection with the works or to deal with any emergency arising from the failure to mark and light the works as required by the consent or to maintain the works in good order or from the drifting or wreck of the works, the owner of the works shall be liable for any expense incurred in securing such assistance.

## **7.22 Drainage and flooding**

7.22.1 DfI Rivers advises that the works are located close to a site designated under the Drainage (NI) Order, 1973 and requests that the following informatives are added to the licence.

- If during the course of developing a site a watercourse is uncovered which was not previously evident, the appropriate DfI Rivers Office should be advised immediately in order that arrangements may be made for the investigation and direction in respect of any possible action necessary to deal with the watercourse. Piped storm drains, culverts, open channels etc. may be considered to be watercourses.
- Any proposals either temporary or permanent, in connection with the development, which involve interference with any watercourse at the site such as culverting, bridging, diversion, building adjacent or discharge of storm water etc require the written consent (known as "Schedule 6 Consent") from DfI Rivers.
- Failure to obtain Schedule 6 Consent is an offence under the provisions of the above Order, which may lead to prosecution or other statutory action as provided for.
- In this instance the appropriate DfI Rivers office to contact in respect of Schedule 6 applications and any other general enquiries is:

Lisburn Area Office,  
Ravarnet House  
15 Altona Road  
Lisburn  
BT27 5QB  
Tel: 028 92 606100

## **7.23 Inland Fisheries**

7.23.1 In addition to the mitigation agreed above, M&FD Inland Fisheries request an informative around the protection of fisheries;

The UK is a signatory to North Atlantic Salmon Conservation Organisation (NASCO), under which we are legally obliged to protect, restore and enhance the habitat of the North Atlantic Salmon species. Section 47 of the Fisheries Act (NI) 1966, which covers the applicant's responsibilities relating to Penalties for Pollution and the consequences of causing or permitting the release of any deleterious materials into any waters.

## **7.24 Archaeology**

7.24.1 Marine Conservation and Reporting team (Marine Archaeology Section) have considered the impacts of the proposal and on the basis of the information provided in the original EIS, and the results of previous marine geophysical surveys completed, are content that the proposal is unlikely to have a significant impact on heritage assets below Mean High Water Mark (MHWM). The following conditions must be added to the licence:

- In the event of an unanticipated archaeological discovery being made during works the Licensee(s) attention is drawn to the below condition and reference to Guidance Note: For the Discovery of Unanticipated Underwater Archaeological Heritage.
- In the event of a discovery of an archaeological object and/or remains during marine works the Department would ask that you: (1) record the position and details of the site; (2) do not disturb the site further and (3) contact DAERA Marine and Fisheries Division, Klondyke Building, Cromac Avenue, Belfast BT7 2JA for further advice.

And the following informative

- The Licence Holder should be aware of the need to pay due regard to coastal and marine historic assets where they remain as archaeological material and attention is drawn to Strategic Planning Policy Statement for Northern Ireland (SPPS), Planning Policy Statement 6: Planning, Archaeology and the Built Heritage (PPS6) and the UK Marine Policy Statement (UK MPS).
- There is a legal obligation to report archaeological objects within 14 days under the provisions of the Historic Monuments and Archaeological Objects (Northern Ireland) Order 1995 and to report historic wreck material to the Receiver of Wreck under the Merchant Shipping Act 1995.
- The DAERA document Guidance Note: For the Discovery of Unanticipated Underwater Archaeological Heritage (<https://www.daera-ni.gov.uk/publications/guidance-note-discovery-unanticipated-underwater-archaeological-heritage>) sets out best practice and legal responsibilities in the reporting of unanticipated finds of archaeological interest made during the course of marine construction and/or dredging projects.

## **7.25 Nature Conservation**

7.25.1 In addition to the specific mitigation measures around noise to protect mammals above, the following condition is to be added.

- Prior to works commencing, a marine biosecurity protocol shall be submitted to and approved by the Department. Guidance is provided here <https://www.daera-ni.gov.uk/articles/monitoring-marine-invasive-non-native-species>

And the following informatives

- **European Marine Protected Species**  
The applicant's attention is drawn to regulation 34 of The Conservation (Natural Habitats, etc.) Regulations (Northern Ireland) 1995 (as amended), which details offences relevant to all species of dolphins, porpoises and whales and the marine turtle species. It is the applicant responsibility to ensure that an offence is not committed as a result of operations carried out as part of this proposal.  
For further information please see <https://www.daera-ni.gov.uk/articles/marine-wildlife-licensing#toc-2>
- **National Marine Protected Species**  
The applicant's attention is drawn to Article 10 of the Wildlife (Northern Ireland) Order 1985 (as amended) which details offences relevant to marine protected species. It is the applicant responsibility to ensure that an offence is not committed as a result of operations carried out as part of this proposal.  
For further information please see <https://www.daera-ni.gov.uk/articles/marine-wildlife-licensing#toc-2>
- **Invasive Species**  
The applicant's attention is drawn to Article 15 of the Wildlife (Northern Ireland) Order 1985 (as amended) under which it is an offence if any person releases or allows to escape into the wild any animal which—  
a) is of a kind which is not ordinarily resident in and is not a regular visitor to Northern Ireland in a wild (or is a hybrid of any animal of that kind), or b) is included in Part I of Schedule 9 (or is a hybrid of any animal included in that Part), he shall be guilty of an offence.

List of Part I, Schedule 9 species

<https://www.legislation.gov.uk/nisi/1985/171/schedule/9>

Article 15 of the Wildlife (Northern Ireland) Order 1985

<https://www.legislation.gov.uk/nisi/1985/171/article/15>

Please see the following link for Best Practice Guidance:

Marine Biosecurity Planning Guidance

## **7.26 Environmental Monitoring Programme**

7.26.1 The salinity monitoring outlined above and is closely linked with the consent conditions. However, there are other elements of monitoring that are not directly linked to mitigation, but are important in understanding the ecology of this area and that demonstrate the actual environmental impact of the brine discharge. These have been outlined in Chapter 9 of the Marine Environmental Conditions Update, 2019.

7.26.2 The final version of the Environmental Monitoring Programme (EMP) is subject to agreement with DAERA following discussions with a Science and Technical Advisory Group that DAERA will Chair. The main components of the programme are as follows

- *In situ* monitoring of the brine discharge, incorporating water quality monitoring alarms as outlined above;



- Additional brine tracking surveys – a minimum of six within the first year of the discharge
- Marine mammal monitoring through both Static Acoustic Monitoring before, during and after construction
- Marine mammal observers
- Monthly seal surveys before, during and after construction
- Benthic grab and video surveys on agreed transects pre-construction, annually during the brine discharge and for a further two years annually after the brine discharge stops.
- Fisheries beam trawl, pot fishery and by-catch survey pre-construction, annually during the brine discharge and for a further two years annually after the brine discharge stops, undertaken in co-operation with local fishers.
- Bird survey

7.26.3 The Environmental Monitoring Programme will be a condition of the marine licence.

## **8. Decision**

8.1.1 The Environmental Statement and further environmental information produced in relation to this proposed project included issues relating to both the terrestrial and marine aspects of the project. The terrestrial planning permission has been previously awarded and this decision document considers marine issues only.

8.1.2 Based on the advice received through consultation, the Marine Licensing Authority concludes that EIA consent for the marine aspects of the project can be given. The Marine Licensing Authority through assessment of the environmental impacts detailed within the Environmental Statement and through consultation believe that all material considerations have been assessed and adequate mitigation has been identified to minimise the impacts of the project. The mitigation identified has been incorporated into the Marine Licence and associated DAERA licences and will augment the existing mitigation in the planning permission.

**Signed:**



**Claire Vincent**  
**Principal Scientific Officer – Marine Strategy and Licensing Branch**  
**Marine and Fisheries Division**