From: Andrew Sutherland
Marine Scotland Licensing Operations Team
Marine Scotland
12 September 2013

Minister for Energy, Enterprise and Tourism

APPLICATION FOR CONSENT UNDER SECTION 36 OF THE ELECTRICITY ACT TO CONSTRUCT AND OPERATE A 86 MW TIDAL ARRAY BETWEEN THE ISLAND OF STROMA AND THE SCOTTISH MAINLAND IN THE INNER SOUND OF THE PENTLAND FIRTH.

Purpose

To seek your determination on the application by MeyGen Limited ('the Company') for consent under section 36 of the Electricity Act 1989 to construct and operate a 86 MW tidal array located in the Inner Sound of the Pentland Firth comprising of up to 61 tidal turbines.

Priority

Routine.

Background

On 13 July 2012, the Company applied to Marine Scotland for consent to construct and operate a tidal powered electricity generating station, comprising of 86 tidal turbines and associated offshore infrastructure such as inter array cables and export cables to shore within the Inner Sound of the Pentland Firth ('the Development').

As a result of issues raised during the consultation process, supplementary environmental information was required and this was submitted by the Company on 15th April 2013. This Supplementary Environmental Information Statement ('SEIS') to the application included information which was absent from the original Environmental Statement ('ES') as well as a revised Habitat Regulations Appraisal ('HRA') report.

In accordance with standard procedure and statutory requirements, this application has been advertised in line with the legislative requirements and has been subject to wide ranging consultation which afforded interested parties appropriate time to submit representations to the Scottish Minsters. We are satisfied that there are no outstanding issues that should prevent the application for section 36 consent being approved should you determine that is appropriate.

An application for planning permission under the Town and Country Planning (Scotland) Act 1997 regarding the ancillary onshore infrastructure for the Development, was submitted by the Company to The Highland Council on 25th July 2012. A decision has not yet been made by The Highland Council on the planning application.

Assessment

As well as delivering renewable electricity to the National Grid, making a valuable contribution to the renewables obligation and climate change targets in Scotland, the Development would be the first commercial tidal array to be constructed in Scotland and the first phase of a proposal that may, in the future, be ultimately capable of generating up to a total of 398 MW.

If licensed and consented, the Development, once fully constructed and operational, would provide energy equivalent to the needs of approximately 42,000 homes. Background and consultation information for the proposal is set out at **ANNEX B – BACKGROUND INFORMATION**.

Consultation Summary

During the consultation process, objections were received from, amongst others, the Scottish Environment Protection Agency ('SEPA'), Scottish Natural Heritage ('SNH'), the Royal Society for the Protection of Birds ('RSPB'), the Association of Salmon Fishery Boards ('ASFB'), Caithness District Salmon Fishery Board ('CDSFB'), Scottish Fisherman's Federation ('SFF') and Whale and Dolphin Conservation ('WDC').

Following the receipt of the SEIS, and further discussion between the Company and the above named consultees, all their objections were withdrawn subject to conditions and/or agreements being in place to minimise the impact(s) of the Development.

Objections from members of the public are being maintained.

Public Representations

This is not a contentious development, receiving a total of seventeen representations (17) from members of the public during both consultation periods. Of these, thirteen (13) object to the Development, two (2) support it and two (2) are neutral. These are summarised in **ANNEX F – PUBLIC REPRESENTATIONS.**

Publicity

Should you determine that approval of the application for section 36 consent is appropriate in this case, there is an opportunity to announce the consent at the Scottish Renewables Marine Conference in Inverness where you are scheduled to give a Ministerial Address on the 16th of September.

Officials will liaise with Communications once a determination has been made on this application to determine the appropriate means of announcing the decision.

To meet any Freedom of Information requests, and in order for the determination process to be fully open and transparent, we recommend that this submission is published on the Marine Scotland Licensing page of the Scottish Government

website, alongside the key documentation relating to the application including consultee responses and public representations with personal information, e.g. names, email addresses and phone numbers redacted.

Recommendation

Having taken all material issues into account, including the statutory consultation responses, public representations and all other material considerations, and being satisfied that all legislative requirements have been met, we recommend that you should**:**

> **Determine that it is appropriate not to cause a public inquiry to be held and to grant consent under section 36 of the Electricity Act 1989 for the full 86 MW array on condition that the initial deployment is restricted to six turbines and their associated infrastructure, on the condition that further turbines to which the consent relates are to be constructed and operated only when approved in writing by the Scottish Ministers.**

List of Annexes

ANNEX A	REGULATORY REQUIREMENTS: LEGISLATION AND POLICY
ANNEX B	BACKGROUND INFORMATION AND SCOTTISH MINISTERS' CONSIDERATIONS
ANNEX C	ADVICE TO MINISTERS AND RECOMMENDATION
ANNEX D	DECISION LETTER AND CONDITIONS
ANNEX E	APPROPRIATE ASSESSMENT
ANNEX F	PUBLIC REPRESENTATIONS
ANNEX G	PROJECT LOCATION

Andrew Sutherland, Marine Renewables Licensing Advisor, Marine Planning & Policy, Ext: 785486

Copy List:	For Action	For Comments	For Information		
			Portfolio Interest	Constit Interest	General Awareness
Cabinet Secretary for Finance, Employment and Sustainable Growth			X		
Cabinet Secretary for Rural Affairs and the Environment			X		
Minister for Environment and Climate Change			X		
Minister for Transport and Veterans					X
Minister for Local Government & Planning					X

DG Enterprise & Environment
Linda Rosborough – Marine Scotland
David Palmer – Marine Scotland
Jim McKie – Marine Scotland
Phil Gilmour – Marine Scotland
Mark Christie – Marine Scotland
David Mallon – Marine Scotland
Ian Davies – Marine Scotland
Nim Kumar – Marine Scotland
Mary McAllan – Energy & Climate Change
Chris Stark – Energy & Climate Change
Simon Coote – Energy & Climate Change
Lesley McNeil – Energy & Climate Change
Janine Kellett – Energy & Climate Change
Ryan Gunn – Energy & Climate Change
Julie Steel – Energy & Climate Change
Alan Williams - SGLD
Ian Vickerstaff - SGLD
Sophie Corbett – Planning
Keith Connal – E&RA
Iain Malcolm - Freshwater Fisheries
Chris Wilcock – Ports and Harbours
Malcolm Fleming - Advisor
Communications - Greener
Communications – Wealthier and Fairer

ANNEX A – REGULATORY REQUIREMENTS: LEGISLATION AND POLICY

APPLICATION FOR CONSENT UNDER SECTION 36 OF THE ELECTRICITY ACT 1989 AND A MARINE LICENCE UNDER PART 4 OF THE MARINE (SCOTLAND) ACT 2010 TO CONSTRUCT AND OPERATE A 86 MW TIDAL ARRAY, INNER SOUND OF THE PENTLAND FIRTH.

LEGISLATION

The Electricity Act 1989

1. Any proposal to construct, extend or operate a generating station situated in the territorial sea (out to 12 nautical miles) and wholly or mainly driven by water or wind with a generation capacity in excess of 1 megawatt requires consent under section 36 of the Electricity Act 1989 (as amended) ('the Electricity Act'). This substituted reduced capacity is implemented through the Electricity Act 1989 (Requirement of Consent for Offshore Generating Stations) (Scotland) Order 2002. A consent under section 36 may include such conditions (including conditions as to the ownership or operation of the station) as appear to the Scottish Ministers to be appropriate. The consent shall continue in force for such period as may be specified in or determined by or under the consent.

2. Paragraph 3 of Schedule 9 to the Electricity Act places a duty on operators of generating stations to have regard to the desirability of preserving natural beauty, of conserving flora, fauna and geological or physiographical features of special interest and of protecting sites, buildings and objects of architectural, historic or archaeological interest. Operators of generating stations are statutorily obliged to do what they reasonably can to mitigate any effect the proposal may have on these features.

3. Paragraph 3 of Schedule 9 to the Electricity Act also provides that the Scottish Ministers must have regard to the desirability of these matters and the extent to which operators of generating stations have complied with their duty to mitigate the effects of the proposal. The Scottish Ministers must also avoid, so far as possible, causing injury to fisheries or to the stock of fish in any waters.

4. Under section 36B of the Electricity Act the Scottish Ministers may not grant a consent in relation to any particular offshore generating station activities if they consider that interference with the use of recognised sea lanes essential to international navigation is likely to be caused by the carrying on of those activities or is likely to result from their having been carried on. The Scottish Ministers, when determining whether to give consent for any particular offshore generating activities, must have regard to the extent and nature of any obstruction or danger to navigation which, without amounting to interference with the use of such sea lanes, is likely to be caused by the carrying on of the activities, or is likely to result from their having been carried on. In determining this issue the Scottish Ministers must have regard to the likely overall effect of the activities in question and such other offshore

generating activities which are either already subject to section 36 consent or activities for which it appears likely that such consents will be granted.

5. The Scottish Ministers are required to obtain the advice of the Scottish Environment Protection Agency ('SEPA') on matters relating to the protection of the water environment.

6. Under Schedule 8 to the Electricity Act and the Electricity (Applications for Consent) Regulations 1990, notice of applications for section 36 consent must be published by the Company in one or more local newspapers, in one or more national newspapers and in the Edinburgh Gazette to allow representations to be made to the application. Under Schedule 8 the Scottish Ministers must serve notice of application for consent upon any relevant Planning Authority. As the Development is wholly offshore the closest planning authorities are not 'relevant Planning Authorities' in terms of the Electricity Act.

7. You can be satisfied that all the necessary tests set out within the Electricity Act when assessing the application and all procedural requirements have been complied with.

8. Paragraph 2(2) of Schedule 8 to the Electricity Act provides that where a relevant planning authority notifies the Scottish Ministers that they object to an application for section 36 consent and where they do not withdraw their objection then the Scottish Ministers must cause a public inquiry to be held in respect of the application. In such circumstances before determining whether to give their consent the Scottish Ministers must consider the objections and the report of the person who held the public inquiry.

9. The location and extent of the proposed development to which the Application relates being wholly offshore means that the development is not within the area of any local planning authority. The Scottish Ministers are not, therefore, obliged under paragraph 2(2) of Schedule 8 to the Electricity Act to require a public inquiry to be held. The nearest local planning authorities did not object to the Application. If they had objected to the Application, and even then if they did not withdraw their objections, the Scottish Ministers would not have been statutorily obliged to hold a public inquiry.

10. The Scottish Ministers are, however, required under paragraph 3(2) of Schedule 8 to the Electricity Act to consider all objections received, together with all other material considerations, with a view to determining whether a public inquiry should be held in respect of the application. Paragraph 3(2) of Schedule 8 provides that if the Scottish Ministers think it appropriate to do so, they shall cause a public inquiry to be held, either in addition to or instead of any other hearing or opportunity of stating objections to the application.

Electricity Works (Environmental Impact Assessment) (Scotland) Regulations 2000

11. The Environmental Impact Assessment Directive, which is targeted at projects which are likely to have significant effects on the environment, identifies projects which require an environmental impact assessment ('EIA') to be undertaken. The Company identified the proposed development as one requiring an environmental statement in terms of the Electricity Works (Environmental Impact Assessment) (Scotland) Regulations 2000 (as amended).

12. The proposal for the Development has been publicised, to include making the environmental statement available to the public, in terms of those regulations. An Environmental Statement has been produced and the applicable procedures regarding publicity and consultation all as laid down in those regulations have been followed.

13. In compliance with those Regulations, consultation with Scottish Natural Heritage ('SNH'), SEPA, the planning authorities most local to the development, and such other persons likely to be concerned by the proposed development by reason of their specific environmental responsibilities on the terms of the environmental statement and the supplementary environmental information statement has been undertaken in accordance with the regulatory requirements. Scottish Ministers have also consulted a wide range of relevant organisations including colleagues within the Scottish Government on the Application and on the environmental statement and, as a result of the issues raised during the initial consultation, upon the required Supplementary Environmental Information Statement.

14. Officials consider that you can be satisfied that the regulatory requirements have been met. They have taken into consideration the environmental information, including the Environmental Statement and Supplementary Environmental Information Statement, and the representations received from the statutory consultative bodies.

The Habitats Directive

15. The Habitats Directive on the conservation of natural habitats and wild fauna and flora has, in relation to the marine environment, been transposed into Scots law by the Conservation (Natural Habitats, & c.) Regulations 1994 ('the 1994 Regulations') and the Offshore Marine Conservation (Natural Habitats, & c.) Regulations 2007.

16. The key mechanism for securing compliance with the Directive is the carrying out of an Article 6(3) Appropriate Assessment under regulation 48 of the 1994 Regulations. Developments in, or adjacent to protected sites, or in locations which have the potential to affect such sites, must undergo what is commonly referred to as a Habitats Regulations Appraisal. The appraisal involves two stages, and if the proposal is likely to have a significant effect on a protected site, then an Appropriate Assessment must be carried out.

17. SNH, the Association of Salmon Fishery Boards ('ASFB'), Whale and Dolphin Conservation ('WDC') and the Royal Society for the Protection of Birds ('RSPB') Scotland in particular flagged up issues in relation to the 1994 Regulations, as the proposal has the potential to impact on certain Special Protection Areas ('SPAs') and Special Areas of Conservation ('SACs'). In SNH's view, the proposal is likely to have a significant effect on the qualifying interests of certain SPA and SAC sites.

18. In line with advice from SNH and to ensure compliance with EU obligations under the Habitats Directive, Scottish Ministers have undertaken an Appropriate Assessment which has ascertained that the Development will not adversely affect the integrity of any European protected sites. Conditions can be imposed on any grant of consent ensuring that this is the case (**ANNEX E – APPROPRIATE ASSESSMENT**). The Appropriate Assessment will be made available on Marine Scotland's Licensing Operations Team website.

Marine (Scotland) Act 2010

19. The Marine (Scotland) Act 2010 regulates the territorial sea adjacent to Scotland in terms of marine environment issues. Subject to exemptions specified in subordinate legislation, under Part 4 of the Marine (Scotland) Act 2010 licensable marine activities may only be carried out in accordance with a marine licence granted by the Scottish Ministers.

20. Under Part 2 of the Marine (Scotland) Act 2010, the Scottish Ministers have general duties to carry out their functions in a way best calculated to achieve the sustainable development, including the protection and, where appropriate, the enhancement of the health of the area. Under that Part of that Act the Scottish Ministers must, when exercising any function that affects the Scottish marine area under the Marine (Scotland) Act 2010, act in the way best calculated to mitigate, and adapt to, climate change so far as is consistent with the purpose of the function concerned.

Climate Change (Scotland) Act 2009

21. Also of relevance to the Application is that under Part 2 of the Marine (Scotland) Act 2010 the Scottish Ministers must, when exercising any function that affects the Scottish marine area under the Climate Change (Scotland) Act 2009, act in the way best calculated to mitigate, and adapt to, climate change so far as is consistent with the purpose of the function concerned. Under the Climate Change (Scotland) Act 2009 annual targets have been agreed with relevant advisory bodies for the reduction in carbon emissions.

22. The Company estimates that, once the Development is fully constructed and operational, could save approximately up to 122,000 tonnes of CO2 from being emitted per year. Marine Scotland Licensing Operation Team estimate that the proposal could provide renewable electricity for approximately 42,000 homes. This is approximately 40% of all the homes in the Highland region (2012 estimate of 103,256 households by gro-scotland.gov.uk).

23. You can be satisfied that in assessing the Application you have acted in accordance with your general duties.

Water Environment (Controlled Activities) (Scotland) Regulations 2011

24. Amendments were made to the Electricity Act 1989 in light of the Water Environment (Controlled Activities) (Scotland) Regulations 2011 ("CAR") to ensure that legislation pertaining to different aspects of the same operation is consistent and coherent. Accordingly, from 1 April 2006, before granting any section 36 consent, the Scottish Ministers are required to:

    (a) obtain the advice of SEPA on matters relating to protection of the water environment; and

    (b) have regard to the purposes of Part 1 of the Water Environment and Water Services (Scotland) Act 2003. The Water Environment (Controlled Activities) (Scotland) Regulations 2005 have been revoked, subject to transitional and savings provisions, on 31st March 2011 by CAR.

25. We consider that you are in a position to be satisfied that SEPA's advice has been considered, and due regard has been given to the Water Environment and Water Services (Scotland) Act 2003. SEPA have been consulted regarding CAR authorisation in respect of the onshore development proposals. SEPA have confirmed that some of the onshore works are likely to require such authorisation and that the Company must comply with CAR.

MARINE AND TERRESTRIAL POLICY

The UK Marine Policy Statement 2011

26. The UK Marine Policy Statement 2011 ('the Statement') prepared and adopted in accordance with Chapter 1 of Part 3 of the Marine and Coastal Access Act 2009 requires that when Scottish Ministers take authorisation decisions that affect, or might affect, the marine area they must do so in accordance with the UK Marine Policy Statement 2011.

27. The Statement which was jointly adopted by the UK Administrations sets out the overall objectives for marine decision making. It specifies issues that decision-makers need to consider when examining and determining applications for energy infrastructure at sea, namely– the national level of need for energy infrastructure as set out in the Scottish National Planning Framework; the positive wider environmental, societal and economic benefits of low carbon electricity generation; that renewable energy resources can only be developed where the resource exists and where economically feasible; and the potential impact of inward investment in offshore wind, wave, tidal stream and tidal range energy related manufacturing and deployment activity. The associated opportunities on the regeneration of local and national economies need also to be considered.

28. Chapter 3, paragraphs 3.3.1 to 3.3.6, 3.3.16 to 3.3.18 and 3.3.20 to 3.3.30 of the Statement are relevant and have been considered by the Scottish Ministers as part of the assessment of the Application.

29. Existing terrestrial planning regimes generally extend to mean low water spring tides. The marine plan area boundaries extend up to the level of mean high water spring tides. The UK Marine Policy Statement clearly states that the new system of marine planning introduced across the UK will integrate with terrestrial planning. The Statement also makes it clear that the geographic overlap between the Marine Plan and existing plans will help organisations to work effectively together and to ensure that appropriate harmonisation of plans is achieved. The Scottish Ministers have, accordingly, had regard to the terms of relevant terrestrial planning policy documents and Plans when assessing the Application for the purpose of ensuring consistency in approach.

30. The Scottish Ministers have had full regard to the Statement when assessing the Application. We consider that the Development accords with the Statement.

Draft National Marine Plan

31. A draft National Marine Plan, developed under the Marine (Scotland) Act 2010 and the Marine and Coastal Access Act 2009, is currently at the consultation stage. When formally adopted, Scottish Ministers must take authorisation and enforcement decisions which affect the marine environment in accordance with the Plan.

32. The draft Plan sets an objective to promote the sustainable development of offshore wind, wave and tidal renewable energy in the most suitable locations. It also contains specific policies relating to the mitigation of impacts on habitats and species; and in relation to treatment of cables.

33. As it is not yet at commercial scale we have not carried out scenario mapping for this project. Following the deployment outlined in Stage One of the development, six turbines, and when considering each of the Subsequent Stages of the Development Scottish Minsters will require, should it be deemed appropriate and proportional, that consideration is given to undertaking a Scenario Mapping exercise. Such an exercise, should it be required, would allow the local community to understand the range of possible implications of the development.

34. Given the timing of the statutory consultation of the draft National Marine Plan, and the finalisation of the consideration of all material issues connected with this Development, we have not been able to undertake a scenario mapping exercise as per the Plan's planning policy 'Renewables 10'. Whilst there is currently no formal mechanism for requiring scenario mapping in the Pentland Firth, we are satisfied that the full range of possible implications for the community has been outlined within the Company's Environmental

Statement and that these benefits have been thoroughly considered as part of this recommendation.

Integrated Coastal Zone Management

35. The UK Marine Policy Statement 2011 states that the UK Administrations are committed to ensuring that coastal areas, and activities taking place within them, are managed in an integrated and holistic way in line with the principles of Integrated Coastal Zone Management ('ICZM'). ICZM is an EU led strategy delivered at a local level and deals with the coastal and marine environment in a sustainable way. ICZM seeks, over the long term, to balance environmental, economic, social, cultural and recreational objectives.

36. At a local level, Marine Scotland, The Highland Council and Orkney Islands Council have established a working group to develop a pilot non-statutory Pentland Firth and Orkney Waters Marine Spatial Plan. The pilot plan will promote the sustainable management and development of the marine environment and will incorporate economic, environmental and social considerations into marine development decision making. The pilot plan aims to develop a strategic decision making framework for licensing and other consent applications in the marine area. The plan will seek to reconcile the aspirations of all users of the marine area and will promote sustainable economic growth and management of the marine environment. To date the working group have produced a Plan Scheme, which outlines the timetable of work and when consultation will take place and two documents that went for public consultation in July 2013; a Planning Issues and Options Paper and a draft Environmental Report. The next stage of the process is analysing the consultation responses and preparing the Marine Spatial Plan. It is likely that the Plan will be finalised in mid 2014.

Marine Scotland's Demonstration Strategy

37. Marine Scotland's renewables Demonstration Strategy is a draft policy and component of the Marine Scotland approach to reducing the environmental uncertainty currently inherent in the licensing of renewables developments in Scottish waters. Information, beyond the monitoring which would be required of the developer as consent conditions, will be obtained and used to inform the licensing/consenting of future developments. Marine Scotland will, in agreement with developers taking forward initial array developments, use consented projects to gather strategic information into how marine devices interact with the wider ecosystem. Marine Scotland will give consideration to this Development forming part of the Demonstration Strategy.

Other Marine Policy

38. The Development will contribute to Scotland's renewable energy targets via its connection to the National Grid. It will also provide wider benefits to the tidal industry as it will be the first commercial tidal array to be constructed in Scotland which will allow better understanding of some of the current

challenges to deployment as detailed within the 2020 Renewable Routemap for Scotland - Update published on 30 October 2012.

39. The 2012 Marine Energy Action Plan made a number of recommendations to build on the potential for development of wave and tidal stream energy. The Development offers an opportunity to implement some of these recommendations such as increasing opportunities for the supply chain in Scotland and accelerating the development of tidal stream technologies.

40. The Development is also one of the competing projects in the Saltire Prize. The Saltire Prize is designed to stimulate innovation across the world that will lead to delivery of commercial scale wave or tidal stream energy technology.

Terrestrial Policy

41. Given the close proximity of the project to the land the Scottish Ministers have had regard to the terms of relevant terrestrial planning policy documents and Plans when assessing this Application for the purpose of ensuring consistency in approach.

Scottish Planning Policy (SPP)

42. Scottish Planning Policy sets out the Scottish Government's planning policy on renewable energy development. Whilst it makes clear that the criteria against which applications should be assessed will vary depending upon the scale of the development and its relationship to the characteristics of the surrounding area, it states that these are likely to include impacts on landscapes and the historic environment, ecology (including birds, mammals and fish), biodiversity and nature conservation; the water environment; communities; aviation; telecommunications; noise; shadow flicker and any cumulative impacts that are likely to arise. It also makes clear that the scope for the development to contribute to national or local economic development should be a material consideration when considering an application.

43. You can be satisfied that these matters have been addressed in full both within the Application and within the responses received to the consultation by the closest onshore Planning Authorities, SEPA, SNH and other relevant bodies.

National Planning Framework 2

44. Scotland's National Planning Framework 2 ('NPF2') sets out strategic development priorities to support the Scottish Government's central purpose, namely sustainable economic growth. Relevant paragraphs to the Application are paragraphs 65, 145, 146, 147, 215 and 216. NPF2 provides strong support for the development of renewable energy projects to meet ambitious targets in place to generate the equivalent of 100% of our electricity from renewable sources and to establish Scotland as a leading location for the development of renewable energy technology. NPF2 also identifies the Pentland Firth as offering huge renewable energy potential and the

Development would offer the opportunity to begin utilising this potential energy source.

The Highland – wide Local Development Plan April 2012

45. The purpose of The Highland – wide Local Development Plan ('HWLDP') is to set out a balanced strategy to support the growth of all communities across the Highlands ensuring that development is directed to places with sufficient existing or planned infrastructure and facilities it support sustainable development. Relevant policies within this plan can be applied to the proposed Development and will have been considered by The Highland Council as well.

46. The Vision chapter of the plan makes a commitment to ensuring that the development of renewable energy resources are managed effectively including guidance on where harnessing renewable sources is appropriate or not. There is also a commitment to provide new opportunities to encourage economic development and create new employment across the Highland area focusing on key sectors including renewable energy whilst at the same time improving the strategic infrastructure necessary to allow the economy to grow in the long term.

47. The plan identifies the area around Ness of Quoys and Ness of Huna as potential offshore renewables bases in the Caithness and Sutherland Vision and Spatial Strategy. The area is also marked for grid reinforcement.

48. Policy 29, Design Quality and Place – Making, states that new developments should be designed to make a positive contribution to the architectural and visual quality of the place in which it is located. Accordingly, applicants should demonstrate sensitivity and respect towards the local distinctiveness of the landscape, architecture, design and layouts in their final design.

49. We consider that the Development, within the remit of Marine Scotland accords with this policy.

50. The Highland Council, in the HWLDP, support the development of rural areas as this will help to maintain population, infrastructure and services though it is noted that development can have a significant impact upon the character of the landscape. Proposals should be sympathetic to this and the landscape should be a key consideration. Development proposals are to be assessed against Policy 36: Development In The Wider Countryside with marine renewable energy developments also assessed against renewable energy policies and the Highland Renewable Energy Strategy.

51. The Development can draw support from this policy regarding the maintenance of population, infrastructure and services in rural areas.

52. The HWLDP states that the outstanding natural, built and cultural heritage of the Highlands must be fully considered when development proposals come forward throughout the area. The plan identifies three categories based on the

type and importance of natural, built and cultural heritage they contain. These are local and regionally important, nationally important and internationally important.

53. Policy 57 Natural, Built and Cultural Heritage sets out the tests against which all development affects natural, cultural and built heritage features must be assessed. The HWLDP states that Appropriate Assessments may be required to be completed for proposed developments prior to determining planning applications.

54. It is considered that the Development accords with this policy as consideration has been given to sites of local and regional importance, national importance and international importance which allows The Highland Council to adequately assess the Development against the tests of this policy.

55. The HWLDP notes that certain species are afforded protection under UK or European law and presence of such species on or near a development site must be considered to ensure that no offence under relevant legislation is committed and also that there is no adverse effect on the species including any impacts that may arise from cumulative effects. The Highland Council has produced guidance on establishing which biodiversity issues may be found on a particular site and how to address these issues.

56. Policy 58 of the HWLDP states that where there is good reason to believe that a protected species may be present on a site or affected by a proposed development, a survey will be undertaken to establish the presence of any such species and, if necessary, develop a mitigation plan to avoid or minimise any impacts on the species before determining the application.

57. It is considered that the Development accords with this policy as the Company has provided information to The Highland Council on the presence of protected species at the site and has proposed a range of mitigation measures to minimise any impact on protected species.

58. The HWLDP provides information on the consideration of the landscape when considering new developments. The plan notes that landscape and scenic value are very important in the Highlands, both within and outwith designated areas with many landscapes of high quality offering striking views. Developments should be appropriate for their location and facilitate, where feasible, enhancement or restoration of degraded landscapes.

59. Policy 61 Landscape directs that new developments should be designed to reflect the landscape characteristics and special qualities identified in the Landscape Character Assessment of the area in which they are proposed. This includes consideration of the appropriate scale, form, pattern and construction materials, as well as the potential cumulative effect of developments where this may be an issue. In assessing new developments, The Highland Council will consider Landscape Character Assessments, Landscape Capacity Studies and supplementary guidance on Siting and

Design and Sustainable Design in conjunction with any other relevant design guidance.

60. It is considered that the Development accords with this policy as the offshore element, to which this application relates, is wholly submerged below lowest astronomical tide and therefore there are no visual impacts from the Development. The onshore ancillary works will be considered under this policy by The Highland Council when determining the application for separate planning permission.

61. The HWLDP, Policy 67 Renewable Energy Developments, notes that the region has great potential for renewable energy production and can contribute towards meeting ambitious international, national and regional targets. The Highland Council will support proposals where it can be satisfied that they are located, sited and designed such that they will not have a significant detrimental impact wither either individually or cumulatively with other developments on receptors including, but not limited to natural built and cultural heritage features, species and habitats, visual impact, tourism and recreation interests as well as traffic and transport interests.

62. The proposal accords with this Policy due to the Development offering an opportunity for the region to contribute towards renewable energy targets. This can also bring about further benefits tackling the effects of climate change, increasing energy security and contributing to the local and regional economies of the Highlands as stipulated in the HWLDP.

63. We consider that the proposal complies with the HWLDP Plan.

The Highland Structure Plan 2001

64. This Plan was relevant at the time of the Company's application, but has since been superseded by the Highland – wide Local Development Plan 2012.

Highland Coastal Development Strategy May 2010

65. The main purpose of the Highland Coastal Development Strategy ('HCDS') is to set out a vision for the sustainable use and development of the coastal zone. It will inform marine and terrestrial planning policy development through the preparation of the HWLDP, and then subsequent Area Local Development Plans, Aquaculture Framework Plans, and in time new Marine Region Plans. Areas of isolated coast which have been identified through the coastal classification in this guidance, will have statutory development plan protection under a general policy in the HWLDP. The link to general policy has already been established in principle for parts of the Highland area through the Wester Ross Local Plan, West Highland and Islands Local Plan and the Sutherland Local Plan.

66. HCDS notes that the Highlands and Islands contain arguably some of the world's best renewable energy resources in terms of wind, wave and tide and

that work is underway to realise this potential bringing with it the reality of significant economic development for the Highland region.

67. Section 5.7 of HCDS recognises that the north coast in particular has the greatest potential for marine renewable energy generation due to its exposure and strong tidal flows through the Pentland Firth. The HDCS states that development opportunities in the Pentland Firth should be harnessed sustainably so that fishing, shipping, energy generation, tourism and natural heritage can all benefit.

68. It is considered that the Development accords with the HCDS as the proposal is located within an area that has been identified as an area of opportunity for the development of marine energy installation and the opportunities afforded by the Pentland Firth can be harnessed in a sustainable manner.

Highland Renewable Energy Strategy and Planning Guidelines May 2006

69. The Highland Renewable Energy Strategy and Planning Guidelines supplement the existing policies of The Highland Council and aim to provide guidance and direction for Council decisions and developers plans.

70. The document notes that tidal developments in larger tidal streams such as the Pentland Firth must carefully consider the potential for interactions with other sea users, fisheries and wildlife and develop acceptable development scenarios.

71. Within the Strategy, Strategic Topic E14 notes that The Highland Council supports the full investigation and exploration of the potential for tidal energy production but recognises that there are significant gaps in knowledge that should be filled before large scale exploitation of tidal energy is supported. Nevertheless, the large amounts of energy that could be available mean that finding answers should be a key priority.

72. The same Strategic Topic identifies the potential for tidal energy developments around the Highland coastline, particularly in the Pentland Firth, suggesting a potential installed capacity target of 400MW by 2020. This proposal would go some way to meeting this target.

Material considerations

73. We have carefully considered the issues in connection with the Application and have identified the following matters as material considerations, for the purposes of deciding whether it is appropriate to cause a public inquiry to be held or for making a decision on the Application for consent under section 36 of the Electricity Act:

- cumulative impacts;
- the proposed location of the Development;
- the impacts on quality of life;
- the impacts on recreation in the area;

- the impacts on shipping and navigational safety;
- the impacts on fish;
- the impacts on cetaceans;
- the impacts on marine mammals;
- the impacts on birds;
- the impacts on coastal processes;
- the impacts on benthic ecology;
- the impacts on shellfish; and
- development of the renewable energy sector.

Public Local Inquiry ('PLI')

74. In terms of paragraph 2(2) of Schedule 8 to the Electricity Act, if a relevant Planning Authority made a valid objection and did not withdraw it, you must convene a PLI, which must be confined to so much of the application as it relates to land within the area of the authority whom the objection was made (except in so far as you direct otherwise) before you may determine the application, the objection and the report of the inquiry.

75. Neither The Highland Council nor Orkney Islands Council objected to the proposal.

76. Even if the Council(s) had objected, and did not withdraw their objection, a PLI is not a statutory requirement in this case due to the fact that the Development to which the application for section 36 consent relates falls out with the Councils' jurisdiction. Paragraph 7A of Schedule 8 to the Act provides that paragraph 2(2) of the Schedule does not apply in cases like this where no part of the place to which the application relates is within the area of the local planning authority.

77. Paragraph 3(2) of Schedule 8 to the Electricity Act provides that where objections or copies of objections have been sent to the Scottish Ministers in pursuance of the Electricity (Applications for Consent) Regulations 1990 in those cases where a PLI must not be convened by them in terms of paragraph 2(2) of Schedule 8 (i.e. those cases where the Planning Authority either has not objected or objected and withdrawn their objection or where the "relevant planning authority" is the Scottish Ministers on account of the fact that all of the development being located at sea), then the Scottish Ministers "shall consider those objections together with all other material considerations" with a view to determining whether a PLI should be held with respect to the application and, if they think it appropriate to do so, they shall cause a PLI to be held.

Determination on whether to cause a Public Local Inquiry to be held

78. Before you can make a decision on the Application for section 36 consent you must determine whether it is appropriate to cause a PLI to be held. Advice regarding the matters you must consider before you may make a decision regarding the holding of a PLI is included in **ANNEX B**. If, following your consideration of that advice, you are content that causing a PLI to be held is

not appropriate in terms of the statutory provisions, then, and only then, can you proceed to make a decision on the Application for section 36 consent.

Decision on the Application for section 36 consent

79. If, having considered the application and the objections, together with all other material considerations as outlined in **ANNEX B**, you determine that it would not be appropriate for a PLI to be held, then it remains for you to grant or refuse section 36 consent to the Development having regard to the considerations set out in **ANNEX B**.

ANNEX B – BACKGROUND INFORMATION AND SCOTTISH MINISTERS' CONSIDERATIONS

APPLICATION FOR CONSENT UNDER SECTION 36 OF THE ELECTRICITY ACT 1989 TO CONSTRUCT AND OPERATE A 86 MW TIDAL ARRAY BETWEEN THE ISLAND OF STROMA AND THE SCOTTISH MAINLAND IN THE INNER SOUND OF THE PENTLAND FIRTH.

Background

On 13th July 2012 MeyGen Limited ('the Company') applied for consent under section 36 of the Electricity Act 1989 ('the Electricity Act') to construct and operate an 86 MW tidal turbine array and associated infrastructure, situated in the Inner Sound of the Pentland Firth, between the Island of Stroma and the Scottish mainland.

The proposal would see an initial deployment of 61 turbines being installed in stages at the site with a final generating capacity totalling 86 MW with future proposals to ultimately develop a 398 MW tidal turbine array. These future proposals would be subject to separate applications.

Location of Development

The proximity of the Development to the Caithness coastline is an important issue to be considered. The Inner Sound of the Pentland Firth was adjudged by the Company as a suitable location for development due to the area being identified in the UK Marine Energy Atlas (http://www.renewables-atlas.info/) as a key area for tidal resource which is considered to offer suitable opportunity for commercial development. The Company investigated the tidal flow in the Inner Sound collecting data from the deployment of Acoustic Doppler Current Profilers and has identified that the maximum tidal current speed reaches 3.5 – 5 metres per second.

The Company also took into account other technical constraints when considering the location of the proposal. Areas of tidal resource are known to be ecologically productive areas and, as a result, tidal energy schemes are often proposed in close proximity to sites of ecological importance. The Inner Sound and the Pentland Firth supports numerous seabird species as well as marine mammals including Harbour seals and Grey seals, Porpoises and other cetaceans and, as such, there are international and national designated sites in the area. The Company undertook surveys of the area in support of their Environmental Impact Assessment ('EIA') and Habitats Regulations Appraisal ('HRA').

The Development is to be situated in the Inner Sound of the Pentland Firth away from the main shipping route around the North of Scotland for larger vessels such as oil tankers and cargo ships. Vessels that transit the Inner Sound are typically smaller, shallower draught vessels such as recreational craft including yachts.

Marine Scotland's Licensing Operations Team ('MS LOT') have undertaken a full and thorough consultation with relevant stakeholders and members of the public and

are of the opinion that there are no considerations which would prevent consent being granted to the Development in its current location subject to the imposition of conditions (subject to the Minister's approval). The application has been considered fully and carefully, as have the accompanying documents and all relevant responses from consultees. Third party representations received have also been considered.

Taking into account the extent to which any environmental effects will be modified and mitigated by measures the Company has agreed to take, or will be required to take, under the conditions attached to any section 36 consent and marine licence Marine Scotland are satisfied that environmental issues can be appropriately addressed by way of mitigation and monitoring and that any impacts which remain are outweighed by the benefits which the Development will bring.

Landscape and Visual Impacts Issue

Scottish Natural Heritage ('SNH'), Scottish Ministers' statutory advisers on visual impacts on designated landscape features, did not provide any comments relating to landscape and visual aspects in respect of the application. This is due to the Development to which the Application relates being completely submerged beneath sea level.

The Highland Council ('THC'), in their response to Marine Scotland on the offshore components did not raise any concerns regarding the proposal with respect to landscape and visual impacts.

SNH did, however, provide landscape and visual advice on the onshore infrastructure to THC which is subject to a separate application under the Town and Country Planning (Scotland) Act 1997.

Habitats Regulations Appraisal

Owing to SNH's view that the proposal is likely to have a significant effect on the qualifying interests of a number of Special Protection Areas ('SPAs') and Special Areas of Conservation ('SACs'), Marine Scotland, as the competent authority, was required to carry out an Appropriate Assessment which is included at **ANNEX E – APPROPRIATE ASSESSMENT**. It has been ascertained with sufficient confidence that the proposal, subject to appropriate conditions being included within the consent, will not have an adverse effect on the integrity of the relevant SPAs and SACs. Therefore, it is concluded that impacts on site integrity can be avoided. This is backed up by the consultation responses from both SNH and RSPB Scotland.

SNH recommended that certain conditions are included on any consent which would allow the Development to be implemented without serious adverse effects on the identified Natura sites. These conditions have been included in the draft decision letter and consent attached at **ANNEX D – DECISION LETTER AND CONDITIONS**. One such condition is the restriction of the initial deployment to a maximum of six turbines with further deployments being subject to the written approval of the Scottish Ministers.

CONSULTATION EXERCISE

Under Schedule 8 to the Electricity Act and regulations made under that Act, the Scottish Ministers are required to consult any relevant Planning Authority (although as the Development in respect of which the Application for section 36 relates is wholly offshore the closest planning authority is not a 'relevant Planning Authority' under the Electricity Act). In addition, to comply with the Electricity Works (Environmental Impact Assessment) (Scotland) Regulations 2000 ('the EIA Regulations'), there is a requirement to consult SNH and the Scottish Environment Protection Agency ('SEPA') and any other person likely to be concerned by the proposed development by reason of their specific environmental responsibilities.

In complying with the EIA Regulations, the Company identified the proposed development as an EIA Development and hence one which would require an Environmental Statement to be produced. This statement should describe the environmental impacts and the proposed mitigation measures associated with the Development.

The Scottish Ministers consulted a wide range of relevant organisations, including colleagues within the Scottish Government, on the application the Environmental Statement ('ES') and, as a result of some of the issues raised, the required Supplementary Environmental Information Statement ('SEIS'). In accordance with the statutory requirements, as part of both the ES and the SEIS, the Scottish Ministers sought the advice of SNH, SEPA and the Planning Authorities most local to the Development in accordance with the statutory requirements.

The Highland Council ('THC'), a statutory consultee under the EIA Regs, did not object to the proposal and did not request that any conditions be placed on any consent. THC noted that the Development complies with the Highland Renewable Energy Strategy (2006) which identifies the Pentland Firth as a source of potential energy from wave or tide and sets an aspirational target of 100 MW installed capacity by 2015. THC acknowledge that the Development would help contribute towards this target.

THC also recognise that the Development has the potential to generate economic benefit for the Caithness and North Sutherland area and to become a centre of excellence in the marine renewable energy sector. THC notes from the comments of other organisations who have been consulted on the proposals that there is a degree of uncertainty regarding potential effects of the Development on certain receptors. THC expressed a desire that they wished to be assured that any outstanding issues should be fully taken into account. THC were able to conclude that, subject to the mitigation set out in the ES and that specifically requested by the Scottish Fishermen's Federation, the Caithness District Salmon Fishery Board, SNH, RSPB, Whale and Dolphin Conservation and the Caithness Kayak and Pentland Canoe Clubs in respect of liaison, THC position was that it wished to raise no objection to the proposals.

Orkney Islands Council ('OIC'), did not object to the proposal and did not request that any conditions be placed on any consent. OIC were consulted on the basis that

the proposals referred to the potential for the Orkney port of Lyness to be utilised for deployment, maintenance and servicing purposes.

OIC concluded that the information on these aspects was not sufficiently advanced enough for the issues to be assessed. OIC were content not to raise an objection however they requested that, if facilities in Orkney are to be utilised, additional consultation would be required with the Local Authority at which point OIC will provide further advice accordingly.

OIC also recommended that the views of nearby navigational interests are considered when determining the application.

Scottish Natural Heritage ('SNH'), a statutory consultee, provided interim advice on ornithological and coastal processes interests on 26th October 2012, interim advice on marine mammal and benthic habitats on 18th January 2013 and a further note on marine mammal collision risk on 5th April 2013. SNH provided their final comments on the ES and SEIS on 7th June 2013. SNH stated that the Development raised natural heritage issues of national and international interest and therefore objected to the Development unless it is made subject to a number of changes and mitigation measures.

SNH noted that, when considering the ES, SEIS, and further information provided to them, the proposal is likely to have a significant effect on the qualifying interests of a number of Special Areas of Conservation ('SACs') and Special Protection Areas ('SPAs'). SNH advised the Scottish Ministers to carry out an Appropriate Assessment in view of the conservation objectives for these sites.

SNH went on to say that they had undertaken an appraisal of the Development and had concluded that the Development could be implemented without serious adverse effects on these sites and the wider natural heritage provided the Development is subject to a number of conditions to mitigate the effects. These conditions are reflected in the draft decision letter and consent attached at **ANNEX D – DECISION LETTER AND CONDITIONS**.

SNH made a number of recommendations including, but not limited to, the following:

- the initial stage of deployment should be limited to a maximum of six turbines;
- the establishment of an environmental monitoring panel to provide advice to the Company and facilitate agreement on the monitoring requirements for pre – construction, construction and operational periods of the Development;
- a construction method statement detailing commencement dates of construction including the duration and phasing for key elements of the project shall be provided to Scottish Ministers for approval prior to commencement of the Development;
- an Project Environmental Monitoring Programme ('PEMP')detailing the programme to investigate the environmental impacts of the development and agree appropriate monitoring methodologies;

- details of the location and construction methods for the grid export cables, landfall sites and substation should be submitted in advance of the construction commencing;
- a Vessel Management Plan ('VMP') presenting details on the type and overall number of vessels required during construction as well as information on how vessel management will be coordinated, on routes of passage and how often vessels will be required to passage between ports; and
- a detailed decommissioning plan is required for the entire scheme.

SNH stated that their key concern was the collision risk posed by the Development to both Harbour and Grey seals. SNH undertook further work to refine the approach and assessment of collision risk and consider that the predicted collisions (12 per year) for Harbour seals for a six turbine deployment, based on an avoidance rate of 98%, is the maximum that would avoid an adverse impact on the current harbour seal population within the Orkney and North Coast Management Unit. Predicted collisions of 20 Harbour seals per year for ten turbines at the 98% avoidance rate would be greater than the current Potential Biological Removal of 17.

For Grey Seals, SNH considered that the predicted collisions of 371 per year for a ten turbine deployment, based on a 98% avoidance rate, is the maximum that would avoid an adverse impact on the current grey seal population within the Orkney and North Coast Management Unit.

SNH also raised concerns regarding the collision risk to Atlantic salmon. SNH and Marine Scotland Science ('MSS') concluded that it is not possible to assign any impacts associated with the Development to any one individual SAC therefore the potential impacts arising from the Development have been considered against the returning Scottish adult Atlantic salmon population. SNH objected to the Development unless it was made subject to a reduction in the initial deployment to six turbines and detailed monitoring undertaken to gain evidence to understand interactions with the turbines at the site. SNH also advised that as the competent authority, the Scottish Ministers were required to undertake an Appropriate Assessment ('AA') under the Habitats Regulations 1994 with respect to migratory fish and Freshwater Pearl Mussels. Marine Scotland carried out the AA and sought the views of SNH who agreed with the conclusions that, subject to conditions, the Development could be implemented without serious effects on site integrity.

SNH provided advice relating to ornithological interests and identified SPAs where the Development was likely to have a likely significant effect on the qualifying interests. This required Marine Scotland to undertake an AA which concluded that, subject to certain conditions including appropriate mitigation and monitoring, the Development could be implemented without adverse effects on site integrity. **SNH reviewed the AA and were content with the conclusions reached.**

SNH also advised that the Company will be required to apply for a licence allowing the disturbance of European Protected Species and Basking Sharks prior to the commencement of the Development.

The **Scottish Environment Protection Agency ('SEPA')**, a statutory consultee, stated that it objected to the Development unless certain conditions were included on any consent as follows:

- a site specific Environmental Management Plan ('EMP') should be produced prior to the commencement of any works. The EMP should be submitted for the written approval of the Scottish Ministers in consultation with SEPA and other organisations such as SNH as appropriate. The works should thereafter be carried out in accordance with the agreed plan.

SEPA stated that the EMP should also include details relating to the prevention of the spread of non–native species. SEPA acknowledged that large ships and vessels would adhere to protocols for preventing the spread of marine non–native species but recommend that a specific protocol is drafted for the purposes of the Development. The protocol should include measures to minimise the risk of bringing marine non-native species into the area on construction equipment before the works begin.

SEPA recommended that the EMP is submitted at least two months prior to the commencement of any works to allow the necessary reviews to be undertaken and to ensure no impact on project timescales.

This request will be captured under wider conditions for environmental monitoring and mitigation as reflected in the draft decision letter and consent attached at **ANNEX D – DECISION LETTER AND CONDITIONS**.

SEPA have confirmed that some of the onshore works are likely to require authorisation and that the Company must comply with the Water Environment (Controlled Activities) (Scotland) Regulations 2011 ('CAR').

The Association of Salmon Fishery Boards ('ASFB') objected to the Development and, having discussed the proposal further with the Company and reviewed the SEIS, maintain their objection until adequate monitoring and mitigation strategies are put in place.

The ASFB, in their response to the ES and SEIS, consider that the Pentland Firth is of significant strategic importance as a migration route for Atlantic Salmon and it is assumed that the Inner Sound represents the primary migration route for all salmon returning to North Coast and East Coast rivers and is also a significant migration route for West Coast rivers.

The ASFB expressed concern at the potential for a number of impacts to arise from the Development including, but not limited to, noise, electromagnetic fields ('EMFs'), barrier effects, queries regarding the modelling approach and collision risk. The ASFB requested that appropriate monitoring and mitigation measures must be put in place and that the ASFB would wish to be involved in agreeing these approaches. The ASFB also stated the need for strategic research on the movement, abundance, swimming depth and feeding behaviour of salmon and sea trout. The installation of fish counters, in close liaison with the relevant District Salmon Fishery Boards and Marine Scotland Science (MSS) was recommended in the event of consent being

granted. The establishment of an expert group was also recommended to rapidly consider the best way forward to plug the knowledge gaps in this area.

The ASFB were of the opinion that the proposal did not comply with the requirements of the Habitats Directive or Scotland's Marine Nature Conservation Strategy. Marine Scotland, as the competent authority, was advised by SNH to undertake an Appropriate Assessment ('AA') as the proposal is likely to have a significant effect on the qualifying interests of a number of SACs for which Atlantic Salmon is a qualifying feature. The AA recommended that the Development could be implemented without resulting in an adverse effect on site integrity however this was on the condition that the initial deployment was restricted to no more than six turbines and was subject to a monitoring programme to garner further understanding of fish interactions and / or behaviour which would inform future deployments at the site.

Conditions for monitoring and mitigation are captured under a wider condition for environmental monitoring as reflected in the draft decision letter and consent attached at **ANNEX D – DECISION LETTER AND CONDITIONS**, as well as the requirement to establish an Advisory Group. MSS are undertaking strategic research on migratory fish as part of the research theme of "*Diadromous Fish and marine Renewable Energy Research*". Outputs from this will be incorporated, where appropriate, into any monitoring and mitigation work undertaken as part of the Development.

British Telecom ('BT') did not object and did not offer any comments.

The Caithness District Salmon Fishery Board ('CDSFB') did not explicitly object to the Development however they endorsed the response submitted by the ASFB which detailed an objection to the proposal. The CDSFB noted the lack of necessary biological information available to make a wholly accurate assessment of possible impacts from the proposal and requested that a monitoring programme is developed to monitor risks that have been identified but also others which remain uncertain or are emerging.

The CDSFB highlighted similar issues to those detailed by the ASFB including, but not limited to, queries regarding the modelling approach undertaken, collision risk, production of a monitoring plan and installation of fish counters on relevant rivers. The CDSFB also referenced additional sources of information relating to on-going work to monitor salmon trends in the region citing work being undertaken by the CDSFB themselves and also SNH.

Accordingly, the CDSFB requested that, should consent be granted and the Development adopt a survey, deploy and monitor approach, then a comprehensive monitoring and assessment programme for salmonids should be included. The CDSFB advised that monitoring effort should centre on the Board's area as these rivers were the ones in closest proximity to the Development. Additionally, the CDSFB requested sight of a Construction Method Statement as well as any other relevant material as it becomes available.

These requests are reflected in the draft decision letter and consent attached at **ANNEX D – DECISION LETTER AND CONDITIONS**.

The Caithness Kayak Club ('CKC') did not object to the Development however they noted that the Inner Sound is used by a number of kayaking groups and recommended that a liaison group is set up with local paddlers and also the Scottish Canoe Association with a view to ensuring that users of the area are aware of any on-going activities relating to the Development.

The CKC also raised concerns about the implementation of 500 metre construction safety zones noting that groups of kayakers can often be pushed off their planned or anticipated route due to tidal effects which may mean that kayakers inadvertently transit into these safety zones.

The Company held a meeting with the CKC to discuss these issues. The Company recognises that the standard dimension 500 metre safety zone is too large for the Inner Sound and are aware of advice from the Maritime and Coastguard Agency which states that 100 metres should be sufficient. Further discussions between navigational stakeholders and offshore contractors are required to agree the final size of safety zone which would permit recreational users to transit the Inner Sound.

Although the Company has not yet finalised the exact nature of Notices to Mariners they have agreed to include regular updates to the CKC as well as other relevant clubs such as the Pentland Canoe Club and the Scottish Canoe Association. Conditions on the timely promulgation of information to mariners and other users of the area will be reflected in the marine licence.

The Chamber of Shipping ('CoS') did not object to the Development and noted that their primary concern regarding the proposal related to the maintenance of sufficient under-keel clearance ('UKC') to reduce the risk of collision between vessels and sub-surface tidal turbine structures to tolerable levels. The CoS welcomed the Navigational Risk Assessment (NRA) that accompanied the ES.

The CoS concluded that they were satisfied that the proposed Lowest Astronomical Tide (LAT) surface clearance range of 8 – 12 metres stating that the UKC afforded by this level of clearance is likely to be sufficient under all conditions for the regular running ferry *Pentalina* operated by Pentland Ferries. However, the CoS noted that, as per Chapter 6 of the NRA, there are vessels transiting the Inner Sound with draughts close to 8 metres and this, coupled with the impacts of factors such as surge, sounding accuracy and wave motion, indicate there is the strong possibility of collision if detailed and timely information is not promulgated to mariners.

The CoS recommended that detailed information be disseminated via tools including Notices to Mariners and Navtex and also that the array should be clearly marked, in agreement with the UK Hydrographic Office, including turbine depths which will be essential to ensure that vessels can plan their passage through the Inner Sound safely.

The CoS were content with proposals to implement construction safety zones smaller than the standard 500 metres if it is successfully demonstrated that smaller

zones would reduce navigational risk satisfactorily whilst allowing a larger proportion of navigable sea room in the Inner Sound to be retained.

Although the CoS have not objected to the 86 MW Phase 1 of the development, they have confirmed that this does not automatically constitute approval from the CoS for future developments at the site. The CoS are keen to see on-going monitoring of vessel(s) interactions with and reaction to the initial Development as this will inform the acceptability of future deployments from a navigational risk aspect. The CoS stated that regular consultation with key navigational stakeholders should be demonstrated ahead of any future application for subsequent phases.

The CoS requested a condition be included in any consent relating to the monitoring of Phase 1 of the project and how vessels interact with the Development. This condition is reflected in the draft decision letter and consent attached at **ANNEX D – DECISION LETTER AND CONDITIONS**.

Gills Bay Harbour ('GBH') did not object to the Development however they raised topics which they believe warranted consideration by Scottish Ministers. GBH noted that the development had the potential to impact on fishing activities in the area as well as navigational interests and requested that these issues be considered. GBH recognised the potential importance of the Development which could go some way to providing employment opportunities in the region and also noted that GBH itself could act as a possible base for vessels and construction material. GBH expressed a preference that any jobs opportunities resulting from the Development are created in the local area.

The Health and Safety Executive ('HSE') did not object to the Development and had no specific comments to make.

Historic Scotland ('HS') did not object to the Development and stated that they were broadly content with the findings and approach of the assessment on marine archaeology. HS noted that they had been consulted by THC on the onshore planning application and stated that they agreed with the findings of the assessment that there would be a significant impact on Canisbay Parish Church / Kirk and graveyard however it was concluded that the impact is not at such a level to warrant an objection. HS also stated that they were content that impacts on other terrestrial cultural heritage features within their statutory remit were not significant. HS requested that a reporting protocol for the accidental discovery of marine archaeology during development, maintenance and monitoring should be put in place. This condition is reflected in the draft decision letter and consent attached at **ANNEX D – DECISION LETTER AND CONDITIONS**.

Marine Scotland Science ('MSS') did not object to the Development however a number of different monitoring requirements were detailed in their response to both the ES and the SEIS.

MSS welcomed the comprehensive work undertaken as part of the assessment on the physical environment and sediment dynamics and were content that they had no major comments or concerns with respect to this area. MSS noted that although there was the potential for changes in sediment transport during storms the predicted

changes were very small and were calculated using very conservative model outputs. MSS were content to conclude that any changes with respect to sediment transport would be negligible.

MSS recommended that any monitoring should include pre and post construction monitoring as well as monitoring along the cable route for benthic ecology interests.

With respect to commercial fisheries, MSS advised that it would be useful to consider EMF measurements as there is potential for sections of the cable to be placed in natural seabed formations which implies that the cable may not be fully buried. Therefore, it would be advantageous, if this is the method proposed for laying of the cable, to undertake an assessment of EMF to ascertain what levels of EMF are detectable above the cable. In addition, MSS welcomed the commitment from the Company to continually assess the noise produced by the Development during construction and operation to validate the noise model presented. The development of a meaningful fish monitoring programme was also encouraged.

MSS were content that the ES had appropriately identified the main sources of risk with respect to migratory fish species such as Atlantic Salmon and attempted to identify the baseline situation from available literature and other sources. MSS felt that the greatest risk associated with the Development was the risk of strike and that attempts were made to asses this through the use of models. MSS acknowledged the shortcomings of the model approach which does not include biological data such as swimming depths, number of encounters and consequence of strike. MSS also noted the knowledge gaps that are present with respect to migratory fish such as the limited information available on the noise sensitivity of salmon, sea trout and eels and potential impact of EMF on fish.

MSS and SNH formed a working group to review the model used to assess potential encounter rates as well assumptions made and conclusions drawn. Clear worst case scenarios were investigated where possible such as assuming that virtually all adult salmon returning to Scotland pass through the Pentland Firth and that avoidance of turbines is not possible. Some elements investigated were not worst case however they were agreed by the group to be reasonable given the limited information. This included information on swimming depths of salmon.

From the groups' work, and after careful consideration of currently known information, an initial deployment of six turbines was recommended with an associated monitoring programme that seeks to inform the reliability of the modelling used and also inform any future turbine deployments. Any approval of subsequent stages was recommended on the condition that information from the monitoring programme was used to validate the model and any further assessments. This condition is reflected in the draft decision letter and consent attached at **ANNEX D – DECISION LETTER AND CONDITIONS**.

The Maritime & Coastguard Agency ('MCA') did not object to the proposals however they noted that the Development had the potential to impact on navigation and sought further information from the Company before confirming that they did not object. The MCA requested the inclusion of conditions on any consent to ensure that navigational safety is not compromised. These conditions are reflected in the draft

decision letter and consent attached at **ANNEX D – DECISION LETTER AND CONDITIONS**. This includes the creation of a full Emergency Response Cooperation Plan ('ERCoP') which remains to be fully completed and requires to be properly documented, before any construction works commence as well as mitigation measures to ensure that navigational safety through the Inner Sound is not compromised.

The MCA requested that information on navigable depth is promulgated to mariners and that the UK Hydrographic Office ('UKHO') is consulted as to how this is best achieved. The MCA recognised the desire to implement Safety Zones however, similar to comments raised by the CoS, the MCA preferred that reduced safety zones of approximately 100 metres, as proposed in the Company's ES, were utilised to ensure free navigation through the Inner Sound and that they also be only implemented for essential operations.

The Northern Lighthouse Board ('NLB') did not object to the Development and welcomed the provision of the Navigational Risk Assessment. The NLB confirmed there was no requirement to mark the tidal turbine devices however they specified a number of requirements relating to the installation and operation of the array. These conditions are reflected in the draft decision letter and consent attached at **ANNEX D – DECISION LETTER AND CONDITIONS**. The NLB stated that they would advise of any requirements to mark the cables and cable landfall site(s) would be made once the final location has been identified and all relevant information is passed to the NLB.

Northlink Ferries ('NF') did not object to the development and did not offer any comments.

The Pentland Canoe Club ('PCC') did not object to the Development and raised similar issues to those noted by the CKC. PCC requested that they be included in any promulgation of information relating to the Development as well as National Governing Bodies including the Scottish Canoe Association, Canoe England, Welsh Canoe Association and the Canoe Association of Northern Ireland. The PCC also reiterated the CKC view that the standard dimension 500 metre safety zones would potentially cause major difficulty to sea kayakers.

The Company held a meeting with the PCC at the same time as the CKC to address their concerns. The Company recognises that the standard dimension 500 metre safety zone is too large for the Inner Sound and are aware of advice from the MCA which states that 100 metres should be sufficient. Further discussions between navigational stakeholders and offshore contractors are required to agree the final size of safety zone which would permit recreational users to transit the Inner Sound.

Although the Company have not yet finalised they exact nature of Notices to Mariners they have agreed to include regular updates to the PCC as well as other relevant clubs such as the CKC and the Scottish Canoe Association. Conditions on the timely promulgation of information to mariners and other users of the area will be reflected in draft marine licence.

The Royal Society for the Protection of Birds (RSPB) Scotland initially objected to the Development pending the provision of further information requested by the RSPB. This included, but not limited to, further information on the Habitats Regulations Appraisal ('HRA'), collision risk and population modelling. The RSPB were of the opinion that whilst the conclusions reached in the HRA that impacts on the conservation objectives and integrity of the SPAs were unlikely was a plausible one, it was not felt that there was sufficient certainty in the argument put forward by the Company. Furthermore, the RSPB felt that the maximum potential environmental impacts had not been identified and properly assessed and that insufficient information had been presented to justify the selection and use of specific data which supported the assessment undertaken by the Company. The RSPB also stated their support for comments and recommendations provided by Whale and Dolphin Conservation ('WDC').

The Company met with the RSPB to discuss their concerns and, subsequent to this meeting, upon receipt and review of the SEIS, the RSPB confirmed that they were content to withdraw their objection on the basis that the further information allowed them to concur with the conclusions of the assessment with respect to ornithology and receptors sensitive to the proposed development. The RSPB were content that they had a clearer understanding of population demographic rates and were able to concur with the variables selected for the population modelling. Furthermore, whilst the RSPB were content to remove the request for model sensitivity analysis, they advised that there may be a need to reconsider this issue for any future development. RSPB were also content with the further information in respect to addressing HRA issues raised in their initial response.

However, the RSPB noted that there was still the potential for significant impacts on other mobile species such as marine mammals and migratory fish which required mitigation. The RSPB initially recommended that a comprehensive research and monitoring programme is implemented using novel techniques to allow advancement of knowledge in particular areas, the level of bird collisions should be monitored by agreed methods and that an advisory group or panel to oversee the monitoring programme. After meeting with the Company and reviewing the SEIS the RSPB also requested that the scale of development is reduced to ensure no adverse impacts on site integrity of the Natura network and to species of international importance. These conditions are reflected in the draft decision letter and consent attached at **ANNEX D – DECISION LETTER AND CONDITIONS**.

The Royal Yachting Association ('RYA') stated that they had no objection to the Development and were satisfied with the findings of the Navigational Risk Assessment. The RYA did raise a query regarding clearance available to vessels which was clarified following further discussions with the Company.

The Scottish Canoe Association ('SCA') did not object to the Development and fully endorsed the comments from the **Pentland Canoe Club ('PCC')**. The SCA also noted concerns relating to the issue of construction safety zones as well as the possible risk of collision with a tidal turbine and reiterated that issues of access, temporary prohibition and up to date information required further discussion with the Company.

The Company held a meeting with the SCA at the same time as the PCC and CKC to address their concerns. The Company recognises that the standard dimension 500 metre safety zone is too large for the Inner Sound and are aware of advice from the Maritime and Coastguard Agency which states that 100 metres should be sufficient. Further discussions between navigational stakeholders and offshore contractors are required to agree the final size of safety zone which would permit recreational users to transit the Inner Sound.

Although the Company have not yet finalised they exact nature of Notices to Mariners they have agreed to include regular updates to the SCA as well as other relevant clubs such as the PCC and the CKC. Conditions on the timely promulgation of information to mariners and other users of the area will be reflected in the marine licence.

The Scottish Fishermen's Federation ('SFF') initially objected to the Development citing concerns relating to navigational rights and safety impacts thereof. The SFF noted that the area is traditionally a transit route between East and West coast for vessels and that modern fishing ships can have draughts up to 8 metres which may not allow them to safely traverse the area.

The SFF met with the Company to discuss their comments and subsequently were content to remove their objection to the proposal however a number of recommendations were made that would ensure the safety of fishing vessels transiting the area including, but not limited to, appropriate safety zone use for the Development which allows transit of the area, effective promulgation of information to fishing vessels and updated charts of the area. The Company, in their discussions and correspondence with the SFF, committed to develop and consult on proposals including the use of safety zones, operation of guard vessels, charting and demarcation of the project and construction activity, promulgation of information relating to the Development to mariners and an ERCoP.

Conditions on the timely promulgation of information to mariners and other users of the area will be reflected in the marine licence.

Scrabster Harbour Trust ('SHT') did not object to the proposals and expressed support for the development of projects such as the MeyGen development. SHT felt that marine energy development in the Pentland Firth offers a significant economic opportunity for the north Highland economy to build a sustainable beyond the closure of the Dounreay nuclear plant.

Surfers Against Sewage ('SAS') did not object to the Development however they noted that there was the potential for an impact on the wave regime at the site resulting from changes to bathymetry and sediment deposition along the cable route. SAS requested further modelling work was undertaken to assess potential impacts of changes to bathymetry along the cable route on surfing waves in Gill's Bay.

The Company responded to the comments from SAS stating that, in their opinion, further modelling work was not required due to cable route options not crossing any sediment deposits and only through direct bathymetric change would there be an impact on the wave regime and quality of breaking waves. The model used by the

Company did not predict any significant increase or decrease in deposits or erosions in the area. Additionally, any cables that would be laid on the seabed would be of a maximum 250 mm and would be laid within bedrock profiles known to be several metres deep. This would, according to the Company, not have any significant impact on the wave regime and quality of breaking wave in these areas.

SAS did not provide any further correspondence to Marine Scotland based on those comments from the Company. Both MSS and SNH did not raise any concerns regarding the approach to modelling undertaken. It is considered that appropriate justification for not undertaking further modelling has been provided by the Company.

The Crown Estate ('TCE') did not object to the Development and did not offer any comments.

Transport Scotland ('TS'), through their Term Consultants **JMP Consultants Limited**, did not object to the Development. TS noted that the delivery of turbine components and other large and heavy components could be shipped to the nearest port and then transported to a local assembly point from where the equipment would be taken out to sea by a specialist vessel. The transport routes utilised would be the A836 from Scrabster Harbour or the A99 from Wick Harbour. TS noted that in both instances the proposed route for the delivery of components from either port is part of the local road network and in such circumstances TS offered no comments.

TS did however note that additional onshore infrastructure would be required to transfer electricity generated from the tidal turbines to the National Grid. This would require a separate consent under the Town and Country Planning (Scotland) Act 1997 and TS would provide comments on this aspect when consulted on that application by THC.

Transport Scotland (Ports & Harbours) did not object to the Development however they recommended consulting with nearby ferry operators including **Pentland Ferries** which had already been carried out.

Whale and Dolphin Conservation ('WDC') objected to the development unless a number of conditions were included on any consent or licence. WDC raised a number of concerns with respect to the potential for impacts on marine mammals. These mainly covered collision and disturbance issues as well as a requirement for the Company to apply for a licence to disturb European Protected Species (EPS).

In their response to the ES WDC were of the opinion that there would be adverse impacts on Harbour Seals and Harbour Porpoise. WDC recommended that the possibility of collisions with the turbines is an area of focus for monitoring.

WDC also advised with respect to the Appropriate Assessment (AA) that would be required as part of the determination process. WDC had raised concerns regarding the Sanday Special Area Of Conservation (SAC) and stated that if, following the AA, there was not sufficient evidence to make a decision as to whether the integrity of a protected site would be adversely affected, then a precautionary approach must be

taken and that there must be no reasonable scientific doubt that the project will not have an adverse effect on the integrity of a protected site.

The Company responded to the comments from the WDC who, after reviewing the SEIS, confirmed that their objection was maintained subject to the inclusion of conditions on any consent or licence. These included, but are not limited to, a restriction on the number of turbines initially deployed to minimise any impact on the environment, the preparation and agreement of an Environmental Monitoring and Mitigation Plan including the establishment of an monitoring advisory group and the provision of adequate funding for the undertaking of any monitoring. These conditions are reflected in the draft decision letter and consent attached at **ANNEX D – DECISION LETTER AND CONDITIONS**.

The **Caithness Diving Club**, the **Caithness Regeneration Partnership**, **Caithness Sea Watching**, **Dunnet & Cannisbay Community Council**, the **Inshore Fishery Group**, **Inverness Sub Aqua Club**, **John O'Groats Ferry**, the **Marine Safety Forum**, **Marine Scotland Compliance Orkney**, **Marine Scotland Compliance Scrabster**, the **Ministry of Defence**, the **National Trust for Scotland**, **Pentland Ferries**, the **Salmon Net Fishing Association of Scotland**, the **Scottish Fisherman's Organisation**, the **Scottish Surfing Federation**, the **Scottish Wildlife Trus**t and **Wick Harbour** were consulted but no responses were received.

Public Representations

A total of seventeen representations were received by Marine Scotland from members of the public. Of these, thirteen representations objected to the Development, two were in support of the project and two were deemed to be neutral.

All representations received were, with the exception of three objections, from members of the public who currently reside in the area local to the Development.

Members of the public who objected to the Development stated concerns regarding the visual impact of the onshore infrastructure which is not in keeping with the current landscape, noise and dust pollution from construction works, impact on wildlife and children and that the technology proposed is unproven and not yet developed. A member of the public stated that there had been a failure to meet the requirements of the Aarhus Convention, a matter upon which we do not agree.

Representations which noted support for the project were of the belief that the Development would offer local benefits such as the creation of jobs, economic opportunities for the area which are believed to be of importance with the decommissioning of the Dounreay nuclear power station. Other comments included a lack of a visual impact from the tidal turbines unlike equivalent wind turbines onshore.

Representations deemed to be neutral did not offer any support or objection to the Development however they stated that cetaceans should be adequately taken into account when considering the proposal.

Other Material Issues – calls for a Public Local Inquiry

There is no presumption in law in favour of PLIs being held regarding applications for section 36 consent under the Electricity Act. The circumstances of the case are such that there is no statutory requirement under Schedule 8 to the Act for the Scottish Ministers to cause one to be held. The decision to hold a PLI in the case is entirely at the discretion of the Scottish Ministers; such discretion must always be exercised in accordance with the general principles of public law.

Under paragraph 3(2) of Schedule 8 to the Act the Scottish Ministers must be persuaded that it is appropriate for them to hold an inquiry (either in addition to or instead of any other hearing or opportunity of stating objections to the application).

Consideration

When considering whether to cause a PLI to be held the Ministers may have regard to whether–

(a) they have been provided with sufficient information to enable them to weigh up all of the conflicting issues and, without a public inquiry, whether they can properly weigh any such issues;
(b) those parties with a right to make representations have been afforded the opportunity to do so; and
(c) they have sufficient information available to them on which to take their decision such that a public inquiry would not provide any further factual evidence which would cause them to change their view on the application.

Ministers can draw upon information contained within –

(a) the Environmental Statement;
(b) the Supplementary Environmental Statement;
(c) the representations from the Company;
(d) the representations from consultees;
(e) the representations made from members of the public; and
(f) the Appropriate Assessment.

In all the circumstances, as outlined, Ministers can be satisfied that they have sufficient information to weigh up the conflicting issues and are able to do so.

It is clear that all interested parties (statutory consultees and other persons) have had more than sufficient opportunity to make representations upon the Application. Representations have been accepted, and have continued to be accepted, by the Ministers even following the expiry of the statutory consultation period. All such representations have been taken into account for the purposes of making a decision regarding the causing of a PLI to be held.

In light of the terms of the various documents that have been provided to Scottish Ministers, taken together with all the other information on the subject that is publicly available, any inquiry would not be likely to provide any factual information to assist

the Ministers to resolve the issues of risk and planning judgment raised by the application.

On the evidence that is before Scottish Ministers it is considered sufficient to reach a decision that a PLI would not provide further factual evidence which would require the Ministers to take a different view on the substantive issues on the application for consent under section 36.

Environmental Benefits and Carbon Payback

The total annual CO_2 saving from the 86 MW tidal array, once fully constructed and operational, is estimated by the Company to be approximately 122,000 tonnes per year or approximately 3 million tonnes over the life of the project.

Calculation of the time required for the Development to generate enough carbon-free electricity to offset its own carbon footprint (known as the "CO_2 payback period"), based on a worst-case scenario, is estimated by the Company to be between 21 to 31 months (using the Carbon Trusts advice note on '*Life-cycle energy and emissions of marine energy devices*').

If consented, the proposed project could result in an increase in the amount of renewable energy produced in Scotland and is consistent with the Government's policy on the promotion of renewable energy. Marine Scotland has estimated that the electricity generated by this development would provide energy equivalent to the needs of up to 42,000 homes.

Economic Benefits

Scottish Planning Policy ('SPP') advises that economic benefits are material issues which must be taken into account as part of the determination process.

SPP also confirms Scottish Ministers aim to achieve a thriving renewables industry in Scotland. The focus being to enhance Scotland's manufacturing capacity, to develop new indigenous industries, particularly in rural areas, and to provide significant export opportunities. The planning system has a key role in supporting this aim and Scottish Ministers should consider material details of how the proposal can contribute to local or national economic development priorities as stated in SPP.

In the ES, MeyGen state that the maximum total capital expenditure for the Development has been estimated at £602 million. The Development could have the potential to generate a total of 1,720 jobs on a 'jobs/MW installed capacity' basis for the manufacturing, construction and installation phase only using the Scottish Governments Marine Energy Group recommendation of a 'marine industry standard' of 20 jobs created per MW. The Company estimates that there is a potential for a temporary GVA of £38.8 million.

The Development will lead to the creation of a number of both temporary and permanent jobs. The Company envisages that approximately 70 temporary jobs for onshore construction activities, approximately 50 temporary jobs for offshore construction activities and approximately 50 full time jobs for offshore operations and

maintenance. It is envisaged that the number of jobs created for decommissioning of the Development will be the same as those for construction.

The Development would also provide opportunities for the involvement of local, regional and Scottish suppliers in a range of activities, including research and development, design, project management, civil engineering, component fabrication/manufacture, installation and maintenance. The Development has the potential to generate positive spin-off effects in terms of the development of the renewables sector in Caithness and the Northern Isles as well as the Highlands, and more generally in Scotland.

The Development has the potential to assist in the commercial viability of marine energy projects in Scotland and with it job prospects amongst Scottish firms may improve. The resultant effect is the potential for increases in business and employment opportunities within both the local and regional renewable energy sector, boosting the performance of local and national economies.

ANNEX C – ADVICE TO THE SCOTTISH MINISTERS AND RECOMMENDATION

APPLICATION FOR CONSENT UNDER SECTION 36 OF THE ELECTRICITY ACT 1989 TO CONSTRUCT AND OPERATE A 86 MW TIDAL ARRAY BETWEEN THE ISLAND OF STROMA AND THE SCOTTISH MAINLAND IN THE INNER SOUND OF THE PENTLAND FIRTH.

Advice to the Scottish Ministers in relation to a public local inquiry

A key issue is whether it is appropriate to cause a public inquiry to be held and whether the Scottish Ministers are capable of weighing up the various competing considerations and of properly taking account the representations that the various parties have made without an inquiry.

Having regard to the considerations set out in **ANNEX B**, our advice is that the Ministers are able to identify the material considerations without the need for an inquiry.

The Ministers have sufficient evidence provided by the Company concerning the benefits of the Development, including the ES and the SEIS, and representations from the Company, as well as representations from consultees and from members of the public, together with an Appropriate Assessment.

In the circumstances, the Scottish Ministers can be satisfied that:

1. they possess sufficient information upon the benefits of the Development in order to determine the Application; and

2. an inquiry into the issues raised by consultees or members of the public would not be likely to provide any further factual information to assist the Ministers to resolve any issues raised by the Application or to change their views on these matters,

and, accordingly, may conclude that it is not appropriate to cause an inquiry to be held into these matters. **We recommend that you determine that it is not appropriate to cause a PLI to be held**.

Advice in relation to the decision whether to grant consent under section 36 of the Electricity Act 1989

Officials consider that you have sufficient information to weigh the issues and that adequate opportunity was afforded for public representation.

We are of the view that, in considering the characteristics and location of the Development and its potential impacts, you may be satisfied that this proposal has had regard to the preservation of the environment and ecology and are of the view that you will have discharged your responsibilities in terms of Schedule 9 to the Electricity Act 1989 (‘the Electricity Act’) in this respect, if you decide to grant consent.

We consider that where any adverse environmental impacts cannot be prevented, adequate mitigation or compensation measures can be put in place. An obligation has been placed on the Company to give effect to all the mitigation and compensatory measures through the attachment of conditions to the consent.

We are also satisfied that whilst the Development would have an impact on the amenity of local residents, this is outweighed by socio-economic benefits and the benefits of renewable energy generation. It is our recommendation that the Scottish Ministers' planning judgment should be that whilst you accept the local impact upon local residents amenity, when weighing up that material consideration with the considerations mentioned in the next paragraph you can make an appropriate planning judgment nevertheless to grant consent, with conditions, to the Development in its proposed location.

The considerations mentioned in this paragraph are:-

1. The benefits that the Development would be expected to bring in terms of the contribution to the development of the renewable energy sector;

2. The need to achieve targets for renewable energy;

3. The economic and social importance of Scotland's renewable energy sector;

4. The specific benefits of the Development being the first commercial tidal array in Scotland;

5. The role that the Development can play strategically in this context;

6. The clear advantages that the proposed location offers; and

7. The potential to unlock a variety of economic benefits for the local area and assist in the commercial viability of marine energy projects in Scotland.

You can be satisfied that this proposal has had regard to the interference of recognised sea lanes essential to international and national navigation. Stakeholders responsible for navigational issues raised concerns regarding the possible impact on navigation arising from the Development. However, through further discussion between the Company and these stakeholders, and subject to the inclusion of appropriate conditions on any marine licence or consent, the navigational bodies were content that the Development's impact upon recognised sea lanes essential to international and national navigation could be overcome. We are therefore of the view that you have discharged your responsibilities in terms of section 36B of the Electricity Act.

The Company did not make any application for a declaration under section 36A of the Electricity Act to extinguish, suspend, restrict or attach conditions (or restrict and attach conditions) to the public rights of navigation and, therefore, you can be satisfied that you have discharged your responsibilities in terms of rights of navigation.

An application for a Marine Licence under Part 4 of the Marine (Scotland) Act 2010 will be determined in due course by the Cabinet Secretary for Rural Affairs and the Environment.

Before any construction work may commence a licence allowing the disturbance of European Protected Species (cetaceans) will be required to be authorised by the Scottish Ministers under the Habitats Regulations 1994, as well as a licence allowing the disturbance of Basking Sharks under the Wildlife and Countryside Act 1981. These will be applied for by the Company separately.

Recommendation

> We recommend that you **grant consent under section 36 of the Electricity Act to this application subject to the imposition of conditions**. The decision letter with conditions is enclosed (at **ANNEX D– DECISION LETTER AND CONDITIONS**)

Mark Christie, Policy Officer, Marine Planning & Policy, Ext: 41128
Andrew Sutherland, Marine Renewables Licensing Advisor, Marine Planning & Policy, Ext: 01224 285 486

ANNEX D – DECISION LETTER AND CONDITIONS

marinescotland

T: +44 (0)1224 295579 F: +44 (0)1224 295524
E: MS.MarineLicensing@Scotland.gsi.gov.uk

The Scottish Government
Riaghaltas na h-Alba

LEGACY 2014
XX COMMONWEALTH GAMES
SCOTLAND

Mr Dan Pearson
Chief Executive Officer
MeyGen Limited
King's Scholars House
230 Vauxhall Bridge Road
London
SW1V 1AU

2013

Dear Mr Pearson,

CONSENT GRANTED BY THE SCOTTISH MINISTERS TO CONSTRUCT AND OPERATE THE MEYGEN TIDAL ENERGY PROJECT ELECTRICITY GENERATING STATION IN THE INNER SOUND, PENTLAND FIRTH

The Application

I refer to the Application and the Supplementary Environmental Information Statement to the Application made by MeyGen Limited ('the Company') dated 13th July 2012 and 15th April 2013, respectively, for:

> consent under section 36 of the Electricity Act 1989 ('the Electricity Act') for the construction and operation of Phase 1 of the MeyGen Tidal Energy electricity generating station located between the Island of Stroma and the Scottish mainland in the Inner Sound of the Pentland Firth approximately 3km north west of John o'Groats with a generation capacity of up to 86 MW.

At this time, the Company also applied for a Marine Licence under Part 4 of the Marine (Scotland) Act 2010. This has been considered alongside the Application under section 36 of the Electricity Act and will be determined in due course.

In this letter, 'the Development' means the proposed MeyGen Tidal Energy electricity generating station Phase 1 for which the Application is made and is described in **ANNEX 1** to this letter.

STATUTORY AND REGULATORY FRAMEWORK

The Electricity Act 1989

Consent under section 36 of the Electricity Act is required for any proposal to construct, extend or operate a generating station situated in the territorial sea with a permitted generation capacity in excess of 1 megawatt. A section 36 consent may include conditions as appearing to the Scottish Ministers to be appropriate.

Paragraph 3 of Schedule 9 to the Electricity Act places a duty on operators of generating stations to have regard to the desirability of preserving natural beauty, of conserving flora, fauna and geological or physiographical features of special interest and of protecting sites, buildings and objects of architectural, historic or archaeological interest. Operators of generating stations are statutorily obliged to do what they reasonably can to mitigate any effect the proposals may have on these features.

Paragraph 3 of Schedule 9 to the Electricity Act also provides that the Scottish Ministers must have regard to the desirability of these matters and the extent to which operators of generating stations have complied with their duty to mitigate the effects of the proposals. The Scottish Ministers must also avoid, so far as possible, causing injury to fisheries or to the stock of fish in any waters.

Under section 36B of the Electricity Act the Scottish Ministers may not grant a consent in relation to any particular offshore generating station activities if they consider that interference with the use of recognised sea lanes essential to international navigation is likely to be caused by the carrying on of those activities or is likely to result from their having been carried on. The Scottish Ministers, when determining whether to give consent for any particular offshore generating activities, must have regard to the extent and nature of any obstruction or danger to navigation which, without amounting to interference with the use of such sea lanes, is likely to be caused by the carrying on of the activities, or is likely to result from their having been carried on. In determining this issue the Scottish Ministers must have regard to the likely overall effect of the activities in question and such other offshore generating activities which are either already subject to section 36 consent or activities for which it appears likely that such consents will be granted.

The Scottish Ministers are required to obtain the advice of the Scottish Environment Protection Agency ('SEPA') on matters relating to the protection of the water environment. SEPA's advice has been considered by the Scottish Ministers and due regard has been given to the Water Environment and Water Services (Scotland) Act 2003 and to the Water Environment (Controlled Activities) (Scotland) Regulations 2011.

Under Schedule 8 to the Electricity Act and the Electricity (Applications for Consent) Regulations 1990, notice of applications for section 36 consent must be published by the applicant in one or more local newspapers and in the Edinburgh Gazette to allow objections to be made to the application. Under Schedule 8 to the Electricity Act the Scottish Ministers must serve notice of application for consent upon any relevant

Planning Authority. As the Development is wholly offshore the closest planning authority is not a 'relevant Planning Authority' in terms of the Electricity Act.

The Scottish Ministers are satisfied that they have considered all the necessary tests set out within the Electricity Act when assessing the application and that all procedural requirements have been complied with.

Paragraph 2(2) of Schedule 8 to the Electricity Act provides that where a relevant Planning Authority notifies the Scottish Ministers that they object to an application for section 36 consent and where they do not withdraw their objection then the Scottish Ministers must cause a public inquiry to be held in respect of the application. In such circumstances before determining whether to give their consent the Scottish Ministers must consider the objections and the report of the person who held the public inquiry.

The location and extent of the proposed Development to which the Application relates being wholly offshore means that the Development is not within the area of any local planning authority. The Scottish Ministers are not, therefore, obliged under paragraph 2(2) of Schedule 8 to the Electricity Act to require a public inquiry to be held. The nearest local planning authorities did not object to the Application. If they had objected to the Application, and even then if they did not withdraw their objections, the Scottish Ministers would not have been statutorily obliged to hold a public inquiry.

The Scottish Ministers are, however, required under paragraph 3(2) of Schedule 8 to the Electricity Act to consider all objections received, together with all other material considerations, with a view to determining whether a public inquiry should be held in respect of the application. Paragraph 3(2) of Schedule 8 provides that if the Scottish Ministers think it appropriate to do so, they shall cause a public inquiry to be held, either in addition to or instead of any other hearing or opportunity of stating objections to the application.

Integrated Coastal Zone Management

The UK Marine Policy Statement 2011 states that UK Administrations are committed to ensuring that coastal areas, and activities taking place within them, are managed in an integrated and holistic way in line with the principles of Integrated Coastal Zone Management ('ICZM'). ICZM is an EU led strategy delivered at a local level and deals with the coastal and marine environment in a sustainable way. ICZM seeks, over the long term, to balance environmental, economic, social, cultural and recreational objectives. The Scottish Ministers are satisfied that the proposal is in accordance with the aims of ICZM.

Marine (Scotland) Act 2010 and the Climate Change (Scotland) Act 2009

The Marine (Scotland) Act 2010 regulates the territorial sea adjacent to Scotland for marine environment issues.

Subject to exemptions specified in subordinate legislation, under Part 4 of the Marine (Scotland) Act 2010 licensable marine activities may only be carried out in accordance with a marine licence granted by the Scottish Ministers.

Under Part 2 of the Marine (Scotland) Act 2010 the Scottish Ministers have general duties to carry out their functions in a way best calculated to achieve the sustainable development, including the protection and, where appropriate, the enhancement of the health of the area. The Scottish Ministers when exercising any function that affects the Scottish marine area under the Marine (Scotland) Act 2010, the Climate Change (Scotland) Act 2009 or any other enactment must act in a way best calculated to mitigate, and adapt to, climate change.

Also of relevance to the Application is that under the Climate Change (Scotland) Act 2009 annual targets have been agreed with relevant advisory bodies for the reduction in carbon emissions.

The Scottish Ministers are satisfied that in assessing the Application they have acted in accordance with their general duties.

Environmental Impact Assessment Directive and the Electricity Works (Environmental Impact Assessment) (Scotland) Regulations 2000

The Environmental Impact Assessment Directive, which is targeted at projects which are likely to have significant effects on the environment, identifies projects which require an environmental impact assessment ('EIA') to be undertaken. The Company identified the proposed Development as one requiring an environmental statement in terms of the Electricity Works (Environmental Impact Assessment) (Scotland) Regulations 2000.

The proposal for the Development has been publicised, to include making the environmental statement available to the public, in terms of those regulations. The Scottish Ministers are satisfied that an Environmental Statement has been produced and the applicable procedures regarding publicity and consultation all as laid down in those regulations have been followed.

The Scottish Ministers have, in compliance with those regulations consulted with SNH, SEPA, the planning authorities most local to the Development, and such other persons likely to be concerned by the proposed Development by reason of their specific environmental responsibilities on the terms of the environmental statement in accordance with the regulatory requirements. Marine Scotland have also consulted a wide range of relevant organisations including colleagues within the Scottish Government on the Application and on the environmental statement and as a result of the issues raised, upon the required supplementary environmental information statement.

The Scottish Ministers are satisfied that the regulatory requirements have been met.

They have taken into consideration the environmental information, including the Environmental Statement and Supplementary Environmental Information, and the representations received from the statutory consultative bodies.

The Habitats Directive

The Habitats Directive on the conservation of natural habitats and wild fauna and flora has, in relation to the marine environment, been transposed into Scots law by the Conservation (Natural Habitats, & c.) Regulations 1994 ('the 1994 Regulations') and the Offshore Marine Conservation (Natural Habitats, & c.) Regulations 2007.

The key mechanism for securing compliance with the Directive is the carrying out of an Article 6(3) Appropriate Assessment under regulation 48 of the 1994 Regulations. Developments in, or adjacent to protected sites, or in a location which has the potential to affect such a site, must undergo what is commonly referred to as a Habitats Regulations Appraisal. The appraisal involves two stages, and if the proposal is likely to have a significant effect on a protected site, then an Appropriate Assessment must be carried out.

The Scottish Ministers, as a competent authority under the Habitats Directive, have complied with their EU obligations in relation to the Development. They have, following the undertaking of an Appropriate Assessment, ascertained that the Development will not adversely affect the integrity of any European protected sites and have imposed conditions on the grant of the consent ensuring that this is the case. This is confirmed by consultation responses received from SNH and RSPB Scotland. The Appropriate Assessment will be published and available on the Marine Scotland's Licensing Operations Team's website.

Applicable policies and guidance

Marine area

The UK Marine Policy Statement 2011

The UK Marine Policy Statement 2011 prepared and adopted in accordance with Chapter 1 of Part 3 of the Marine and Coastal Access Act 2009 requires that when the Scottish Ministers take authorisation decisions that affect, or might affect, the marine area they must do so in accordance with the UK Marine Policy Statement 2011 ('the Statement').

The Statement which was jointly adopted by the UK Administrations sets out the overall objectives for marine decision making. It specifies issues that decision-makers need to consider when examining and determining applications for energy infrastructure at sea, namely– the national level of need for energy infrastructure as set out in the Scottish National Planning Framework; the positive wider environmental, societal and economic benefits of low carbon electricity generation; that renewable energy resources can only be developed where the resource exists and where economically feasible; and the potential impact of inward investment in tidal stream energy related manufacturing and deployment activity. The associated opportunities on the regeneration of local and national economies need also to be considered.

Chapter 3, paragraphs 3.3.1 to 3.3.6, 3.3.16 to 3.3.18 and 3.3.20 to 3.3.30 of the Statement are relevant and have been considered by the Scottish Ministers as part of the assessment of the Application.

The Scottish Ministers have had full regard to the Statement when assessing the Application. It is considered that the Development accords with the Statement.

Terrestrial area

Existing terrestrial planning regimes generally extend to mean low water spring tides. The marine plan area boundaries extend up to the level of mean high water spring tides. The UK Marine Policy Statement clearly states that the new system of marine planning introduced across the UK will integrate with terrestrial planning. The Statement also makes it clear that the geographic overlap between the Marine Plan and existing plans will help organisations to work effectively together and to ensure that appropriate harmonisation of plans is achieved. The Scottish Ministers have, accordingly, had regard to the terms of relevant terrestrial planning policy documents and Plans when assessing the Application for the purpose of ensuring consistency in approach. In addition to high level policy documents regarding the Scottish Government's policy on renewables (2020 Renewable Routemap for Scotland - Update (published 30 Oct 2012) and Scotland's Marine Energy Action Plan 2012), the Scottish Ministers have had regard to the following documents.

Scottish Planning Policy

Scottish Planning Policy sets out the Scottish Government's planning policy on renewable energy development. Whilst it makes clear that the criteria against which applications should be assessed will vary depending upon the scale of the development and its relationship to the characteristics of the surrounding area, it states that these are likely to include impacts on landscapes and the historic environment, ecology (including birds, mammals and fish), biodiversity and nature conservation; the water environment; communities; aviation; telecommunications; noise; shadow flicker and any cumulative impacts that are likely to arise. It also makes clear that the scope for the Development to contribute to national or local economic development should be a material consideration when considering an application.

The Scottish Ministers are satisfied that these matters have been addressed in full both within the Application and within the responses received to the consultation by the closest onshore Planning Authorities, SEPA, SNH and other relevant bodies.

National Planning Framework 2

Scotland's National Planning Framework 2 ('NPF2') sets out strategic development priorities to support the Scottish Government's central purpose, namely sustainable economic growth. Relevant paragraphs to the Application are paragraphs 65, 144, 145, 146, 147, 149, and 215. NPF2 provides strong support for wave and tidal energy sectors in Scotland recognising the world class environment Scotland provides for these sectors and the potential these technologies have to make a major contribution in the longer term.

The Highland – wide Local Development Plan April 2012

The purpose of the Highland – Wide Local Development Plan ('HWLDP') is to set out a balanced strategy to support the growth of all communities across the Highlands ensuring that development is directed to places with sufficient existing or planned infrastructure and facilities it support sustainable development. Relevant policies within this plan can be applied to the Development.

The Vision chapter of the HWLDP makes a commitment to ensuring that the development of renewable energy resources are managed effectively including guidance on where harnessing renewable sources is appropriate or not. There is also a commitment to provide new opportunities to encourage economic development and create new employment across the Highland area focusing on key sectors including renewable energy whilst at the same time improving the strategic infrastructure necessary to allow the economy to grow in the long term.

The HWLDP identifies the area around Ness of Quoys and Ness of Huna as potential offshore renewables bases in the Caithness and Sutherland Vision and Spatial Strategy. The area is also marked for grid reinforcement.

These areas were both identified by the Company as suitable locations for the onshore ancillary development related to the tidal array.

The Scottish Ministers have considered Policy 29, Design Quality and Place – Making, which states that new developments should be designed to make a positive contribution to the architectural and visual quality of the place in which it is located. Accordingly, applicants should demonstrate sensitivity and respect towards the local distinctiveness of the landscape, architecture, design and layouts in their final design.

The Scottish Ministers consider that the Development, accords with this policy.

The HWLDP supports the development of rural areas as this will help to maintain population, infrastructure and services though it is noted that development can have a significant impact upon the character of the landscape. Proposals should be sympathetic to this and the landscape should be a key consideration. Development proposals are to be assessed against Policy 36: Development In The Wider Countryside with marine renewable energy developments also assessed against renewable energy policies and the Highland Renewable Energy Strategy.

The Development is considered consistent with these policies.

Policy 57 Natural, Built and Cultural Heritage sets out the tests against which all development affects natural, cultural and built heritage features must be assessed. The HWLDP states that Appropriate Assessments may be required to be completed for proposed developments prior to determining planning applications.

In assessing the application, consideration has been given to sites of local and regional importance, national importance and international and it is considered that the Development accords with this policy

Policy 58 states that where there is good reason to believe that a protected species may be present on a site or affected by a proposed development, a survey will be undertaken to establish the presence of any such species and, if necessary, develop a mitigation plan to avoid or minimise any impacts on the species before determining the application.

It is considered that the Development accords with this policy as the Company has provided information on the presence of protected species at the Site within their Environmental Statement and supplementary environmental Information statement. Scottish natural heritage and other nature conservation bodies are of the opinion that the proposal is acceptable subject to mitigation measures in the form of conditions, the proposal is considered consistent with this policy.

Policy 61 Landscape directs that new developments should be designed to reflect the landscape characteristics and special qualities identified in the Landscape Character Assessment of the area in which they are proposed. This includes consideration of the appropriate scale, form, pattern and construction materials, as well as the potential cumulative effect of developments where this may be an issue. In assessing new developments, consideration should be given to Landscape Character Assessments, Landscape Capacity Studies and Supplementary guidance on Siting and Design and Sustainable Design in conjunction with any other relevant design guidance.

It is considered that the Development accords with this policy as the offshore element, to which this application relates, is wholly submerged below lowest astronomical tide and consequently there are no visual impacts from the Development. The onshore ancillary works will be considered under this policy by The Highland Council when determining the application for separate planning permission.

The HWLDP, Policy 67 Renewable Energy Developments, notes that the region has great potential for renewable energy production and can contribute towards meeting ambitious international, national and regional targets. The Planning Authority will support proposals where it can be satisfied that they are located, sited and designed such that they will not have a significant detrimental impact wither either individually or cumulatively with other developments on receptors including, but not limited to natural built and cultural heritage features, species and habitats, visual impact, tourism and recreation interests as well as traffic and transport interests.

The proposal accords with this Policy. The Development offers an opportunity for the region to contribute towards renewable energy targets. This can also bring further benefits tackling the effects of climate change, increasing energy security and contributing to the local and regional economies of the Highlands as stipulated in the HWLDP.

The Scottish Ministers consider that the Development complies with the HWLDP Plan.

Highland Coastal Development Strategy May 2010

The main purpose of the Highland Coastal Development Strategy ('HCDS') is to set out a vision for the sustainable use and development of the coastal zone. It will inform marine and terrestrial planning policy development through the preparation of the HWLDP, and then subsequent Area Local Development Plans, Aquaculture Framework Plans and, in time, new Marine Regional Plans. Areas of isolated coast which have been identified through the coastal classification in this guidance, will have statutory development plan protection under a general policy in the HWLDP. The link to general policy has already been established in principle for parts of the Highland area through the Wester Ross Local Plan, West Highland and Islands Local Plan and the Sutherland Local Plan.

The HCSD notes that the Highlands and Islands contain arguably some of the world's best renewable energy resources in terms of wind, wave and tide and that work is underway to realise this potential bringing with it the reality of significant economic development for the Highland region.

Section 5.7 of the HCSD recognises that the north coast in particular has the greatest potential for marine renewable energy generation due to its exposure and strong tidal flows through the Pentland Firth.

The Development is considered consistent with this strategy.

Highland Renewable Energy Strategy and Planning Guidelines May 2006

The Highland Renewable Energy Strategy and Planning Guidelines supplement the existing policies of The Highland Council and aim to provide guidance and direction for Planning Authority decisions and developers plans.

The document notes that tidal developments in larger tidal streams such as the Pentland Firth must carefully consider the potential for interactions with other sea users, fisheries and wildlife and develop acceptable development scenarios .

Within these guidelines, Strategic Topic E14 notes that The Highland Council support the full investigation and exploration of the potential for tidal energy production but recognises that there are significant gaps in knowledge that should be filled before large scale exploitation of tidal energy is supported. Nevertheless, the large amounts of energy that could be available mean that finding answers should be a key priority. In that regard, The Highland Council promote prototype deployments and follow on projects as technology develops.

The same Strategic Topic identifies the potential for tidal energy developments around the Highland coastline, particularly in the Pentland Firth, suggesting a potential installed capacity target of 400MW by 2020. This proposal would provide a significant contribution towards meeting this target.

Consultation

In accordance with statutory requirements, advertisements of the Application had to be placed in the local and national press. The Scottish Ministers note that these requirements have been met. Notice of the Application for section 36 consent is required to be served on any relevant planning authority under Schedule 8 to the Electricity Act.

Notification was therefore sent to The Highland Council, as the nearest onshore Planning Authority, as well as to Orkney Islands Council (the neighbouring Planning Authority), SNH, and SEPA.

Representations and objections

A formal public consultation process was undertaken by the Scottish Ministers. The first, which related to the application for section 36 consent, the marine licence application, and the Environmental Statement, was commenced on 27th July 2012, and the second, which related to the submission of further information in the Supplementary Environmental Information Statement began on 26th April 2013.

A total of seventeen valid representations were received by Marine Scotland from members of the public. Of these, thirteen representations objected to the Development, two were in support of the project and two were deemed to be neutral.

All representations received were, with the exception of three objections, from members of the public who currently reside in the area local to the Development.

Members of the public who objected to the Development stated concerns regarding the visual impact of the onshore infrastructure which is not in keeping with the current landscape, noise and dust pollution from construction works, impact on wildlife and children, that the technology proposed is unproven and not yet developed as well as a belief that there had been a failure to meet the requirements of the Aarhus Convention.

Representations which noted support for the project were of the belief that the Development would offer local benefits such as the creation of jobs, economic opportunities for the area which are believed to be of importance with the decommissioning of the Dounreay nuclear power station. Other comments included a lack of a visual impact from the tidal turbines unlike equivalent wind turbines onshore.

Representations deemed to be neutral did not offer any support or objection to the Development however they stated that cetaceans should be adequately taken into account when considering the proposal.

Of the public representations made concerning the Application none were received from elected representatives.

Objections were received from, amongst others, SEPA, SNH, the Royal Society for the Protection of Birds, the Association of Salmon Fishery Boards (‘ASFB’), the

Caithness District Salmon Fishery Board ('CDSFB'), Whale and Dolphin Conservation and the Scottish Fishermen's Federation.

Several respondents, including SEPA, SNH, the RSPB, the Scottish Fishermen's Federation and Whale and Dolphin Conservation, stated their willingness to withdraw their objections provided certain stated conditions were met. The ASFB and CDSFB did not explicitly remove their objections, however would only maintain it until adequate monitoring and mitigation strategies were put in place. These bodies used their responses to raise concerns or recommendations that they felt should be addressed. These included:

- The Development being limited to an initial maximum of 6 turbines and subsequent detailed monitoring undertaken to gain evidence to understand animal interaction with this initial stage before deployment of further stages. The development of management plans for the construction, operation and decommissioning of the Development agreed with appropriate parties prior to the Commencement of the Development, and adherence to these over its lifespan. These included a more detailed programme of works, site-specific environmental management document, vessel movement plan, an operations and maintenance programme and adoption of an iterative process for development of a decommissioning strategy.

- Great emphasis on monitoring by agreeing a detailed monitoring programme prior to the Commencement of the Development. This included suggestions for additional studies and provision of research and monitoring results to be made available.

SNH and a number of other consultees raised concerns about the proposal having the potential to impact upon a number of European protected areas, namely Special Protection Areas (SPAs) under the Wild Birds Directive and Special Areas of Conservation (SACs) under the Habitats Directive. SNH considered that the proposal is likely to have a significant effect on the qualifying interests of certain SPA and SAC sites. An appropriate assessment was undertaken by the Scottish Ministers, and reviewed by SNH, which concluded that impacts on the integrity of the protected sites would be avoided subject to appropriate conditions being included on any consent or licence.

All objections received from all statutory consultees to the Application have been withdrawn either by agreement or by the inclusion of conditions to the consent. No objections were received from the two closest onshore local authorities, The Highland Council and Orkney Islands Council.

Objections from members of the public are being maintained.

Material considerations

In light of all the representations, objections and outstanding objections received by the Scottish Ministers in connection with the Application, they have carefully considered the issues and identified the following matters as material considerations, for the purposes of deciding whether it is appropriate to cause a public inquiry to be

held or for making a decision on the Application for consent under section 36 of the Electricity Act –

- cumulative impacts;
- the proposed location of the Development;
- the impacts on quality of life;
- the impacts on recreation, and recreational tourism, in the area;
- the impacts on shipping and navigational safety;
- the impacts on fish;
- the impacts on cetaceans;
- the impacts on marine mammals;
- the impacts on birds;
- the impacts on coastal processes;
- the impacts on benthic ecology;
- the impacts on shellfish;
- development of the renewable energy sector.

Public Local Inquiry

Paragraph 2(2) of Schedule 8 to the Electricity Act provides that where a relevant planning authority notifies the Scottish Ministers that they object to an application for section 36 consent and where they do not withdraw their objection then the Scottish Ministers must cause a public inquiry to be held in respect of the application. In such circumstances before determining whether to give their consent the Scottish Ministers must consider the objections and the report of the person who held the public inquiry.

The location and extent of the Development to which the Application relates being wholly offshore means that the Development is not within the area of any local planning authority. The Scottish Ministers are not, therefore, obliged under paragraph 2(2) of Schedule 8 to the Electricity Act to require a public inquiry to be held. The nearest local planning authority did not object to the Application. Even if they had objected to the Application, and even then if they did not withdraw their objection, the Scottish Ministers would not have been statutorily obliged to hold a public inquiry.

The Scottish Ministers are, however, required under paragraph 3(2) of Schedule 8 to the Electricity Act to consider all objections received, together with all other material considerations, with a view to determining whether a public inquiry should be held with respect to the Application. If the Scottish Ministers think it appropriate to do so, they shall cause a public inquiry to be held, either in addition to or instead of any other hearing or opportunity of stating objections to the Application.

The Scottish Ministers have received objections to the Development as outlined above. In addition, a number of other matters were raised which constitute material considerations the context of considering whether they should decide to hold a public inquiry into this case. In summary, and in no particular order, these objections related to the following issues:

(i) disruption to quality of life due to onshore works;

(ii) the impact on wildlife;

(iii) that the technology is unproven and not yet developed; and

(iv) failure to meet the requirements of the Aarhus convention.

Disruption to quality of life due to onshore works

A number of respondents to the Application commented on the potential impact that the onshore works would have on their quality of life. These ranged from the visual impact of onshore development to the noise pollution and dust from construction and construction vehicles. The Scottish Ministers accept that there will be some noise as a result of the construction of the Development, however the Construction Method Statement which must be submitted to the Scottish Ministers before construction may begin requires mitigation measures to be in place, for example the consideration of the working methods, frequency and hours of operations. Regarding the visual impact of onshore ancillary buildings, this was considered fully as part of The Highland Council's determination of the Company's Town and Country Planning (Scotland) Act 1997 application. More details can be found on The Highland Council planning portal located at http://wam.highland.gov.uk/wam/ under planning references 12/02874/FUL and 12/02875/FUL.

The Scottish Ministers, therefore, consider that they have sufficient information available on the disruption to the quality of life of local residents to reach a conclusion on this matter, and do not consider that it is appropriate to cause a public inquiry to be held to further investigate this.

The impact on wildlife

The impact on marine mammals and birds was raised in the outstanding objections to the Development. The Company in its Environmental Statement and Supplementary Environmental Information Statement assessed the potential impact of the Development on fauna and the Scottish Ministers consulted various nature conservation bodies including SNH, the RSPB and Whale and Dolphin Conservation on this assessment. None of these consultees objected to the Development so long as the consent was made subject to specified conditions. Such conditions have been included in this consent and Scottish Ministers, on the advice of these nature conservation bodies, have limited the first phase of the Development to the construction and operation of 6 turbines, the impacts of which will be monitored in full before the Scottish Ministers may agree to any further future stages of the Development being deployed.

The Scottish Ministers, therefore, consider that they have sufficient information available on the potential impacts on wildlife both now and in the future following such monitoring having been undertaken to reach a conclusion on this matter, and do not consider that it is appropriate to cause a public inquiry to be held to further investigate this.

The technology is unproven and not yet developed

Concerns have been raised that tidal technology is in its infancy and is not yet sufficiently proven for a large scale development. As outlined in the paragraph above, the Scottish Ministers have consented the whole Development, but on the condition that only 6 turbines are installed under the first phase of the Development which must be monitored before any further deployment.

Tides are predictable because they are created by the gravitational pull of the moon and sun. Tidal stream resources are at their best when there is a good tidal range, and the speed of the current is amplified by the funnelling effect of the local coastline and seabed. Tidal devices work well in narrow straits and inlets, around headlands, and in channels between islands. The Pentland Firth has some of the most energetic tidal resources in the world.

Wave and tidal stream energy technology have the potential to play an important role in decarbonising our energy supply, increasing energy security and reducing our dependence on fossil fuels. The Carbon Trust has estimated that wave and tidal resources could provide 20 per cent of the UK's electricity if fully developed.

The Scottish Ministers do not consider it appropriate to cause a public inquiry to be held to further investigate this.

Failure to meet the requirements of the Aarhus convention

Concerns were raised that due to the scale of the Development the proper assessments have not been undertaken in accordance with the Aarhus Convention. The Scottish Ministers consider that proper assessment has been undertaken for this Development and proper opportunity was afforded for consultation with stakeholders and members of the public. In the circumstances, the Scottish Ministers do not consider it appropriate to cause a public inquiry to be held, in addition to, or instead of, the opportunities that there have already been to give views on the Development.

The Scottish Ministers have fully and carefully considered the Application and accompanying documents and all relevant responses from Consultees, as well as all the third party representations that have been received. The Scottish Ministers have taken all material considerations into account. The Scottish Ministers consider that there are no significant issues which have not been adequately considered in the Environmental Statement, consultation responses and third party representations and that they have sufficient information to be able to make an informed decision on the Application without the need for a Public Inquiry.

Determination

In the circumstances, the Scottish Ministers are satisfied that-

(1) they possess sufficient information upon which to determine the Application; and

(2) the objectors have been afforded every opportunity to provide information and to make representations.

Accordingly, having regard to all material considerations in this Application and the nature of the outstanding objections, the Scottish Ministers have decided that it is not appropriate to cause a public inquiry to be held.

The Scottish Ministers' consideration of the environmental information

The Scottish Ministers are satisfied that an Environmental Statement has been produced in accordance with the Electricity Works (Environmental Impact Assessment) (Scotland) Regulations 2000 ("the 2000 Regulations") and the applicable procedures regarding publicity and consultation laid down in the 2000 Regulations have been followed.

The Scottish Ministers have taken into consideration the environmental information, including the Environmental Statement and Supplementary Environmental Information, and the representations received from the consultative bodies, namely SNH and SEPA, and from The Highland Council and Orkney Islands Council too.

In terms of paragraph 3(1)(a) of Schedule 9 to the Electricity Act, the Company, when formulating a proposal to construct the generating station, must have regard to the desirability of preserving natural beauty, of conserving flora, fauna, and geological or physiological features of special interest and of protecting sites, buildings and objects of architectural, historic, or archaeological interest. Paragraph 3(1)(b) of Schedule 9 to the Electricity Act requires the Company, when formulating such a proposal, to do what it reasonably can to mitigate the effects that the generating station would have on these features.

In considering the Application, the Scottish Ministers have had regard to the desirability of the matters mentioned in paragraph 3(1)(a) and the extent to which the Company has complied with the duty under paragraph 3(1)(b). The Scottish Ministers consider that the Company has fulfilled the requirements of Schedule 9 to the Electricity Act and, by virtue of the Scottish Ministers undertaking an appropriate assessment in terms of the Habitats Directive based on the evidence, the requirements of Schedule 9 are capable of being met.

The Scottish Ministers' consideration of the possible effects on a European Site

When considering an application for section 36 consent which might affect a European protected site, the competent authority must first determine whether the Development is directly connected with or necessary for the beneficial conservation management of the site. If this is not the case, the competent authority must decide whether the Development is likely to have a significant effect on the site. Under the Habitats Directive, if the proposal is likely to have a significant effect, the competent authority must undertake an appropriate assessment of its implications for the site in view of the site's conservation objectives.

With regards to the Development, SNH advised that the Development could have a significant effect upon the qualifying interests of a number of sites – both Special Areas of Conservation (SACs) and Special Protection Areas (SPAs). As the recognised competent authority under European legislation, Scottish Ministers have considered the relevant information and undertaken an Appropriate Assessment. The Appropriate Assessment concluded that the Development would not adversely affect the integrity of any of the designated sites if the mitigation measures outlined were implemented by means of enforceable conditions attached to the consent.

THE SCOTTISH MINISTERS' CONSIDERATION OF THE APPLICATION

The Scottish Ministers' consideration of the Application and the material considerations mentioned above is set out below.

Cumulative Impact

The issue of potential cumulative impact on landscape, visual amenity and natural heritage was considered by SNH. There are currently no other wave or tidal projects at application stage in the Pentland Firth and therefore there will be no other offshore renewable developments in this area undergoing construction at the same time as the Development. However, any future projects, including further phases to the MeyGen project not provided for under this consent may be required to consider in-combination impacts with the Development. SNH did not raise any objection on the grounds of cumulative impacts and the Scottish Ministers accept this view.

Proposed location of the Development

The proximity of the Development to the coastline is an important issue to be considered. The Scottish Ministers consider that the Company has carefully considered the location of the Development and selected the Inner Sound due to its many advantages. The Inner Sound of the Pentland Firth provides a high tidal resource with suitable bathymetry for turbine deployment. There are ecological sensitivities in the area, however these were identified through early consultation at the start of the project and potential impacts have been fully assessed. Navigation is also an issue in the Pentland Firth, however the Inner Sound is not a significant navigational route and is generally used by smaller, narrow draught, vessels such as recreational crafts including yachts. The Outer Sound (north of Stroma) is the designated navigation route through the Pentland Firth.

The Scottish Ministers accept that the location of the Development was fully considered both prior to, and during, the application process and are content to grant consent to the Development in its current location.

Impacts on quality of life

Concerns were raised regarding the impact of construction and the noise made by construction components such as heavy duty vehicles and noise made by the drilling rig. The noise impacts on local residents have been assessed in the Company's Environmental Statement and estimates of potential noise levels have been provided. The Scottish Ministers have considered these impacts and have imposed

within the consent a condition for a Construction Method Statement to be produced by the Company. This will be formulated in liaison with bodies such as The Highland Council, SNH and SEPA. The Construction Method Statement will seek to reduce noise to a minimum using the best practicable means at all times in agreement with The Highland Council and it, together with the Environmental Statement, will also work to keep local residents and groups informed of the proposed working schedule including the times and duration of any abnormally noisy work that may cause concern. A noise monitoring procedure and schedule will also be prepared and agreed with The Highland Council prior to the commencement of works.

The Construction Method Statement will also consider and mitigate dust emissions through such measures as effective barriers around dusty activities and the use of hard standing on the site and wheel washes and the dampening down of the Site area during dusty activities.

It is the Scottish Ministers' planning judgment that, whilst accepting that there would be some adverse amenity impacts on local residents, these will be mitigated as far as possible to be within acceptable levels, and will only be temporary in nature. The Scottish Ministers are therefore content to grant consent to the Development in this regard.

Impacts on recreation in the area

Concerns were raised by respondents such as the Caithness Kayak Club, the Pentland Canoe Club and Surfers Against Sewage that the proposal could impact upon recreational users including recreational tourists. Through discussions with the Kayak and Canoe clubs, effective mitigation measures have been agreed with the Company such as the reduction in size of safety zones. The Company has also agreed to include regular updates of information on the Development to relevant recreational clubs.

It is the Scottish Ministers' planning judgment that, whilst accepting that there would be some adverse recreational impacts resulting from the Development, it is in their view an appropriate judgment nevertheless to grant consent to the Development in its proposed location.

Impacts on shipping and navigational safety

There were concerns that the location of the Development within the Inner Sound of the Pentland Firth could cause difficulties for the navigation of vessels in the general area of the tidal array.

The Chamber of Shipping is satisfied that the lowest astronomical tide surface clearance range of 8-12 metres and the under keel clearance afforded by this level is sufficient under all conditions for the regular running ferry *Pentalina*. The Chamber of Shipping did stress that timely information to mariners is crucial to avoid collision with vessels traversing the sound with 8 metre draughts. Detailed information will be disseminated via tools including Notices to Mariners and Navtex and the array will also be clearly marked. The Northern Lighthouse Board and the Maritime and Coastguard Agency raised similar concerns and Scottish Ministers have included

within the consent a condition that a Navigational Safety Plan, including the production of an Emergency Response Co-operation Plan ('ERCoP'), must be submitted by the Company, and agreed by the Scottish Ministers, prior to the Commencement of the Development.

The Scottish Ministers are satisfied that there are no concerns about navigational safety that would require consent to be withheld.

Impacts on fish

Consultation responses from the Association of Salmon Fishery Boards and the Caithness District Salmon Fishery Board raised the importance of the location of the Development due to it being a primary migration route for salmon. The key issues identified by the Boards included the potential impacts associated with noise, electromagnetic fields, barrier effects and collision risk. Both Boards were concerned at the lack of biological information to make a wholly accurate assessment of possible impacts from the proposal and both requested monitoring and mitigation measures be put in place. A condition requiring a comprehensive monitoring programme has been included within the consent and Marine Scotland Science are undertaking strategic research on migratory fish as part of the research theme of *"Diadromous Fish and Marine Renewable Energy Research"*. Outputs from this will be incorporated, where appropriate, into the monitoring and mitigation work undertaken on this Development.

Regarding commercial fishing activity, although the Scottish Fisherman's Federation ('SFF') initially objected to the Application, following discussions between the SFF and the Company, the SFF were content to remove their objection. The Company committed to develop and consult upon proposals including the use of safety zones, operation of guard vessels, charting and demarcation of the project and construction activity and promulgation of information relating to the Development to mariners.

The Scottish Ministers consider that, having taken account of the information provided by the Company and the responses of Fishery Boards, the impact on fishing activity is not likely to be so significant, in light of the mitigation measures proposed, that it would require consent to be withheld.

Impacts on cetaceans

Scottish Natural Heritage and Whale and Dolphin Conservation considered the Company's Environmental Statement and concluded that there was the potential for significant adverse impacts to cetaceans such as the harbour porpoise and the minke whale due to increased vessel activity and collision risk with the turbines. Although the current vessel traffic in the area is low, and may already be causing low level disturbance to some species, the additional vessels required for this Development are unlikely to significantly increase this disturbance. Any disturbance from vessels could be further reduced by developing a Vessel Management Plan which has been included as a condition to the consent by the Scottish Ministers. Regarding collision risk avoidance rates by cetacean species, given predicted avoidance rates, SNH conclude that the Development would avoid an adverse impact on favourable Conservation Status on the UK population level. The Company

will also be required to apply for a licence allowing the disturbance of European Protected Species.

The Scottish Ministers are therefore satisfied that, subject to the agreed mitigation measures as recommended by SNH, the potential impacts on cetaceans would be suitably mitigated. Consequently, the Scottish Ministers consider there are no concerns about impact on cetaceans aviation that would require consent to be withheld.

Impacts on marine mammals

The Scottish Ministers note that techniques used in the construction of most offshore renewable energy installations have the potential to impact on marine mammals.

SNH and Whale and Dolphin Conservation advised that a key concern of theirs was the collision risk posed by the Development to both Harbour and Grey seals. SNH undertook further work to refine the approach and assessment of collision risk and considered that the potential collisions for Harbour seals for a six turbine deployment would avoid an adverse impact on the current Harbour seal population within the Orkney and North Coast Management Unit. Similarly, for Grey seals, the predicted collision risk for six turbines would also avoid an adverse impact upon the current grey seal population within the Orkney and North Coast Management Unit. SNH have recommended conditions be included in any section 36 consent to help minimise the potential impacts on these species.

The Scottish Ministers are satisfied that the adoption of appropriate marine mammal mitigation measures within any section 36 consent will ensure that there are no significant impacts to marine protected species. In light of these measures, the Scottish Ministers consider there are no concerns about impact on marine protected species that would require consent to be withheld.

Impacts on birds

The RSPB and SNH expressed concerns about the potential impact of the Development on several bird species using the Inner Sound of the Pentland Firth. SNH identified Special Protected Areas where the Development was likely to have a significant effect on the qualifying interests. This required Marine Scotland to undertake an Appropriate Assessment in view of the conservation objectives. The Appropriate Assessment concluded that subject to certain conditions, including appropriate mitigation and monitoring, the Development could be implemented without adverse effects on site integrity. Such conditions have been included by the Scottish Ministers within the consent.

In light of the above, the Scottish Ministers consider that, while the Development would have an impact on birds, this would not be so significant that it would require consent to be withheld.

Impacts on Coastal processes

SNH outlined concerns regarding the potential impact on the predicted changes to tidal flow due to operational turbines, and the potential impacts on surrounding benthic habitats. Additional information was supplied by the Company. SNH have concluded that it was reasonable to expect a large degree of stability within the whole sand feature in the locale of the Development over the medium and long term. Local changes will continue to occur, as they would without the array, but the feature as a whole is likely to be held in check in the medium and long term by the broader eddy. Marine Scotland Science ('MSS') agreed that any changes would be negligible.

The Scottish Ministers consider that, having taken account of the information provided by the Company and the responses of SNH and MSS, the impact on coastal processes is not likely to be so significant, in light of the mitigation measures proposed, that it would require consent to be withheld.

Impacts on benthic ecology

SNH agreed with the conclusions within the Company's Environmental Statement that there will be significant adverse impacts to benthic habitats and species. SNH recommended that further information regarding cable protection, scour protection and antifouling of devices is provided within a Construction Method Statement, together with areas of kelp and its removal and management practices to avoid the introduction of non-native marine species.

The Construction Method Statement condition included by Scottish Ministers within the consent will address SNH's concerns in this regard.

The Scottish Ministers consider that, having taken account of the information provided by the Company and the response of SNH, the impact on benthic ecology is not likely to be so significant, in light of the mitigation measures proposed, that it would require consent to be withheld.

Impacts on shellfish

Regarding the impact of the Development on shellfish, SNH were in broad agreement with the conclusions of the Company's Environmental Statement which suggested there would be minimal impact on shellfish species due to the small area of impact and the shellfish recorded within the area being mobile. However SNH recommended that pre and post construction monitoring to validate the Environmental Statement conclusions be undertaken.

The Scottish Ministers have proposed such mitigation measures and so consider that the impact upon shellfish is not likely to be so significant that it would require consent to be withheld.

Development of the marine renewable energy sector

The Scottish Government must ensure that the development of wave and tidal sectors are achieved in a sustainable manner in the seas around Scotland. The environmental aspects of marine renewable energy are a relatively new field but of increasing importance to both the UK and the devolved administration. With this in mind, Scottish Ministers have accepted the advice of the nature conservation consultees and limited the first stage of this project to six turbines. Stringent conditions for mitigation and monitoring have been included within this consent, and only following further natural heritage work will any further turbines be considered for deployment. These conditions will also ensure good practice is followed to help further inform, not only this site, but this emerging commercial scale tidal energy production sector.

The Scottish Ministers consider that, having taken account of the information provided by the Company and all of the information provided during the statutory consultations, there is no reason on the basis of the marine renewable energy sector being in its infancy that it would require consent to be withheld.

Consideration of other material issues

The Scottish Ministers consider the following issues material to the merits of the section 36 consent application.

The Company has provided adequate environmental information for the Scottish Ministers to judge the impacts of the Development.

The Company has identified what can be done to mitigate the impact of the Development.

The matters specified in paragraph 3(2) of Schedule 9 to the Electricity Act 1989 have been adequately addressed by means of the Environmental Statement and Supplementary Environmental Information Statement. The Scottish Ministers have judged that, by staging the Development in the way provided in the consent, the likely environmental impacts are acceptable.

The Scottish Ministers are satisfied that the Development can be satisfactorily decommissioned and will take steps to ensure that any decommissioning programme required under the Energy Act 2004 is prepared in a timely fashion by imposing a condition requiring the submission of a draft decommissioning plan before construction of works can take place.

The Scottish Ministers have considered fully and carefully the Application and accompanying documents and all relevant responses from consultees and the 17 public representations received, 13 of which were objections to the tidal array, 2 were in support and 2 were neutral.

The 86 MW Development within the Inner Sound off the north coast could annually generate renewable electricity equivalent to the demand from approximately 42,000 homes. This increase in the amount of renewable energy produced in Scotland is

entirely consistent with the Scottish Government's policy on the promotion of renewable energy and its target for renewable sources to generate the equivalent of 100% of Scotland's annual electricity demand by 2020. Scotland requires a mix of energy infrastructure in order to achieve energy security at the same time as moving towards a low carbon economy. Due to the intermittent nature of renewables generation, a balanced electricity mix is required to support security of supply requirements. Scotland has the capability and the opportunity to generate a level of electricity from renewables by 2020 that would be the equivalent of 100% of Scotland's gross electricity consumption. This does not mean an energy mix where Scotland will be 100% reliable on renewables generation by 2020; but it supports Scotland's plan to remain a net exporter of electricity.

The Scottish Ministers aim to achieve a thriving renewables industry in Scotland, the focus being to enhance Scotland's manufacturing capacity, to develop new indigenous industries, and to provide significant export opportunities. The Scottish Ministers have considered material details of how this proposal can contribute to local or national economic development priorities.

Within their Environmental Statement, the Company state that the maximum total capital expenditure for the Development is estimated at £602 million. The Development could have the potential to generate a total of 1,720 jobs on a 'jobs/MW installed capacity' basis for the manufacturing, construction and installation phase only using the Scottish Government's Marine Energy Group recommendation of a 'marine industry standard' of 20 jobs created per MW. The Company estimates that there is a potential for a temporary Gross Value Added ('GVA') of £38.8 million.

The Development will lead to the creation of a number of both temporary and permanent jobs. The Company envisages that approximately 70 temporary jobs for onshore construction activities, approximately 50 temporary jobs for offshore construction activities and approximately 50 full time jobs for offshore operations and maintenance. It is envisaged that the number of jobs created for the decommissioning of the Development will be the same as those for construction.

The Development could also provide opportunities for the involvement of local, regional and Scottish suppliers in a range of activities, including research and development, design, project management, civil engineering, component fabrication/manufacture, installation and maintenance. The Development has the potential to generate positive spin-off effects in terms of the development of the renewables sector in Caithness and the Northern Isles as well as the Highlands, and more generally in Scotland.

THE SCOTTISH MINISTERS' DETERMINATION

Subject to the conditions set out in **ANNEX 2** to this decision, the Scottish Ministers **GRANT CONSENT** under section 36 of the Electricity Act for the construction and operation of the Development, consisting of up to 61 turbines with a permitted capacity of up to 86 megawatts as described in **ANNEX 1 and shown on the figure in ANNEX 3**.

However this consent is conditional upon the Company deploying the turbines in stages with Stage One of the Development being limited to a maximum of 6 turbines and with all Subsequent Stages of the Development being subject to the prior written approval of the Scottish Ministers. So as to avoid significant adverse impacts upon the environment full and detailed monitoring of all the turbines deployed under the consent is required thus ensuring that the approval by the Scottish Ministers of any Subsequent Stages of the Development is only done in the knowledge of the impact and the implications for the environment of the turbines.

At present the Scottish Ministers have no powers to grant deemed planning permission for any ancillary onshore development relating to the offshore electricity generating station.

The Scottish Ministers direct that this consent is to lapse on the expiry of a period of 5 years from the date of this direction if Commencement of the Development has not taken place within that period.

The Scottish Ministers direct that within 2 months of the date of this consent (and within 2 months of the Final Commissioning of Stage One of the Development and the Final Commissioning of all Subsequent Stages of the Development if there has been any variation on the original approved plan), the Company must provide a detailed plan showing the site boundary and all turbines in a format compatible with the Scottish Government's Spatial Data Management Environment ('SDME'), along with appropriate metadata to the Scottish Ministers.

The SDME is based around Oracle RDBMS and ESRI ArcSDE and all incoming data must be supplied in ESRI shapefile format. The SDME also contains a metadata recording system based on the ISO template within ESRI ArcCatalog (agreed standard used by the Scottish Government), all metadata should be provided in this format.

In accordance with the Electricity Works (Environmental Impact Assessment) (Scotland) Regulations 2000 (as amended), the Company must publicise this determination for two successive weeks in the Edinburgh Gazette and in such newspapers as are likely to come to the attention of those likely to be affected by the proposed Development.

In reaching their decision they have had regard to all objections and relevant considerations and, subject to the conditions of this consent, are satisfied that it is appropriate for the Company to construct and operate the generating station in the manner as set out in the Application.

Copies of this letter and the consent have been sent to The Highland Council as the nearest onshore Planning Authority and Orkney Islands Council. This letter has also been published on the Marine Scotland's website.

The Scottish Ministers' decision is final, subject to the right of any aggrieved person to apply to the Court of Session for judicial review. Judicial review is the mechanism by which the Court of Session supervises the exercise of administrative functions, including how the Scottish Ministers exercise their statutory function to determine

Applications for consent. The rules relating to applications for judicial review can be found on the website of the Scottish Courts, at Chapter 58 – http://www.scotcourts.gov.uk/rules-and-practice/rules-of-court/court-of-session-rules

Your local Citizens' Advice Bureau or your solicitor will be able to advise you about the applicable procedures.

Yours sincerely,

JAMES McKIE
Leader Marine Scotland, Licensing Operations Team
A member of the staff of the Scottish Ministers

ANNEX 1
DESCRIPTION OF THE DEVELOPMENT

The Development, as shown in the Figure in ANNEX 3 to this consent, shall have a permitted generating capacity not exceeding 86 MW and shall comprise, subject to condition 2 in ANNEX 2 to this consent, a tidal-powered electricity generating station in the Inner Sound of the Pentland Firth, between the north coast of Scotland and the Island of Stroma including:

1. not more than 61 three-bladed single rotor horizontal axis turbines each with a rotor diameter of no less than 16 metres and no more than 20 metres;
2. all foundations and scour protection;
3. inter array cabling and export cables to the shore; and

all as specified in the Application, Environmental Statement and Supplementary Environmental Information Statement. The references in this consent shall be construed accordingly.

ANNEX 2

CONDITIONS OF THE SECTION 36 CONSENT

The consent granted under section 36 of the Electricity Act 1989 is subject to the following conditions:

Duration

1. The consent is for a period from the date the consent is granted until the date occurring 25 years after the Final Commissioning of the Development or 1st January 2047, whichever of these two dates is earliest. Written confirmation of the dates of the Final Commissioning of Stage One, the Final Commissioning of each Subsequent Stage and the Final Commissioning of the Development must be provided by the Company to the Scottish Ministers, the Planning Authority and SNH no later than one month after the Final Commissioning of each stage and after the Final Commissioning of the Development.

Reason: *To define the duration of the consent.*

Implementation

2. The Development shall be implemented in a staged manner whereby:

a) The Company may proceed with Stage One of the Development where all necessary conditions which must, under this consent, be satisfied prior to the Commencement of the Development are so satisfied;

b) The Company may proceed with each Subsequent Stage of the Development only–

i. upon satisfying the Scottish Ministers that all necessary conditions which must, under this consent, be satisfied prior to the Subsequent Stage of the Development have been complied with; and

ii. following application being made by the Company to the Scottish Ministers seeking their approval to proceed with such Subsequent Stage of the Development, the Scottish Ministers, having considered all relevant information provided to them in connection with the Development including information provided under this consent and following their consultation with SNH, the Scottish Environment Protection Agency, the Maritime and Coastguard Agency, the Planning Authority, Northern Lighthouse Board and any such other advisors as may be required at their discretion, are satisfied that the Subsequent Stage of the Development will have regard to the preservation of the environment and ecology and have provided their written approval to the Company.

Reason: *To prevent significant adverse impacts to the environment (in particular harbour seals and Atlantic salmon) by providing for a staged deployment of the Development.*

Commencement

3. The Commencement of the Development must be a date no later than 5 years from the date this consent is granted, or such other date from the date of the granting of this consent as the Scottish Ministers may hereafter direct in writing.

Reason: *To ensure that the Commencement of the Development is undertaken within a reasonable timescale after consent is granted.*

Environmental Protection

4. In the event that any turbine installed and commissioned and forming part of the Development fails to produce electricity on a commercial basis to the National Grid for a continuous period of 24 months or more then the Scottish Ministers, unless otherwise agreed in writing by them after consultation with any advisors as may be required at the discretion of the Scottish Ministers, may determine that any such turbine must be removed from the Site by the Company within the period of 12 months from the date of their determination, and the Site must be fully reinstated by the Company to the specification and satisfaction of the Scottish Ministers after consultation with any advisors as may be required at the discretion of the Scottish Ministers.

Reason: *To ensure that any redundant tidal turbine and ancillary equipment is removed from the Site, in the interests of safety, amenity and environmental protection.*

Assignation

5. The Company is not permitted to assign the consent without the prior written authorisation of the Scottish Ministers. The Scottish Ministers may grant consent (with or without conditions) or refuse such authorisation as they may, in their own discretion, see fit. The consent is not capable of being assigned, alienated or transferred otherwise than in accordance with the foregoing procedure.

Reason: *To safeguard the obligations of the consent if assigned to another company.*

Health and Safety

6. If any serious health and safety incident occurs on the Site requiring the Company to report it to the Health and Safety Executive then the Company must also notify the Scottish Ministers of the incident within 24 hours of the incident occurring.

Reason: *To inform the Scottish Ministers of any serious health and safety incident occurring on the Site.*

Decommissioning

7. Commencement of the Development must not proceed until after the Company has submitted to the Secretary of State a decommissioning programme for the whole Development in compliance with a notice served upon the Company by the Secretary of State following consultation with the Scottish Ministers, pursuant to section 105(2) and (5) of the Energy Act 2004.

Reason: *To ensure that a decommissioning plan is submitted to the Secretary of State following consultation with the Scottish Ministers before any construction commences.*

Development

8. The Development must be constructed and operated in accordance with the terms of the Application and the accompanying Environmental Statement and Supplementary Environmental Information Statement, except in so far as amended by the terms of this consent and any direction made by the Scottish Ministers.

Reason: *To ensure that the Development is carried out in accordance with the application documentation.*

Construction

9. The Company must, prior to the Commencement of the Development, submit to the Scottish Ministers a Construction Method Statement ("CMS"), in writing, endorsed by the Ecological Clerk of Works, as referred to in Condition 10 of this consent, to the Scottish Ministers for their approval, following consultation with SNH, the Scottish Environment Protection Agency, the Maritime and Coastguard Agency, the Planning Authority, Northern Lighthouse Board, and any such other advisors as may be required at the discretion of the Scottish Ministers. Unless otherwise agreed in writing by the Scottish Ministers, construction of the Development must proceed in accordance with the approved CMS. The CMS must include, but is not limited to, the following information:

a) Commencement dates;
b) Working methods including the scope, frequency and hours of operations;
c) Duration and Phasing Information of key elements of construction, for example– turbine structures, foundations, turbine locations, inter-array cabling and land fall cabling;
d) Details of the location of the turbines, grid export cable(s), method of installation (including techniques and equipment) and depth of cable laying and cable landing sites;

e) Details of mitigation measures to prevent adverse impacts to species and habitats during construction;
f) Details of how all contractors and sub-contractors will be made aware of environmental sensitivities, what requirements they are expected to adhere to and how chains of command will work;
g) Confirmation of reporting mechanisms used to provide Scottish Ministers and relevant consultees with regular updates on construction activity, including any environmental issues encountered and how these have been addressed;
h) Vessel specification, routing, including location of vessel ports; and
i) Pollution prevention measures including contingency plans.

The CMS must, so far as is reasonably practicable, be consistent with the Environmental Management Plan, the Project Environmental Monitoring Programme, the Vessel Management Plan and the Navigational Safety Plan.

Reason: *To ensure the appropriate construction management of the Development, taking into account mitigation measures to protect the environment and other users of the marine area.*

Environmental Protection

10. The Company must, with the approval of the Scottish Ministers in consultation with SNH, appoint an Ecological Clerk of Works ("ECoW") prior to the Commencement of the Development. The term of appointment for the ECoW shall be the period from the Commencement of the Development until the Final Commissioning of Stage One of the Development and thereafter, for each Subsequent Stage of the Development, from the date an application for approval for a Subsequent Stage of the Development is submitted to the Scottish Ministers until the Final Commissioning of the Subsequent Stage of the Development or, as the case may be, until the Final Commissioning of the Development. The responsibilities of the ECoW must include, but not be limited to:

a) Quality assurance and approval of final draft version of all plans and programmes required under the consent;
b) Ensuring all works are carried out in accordance with the CMS, Environmental Management Plan, the Project Environmental Monitoring Programme, the Vessel Management Plan and the Navigational Safety Plan;
c) Monitoring compliance with the ecological mitigation works that have been approved in this consent;
d) Ensuring any protected species licenses are in place and providing advice and monitoring compliance with the licence conditions; and
e) Advising the Company on adequate protection of nature conservation interests on the Site.

Reason: *In the interests of protecting the environment.*

Environmental Management and Monitoring

11. The Company must, no later than 3 months prior to the Commencement of the Development, submit in writing an Environmental Management Plan ("EMP") to the Scottish Ministers for their written approval, in consultation with SNH and any other ecological, or such other advisors as required at the discretion of the Scottish Ministers. The final draft of the EMP must have been approved by the ECoW prior to its submission to the Scottish Ministers.

The EMP (and, as the case may be, amended EMP) must detail measures that must be taken by the Company, through all stages of the Development, to prevent adverse impacts including, but not limited to, marine mammals, birds, fish and habitats as outlined in Chapter 25 of the Company's Environmental Statement. The EMP must take account of, and implement, recommendations where appropriate and reasonable from the CMS, the Operations & Maintenance Programme, the Vessel Management Plan and the Navigational Safety Plan, as well as any other recommendations within the Company's Environmental Statement.

The EMP must be regularly reviewed by the Scottish Ministers, at timescales to be determined by the Scottish Ministers, in consultation with SNH, the ECoW and any other ecological, or such other advisors as required at the discretion of the Scottish Ministers. Following such review the Scottish Ministers may, in consultation with SNH, the ECoW and any other ecological, or such other advisors as required at the discretion of the Scottish Ministers, require the Company to amend the EMP and submit such an amended Plan to them, in writing, for their approval. The Scottish Ministers may approve an amended Plan in consultation with SNH, the ECoW and any other ecological, or such other advisors as required at the discretion of the Scottish Ministers.

The EMP must, so far as is reasonably practicable, be consistent with any relevant monitoring requirements during construction taken from the Project Environmental Monitoring Programme.

The Environmental Management Plan must be implemented in full by the Company.

Reason: *In the interests of protecting the environment.*

Environmental Management and Monitoring

12. The Company must, no later than 3 months prior to the Commencement of the Development, submit a Project Environmental Monitoring Programme ("PEMP"), in writing, for the approval of the Scottish Ministers, in consultation with SNH and any other ecological, or such other advisors as required at the discretion of the Scottish Ministers. The PEMP must set out the measures of monitoring the environmental impacts of all stages of the Development, including the pre-construction, construction, and operational stages.

The PEMP must be regularly reviewed by the Scottish Ministers, at timescales to be determined by the Scottish Ministers, in consultation with SNH and the Advisory Group referred to in condition 13 of this consent. Following such review the Scottish Ministers may, in consultation with SNH and the Advisory Group, require the Company to amend the PEMP and submit such an amended Programme to them, in writing, for their approval, in consultation with SNH and any other ecological, or such other advisors as required at the discretion of the Scottish Ministers.

The monitoring set out in the PEMP or, as the case may be, an amended PEMP, (which must be agreed by the Scottish Ministers, in consultation with SNH and any other ecological, or such other advisors as required at the discretion of the Scottish Ministers), must be implemented by the Company. The Company must submit written reports of such monitoring to the Scottish Ministers at timescales to be determined by the Advisory Group. In particular, the following aspects should be considered and advice provided regarding the monitoring of the following aspects:

a) Hydro dynamics / benthic surveys, export cable route and turbine locations and modelling to validate EIA predictions;
b) Collision / encounter interactions with the tidal turbines for diving birds, marine mammals and fish of conservation concern;
c) Disturbance and displacement of birds, marine mammals and basking sharks during construction and operation. This must also link to the species protection plan for seals at haul outs; and
d) Migratory salmonids

Subject to any legal restrictions regarding the treatment of the information, the results must be made publicly available by the Scottish Ministers, or by such other party appointed at their discretion.

Reason: *To ensure that appropriate and effective monitoring of the impacts of the Development is undertaken.*

Environmental Management and Monitoring

13. The Scottish Ministers must, within 6 months of the date of the granting of the Section 36 consent, establish an Advisory Group to provide advice upon, and oversee, the EMP and the PEMP. Membership, terms of reference and functions of the Advisory Group are to be agreed by the Scottish Ministers in consultation with any such advisors at the discretion of the Scottish Ministers

Reason: *To ensure effective research and monitoring is undertaken and to review the objectives, outputs and timescales of the monitoring programme.*

Vessel Management

14. The Company must, no less than 3 months prior to the Commencement of the Development, submit a Vessel Management Plan, in writing, to the Scottish Ministers for their written approval, in consultation with SNH and any such

other ecological or other advisors as may be required at the discretion of the Scottish Ministers. The Vessel Management Plan must include, but is not limited to, the following issues:

a) Individual vessel details;
b) Number of vessels;
c) Whether ducted propellers will be in operation;
d) How vessel management will be coordinated, particularly during construction but also during operation; and
e) Location of working port(s), how often vessels will be required to transit between port(s) and the site and the routes used.

The Development must be constructed and operated in accordance with the Vessel Management Plan, and the Vessel Management Plan must, so far as is reasonably practicable, be consistent with the CMS, the EMP, the PEMP, the Operations and Maintenance Programme, and the Navigational Safety Plan.

Reason: *To minimise the disturbance to seal haul outs, marine mammals and basking sharks as well as consideration of mitigation measures for cork screw injuries to seals.*

Operations and Maintenance

15. The Company must, prior to the Final Commissioning of Stage One of the Development, submit an Operations and Maintenance Programme, in writing, to the Scottish Ministers for their approval, in consultation with SNH and any other advisors as may be required at the discretion of Scottish Ministers. The Operations and Maintenance Programme must include, but is not limited to, the following issues:

a) Timing of Operations and Maintenance activities;
b) Operations and Maintenance vessel requirements and management;
c) All contractors roles and responsibilities during Operations and Maintenance; and
d) Maintenance plan for grid export cable(s) and landfall site.

The Development must be operated and maintained at all times in accordance with the Operations and Maintenance Programme.

Reason: *To mitigate the impacts of operations and maintenance and to fully inform any mitigation and monitoring requirements for natural heritage interests.*

Marine Archaeology

16. The Company must, prior to the Commencement of the Development, submit a Reporting Protocol for the discovery of marine archaeology during construction, maintenance and monitoring, in writing, to the Scottish Ministers for their approval, in consultation with Historic Scotland. The Reporting Protocol must be implemented in full by the Company.

Reason: *To ensure any accidental discovery of archaeological interest is properly and correctly reported.*

Navigation

17. The Company must, prior to the Commencement of the Development, submit a Navigational Safety Plan, in writing, to the Scottish Ministers for their written approval, in consultation with the Maritime and Coastguard Agency, the Northern Lighthouse Board, the Chamber of Shipping and any other navigational advisors, or such other advisors, as may be required at the discretion of the Scottish Ministers. The Navigational Safety Plan must include, but is not limited to, the following issues:

(a) Navigational safety measures;
(b) Emergency Response and Co-ordination Plan;
(c) Safety zones;
(d) Promulgation of information to mariners;
(e) Buoyage;
(f) Anchoring areas; and
(g) Lighting and marking of cable landfall site(s).

The Development must be constructed and operated in accordance with the Navigational Safety Plan at all times.

Reason: *In the interests of safe navigation.*

Definitions

In this consent –

“the Application” means the Application and Environmental Statement, and Supplementary Environmental Information Statement submitted by the Company on 13 July 2012 and 15 April 2013, respectively;

“Commencement of the Development” means the date on which the first vessel arrives on Site to begin construction;

“the Company” means MeyGen Limited, 27 Lauriston Street, Edinburgh, EH3 9DQ, Company Registration No. SC347501;

“the Development” means the MeyGen Tidal Energy electricity generating station Phase 1 within the Inner Sound in the Pentland Firth;

“Environmental Statement” means the Environmental Statement submitted by the Company on 13 July 2012 as part of the Application as defined above;

“Final Commissioning of Stage One of the Development” means the date on which the turbine generators forming Stage One of the Development have supplied electricity on a commercial basis to the National Grid or such earlier date as the Scottish Ministers deem the Final Commissioning of Stage One of the Development to be complete;

“Final Commissioning of each Subsequent Stage” means the date on which all turbine generators forming a Subsequent Stage of the Development have supplied electricity on a commercial basis to the National Grid or such earlier date as the Scottish Ministers deem that stage of the Development to be complete;

“Final Commissioning of the Development” means the date on which all turbine generators forming the Development have supplied electricity on a commercial basis to the National Grid or such earlier date as the Scottish Ministers deem the Development to be complete;

“Planning Authority” means The Highland Council;

“Site” means the area outlined in red as shown in the Figure in ANNEX 3 to this consent;

"SNH" means Scottish Natural Heritage;

“Stage One of the Development” means the construction and operation of up to the first 6 turbine generators and inter array and export cabling of the Development within the boundary as shown in the Figure in ANNEX 3 to this consent;

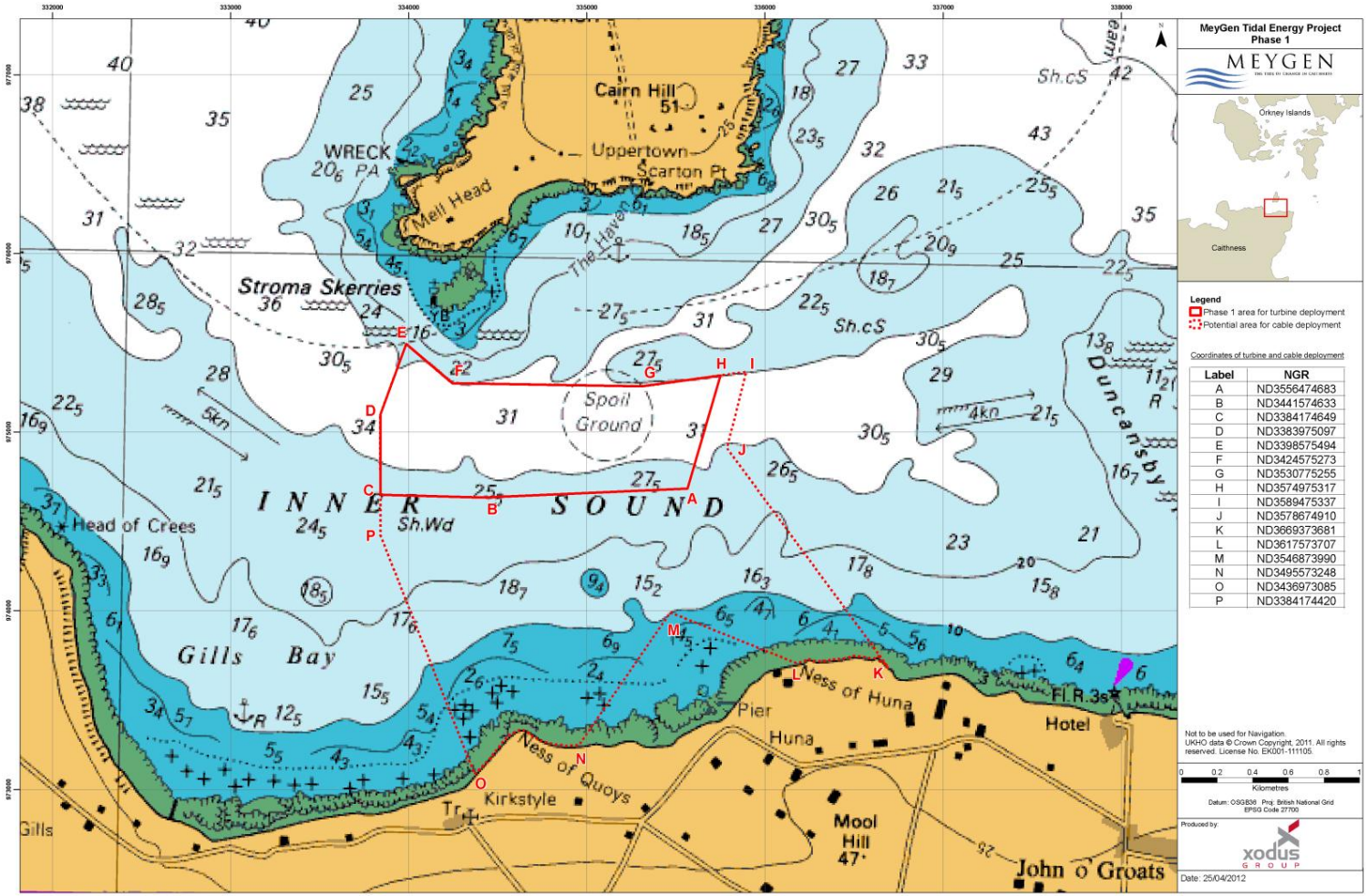
“Subsequent Stage of the Development” means the construction and operation of turbine generators and inter array and export cabling within the EIA boundary area

as shown in the Figure in ANNEX 3 to this consent and in respect of which this consent relates but not forming part of Stage One of the Development; and

“Supplementary Environmental Information Statement” means the Supplementary Environmental Information Statement to the Application and Environmental Statement submitted by the Company on 15 April 2013.

JAMES McKIE
LEADER, LICENSING OPERATIONS TEAM
A member of the staff of the Scottish Ministers

ANNEX 3
LOCATION OF PROJECT



Phase 1 area for turbine and potential cable deployment.

ANNEX E – APPROPRIATE ASSESSMENT

SITE: The MeyGen Tidal Energy Project Phase 1
FILE REF: 009/TIDE/MGIS1 – 6

Appropriate Assessment Conclusion: Marine Scotland ascertains that the installation, operation and decommissioning of MeyGen Tidal Energy Project Phase 1 will not adversely affect the integrity of the SPAs or SACs listed in section 1a. The first phase of the Meygen Phase 1 development shall be restricted to 6 turbines. Monitoring will be required to inform decisions on future deployments and a further Appropriate Assessment will be required before further deployments are authorised to ensure that full consideration is given to any potential increase in impacts.

1a. Name of Natura site affected & current status available from:
http://www.snh.gov.uk/publications-data-and-research/snhi-information-service/map/

SPAs

North Caithness Cliffs SPA
Caithness and Sutherland Peatlands SPA
Pentland Firth Islands SPA
Hoy SPA
East Caithness Cliffs SPA
Copinsay SPA
Marwick Head SPA
Rousay SPA
Sule Skerry and Sule Stack SPA
Calf of Eday SPA
West Westray SPA
Fair Isle SPA
North Rona and Sula Sgeir SPA
Noss SPA
Hermaness, Saxa Vord and Valla Field SPA
Fetlar SPA
Foula SPA
Handa SPA
Auskerry SPA

SACs – Marine Mammals

North Rona SAC
Berwickshire and North Northumberland Coast SAC
Faray and Holm of Faray SAC
Isle of May SAC
Dornoch Firth and Morrich More SAC
Sanday SAC
Moray Firth SAC

SACs – Migratory Fish and Freshwater Pearl Mussels

River Thurso SAC
Berriedale and Langwell Waters SAC
River Borgie SAC
River Naver SAC
River Evelix SAC
River Oykel SAC
River Moriston SAC

River Spey SAC Little Gruinard River SAC Abhainn Clais an Eas and Allt a' Mhuilinn SAC River Bladnoch SAC Endrick Water SAC North Harris SAC Langavat SAC River Dee SAC River South Esk SAC River Tay SAC River Teith SAC River Tweed SAC

1b. Name of component SSSI if relevant

Not relevant for this assessment

1c. European qualifying interests & whether priority/non-priority:

Northern fulmar North Caithness Cliffs SPA	**Common guillemot** North Caithness Cliffs SPA Hoy SPA East Caithness Cliffs SPA Copinsay SPA Marwick Head SPA Rousay SPA
Razorbill North Caithness Cliffs SPA East Caithness Cliffs SPA	**Black-legged kittiwake** North Caithness Cliffs SPA Hoy SPA East Caithness Cliffs SPA Copinsay SPA Marwick Head SPA Rousay SPA Calf of Eday SPA West Westray SPA
Atlantic puffin North Caithness Cliffs SPA Hoy SPA East Caithness Cliffs SPA	**Red-throated diver** Caithness and Sutherland Peatlands SPA Hoy SPA
Arctic tern Pentland Firth Islands SPA	**Arctic skua** Hoy SPA
Great skua Hoy SPA Fair Isle SPA Noss SPA Hermaness, Saxa Vord and Valla Field SPA Fetlar SPA Foula SPA Handa SPA	**Great black-backed gull** Hoy SPA East Caithness Cliffs SPA Copinsay SPA Calf of Eday SPA North Rona and Sula Sgeir SPA
Storm petrel Auskerry SPA	**Herring gull** East Caithness Cliffs SPA
Leach's petrel	**Northern gannet**

Sule Skerry and Sule Stack SPA	Sule Skerry and Sule Stack SPA Hermaness, Saxa Vord and Valla Field SPA Fair Isle SPA North Rona and Sula Sgeir SPA Noss SPA
Grey seals North Rona SAC Berwickshire and North Northumberland Coast SAC Faray and Holm of Faray SAC Isle of May SAC	**Harbour seals** Dornoch Firth and Morrich More SAC Sanday SAC
Bottlenose dolphin Moray Firth SAC	
Atlantic Salmon River Thurso SAC Berriedale and Langwell Waters SAC River Borgie SAC River Naver SAC River Oykel SAC River Moriston SAC River Spey SAC Little Gruinard River SAC River Bladnoch SAC Endrick Water SAC North Harris SAC Langavat SAC River Dee SAC River South Esk SAC River Tay SAC River Teith SAC River Tweed SAC	**Fresh Water Pearl Mussel** River Borgie SAC River Naver SAC River Evelix SAC River Oykel SAC River Moriston SAC River Spey SAC Abhainn Clais an Eas and Allt a' Mhuilinn SAC North Harris SAC River Dee SAC River South Esk SAC
Sea Lamprey River Spey SAC River Tay SAC River Teith SAC River Tweed SAC	

1d. Conservation objectives for qualifying interests:

Conservation Objectives
SPAs (i) to avoid deterioration of their habitat or (ii) significant disturbance to them, thus ensuring that the integrity of the site is maintained and the site makes an appropriate contribution to achieving favourable conservation status for the species; and To ensure that the following are maintained in the long term: (iii) Population of the species as a viable component of the site. (iv) Distribution of the species within site. (v) Distribution and extent of habitats supporting the species. (vi) Structure, function and supporting processes of habitats supporting the species. repeat of (ii) No significant disturbance of the species. **SACs – Marine Mammals**

(i) to avoid deterioration of their habitat or (ii) significant disturbance to them, thus ensuring that the integrity of the site is maintained and the site makes an appropriate contribution to achieving favourable conservation status for each of the qualifying features; and

To ensure for the qualifying species that the following are maintained in the long term:
(iii) Population of the species as a viable component of the site.
(iv) Distribution of the species within site.
(v) Distribution and extent of habitats supporting the species.
(vi) Structure, function and supporting processes of habitats supporting the species.
repeat of (ii) No significant disturbance of the species.

SACs – Migratory Fish and Freshwater Pearl Mussels
(i) to avoid deterioration of the habitats of the qualifying species or (ii) significant disturbance to them, thus ensuring that the integrity of the SAC is maintained and that they make an appropriate contribution to achieving favourable conservation status for each species; and

To ensure for each species that the following are maintained in the long term:
(iii) Population of the species, including range of genetic types for salmon, as a viable component of the SACs.
(iv) Distribution of the species within sites.
(v) Distribution and extent of habitats supporting each species.
(vi) Structure, function and supporting processes of habitats supporting each species.
repeat of (ii) No significant disturbance of the species.
And for freshwater pearl mussel in particular, to ensure that the following are maintained in the long term:
(vii) Distribution and viability of freshwater pearl mussel host species
(viii) Structure, function and supporting processes of habitats supporting freshwater pearl mussel host species

PROPOSAL DETAILS

2a. Proposal title & name of consultee (i.e. applicant or competent authority)	
The MeyGen Tidal Energy Project Phase 1	Marine Scotland
2b. Date of Consultation: **SNH Interim advice** **SNH Final Advice**	 26th October 2013 18th January 2013 5th April 2013 7th June 2013
2c. Type of Case: Offshore renewable tidal array development	

2d. Details of proposed operation (inc. location, timing, methods):
Installation and operation of a tidal array consisting of up to 61 fully submerged turbines, with a generating capacity of 86MW. This proposal is phase 1 of a larger project which will be subject to a separate consenting process. The proposed development site is located within the Inner Sound, Pentland Firth, and is part of the agreement for lease area awarded to MeyGen Ltd from The Crown Estate. The devices are horizontal axis tidal turbines which are fixed to the seabed using one or a mixture of the following turbine support structures: gravity base foundations, pin piles or monopiles. The turbines and support structures will be deployed using a DP vessel. It is proposed to stagger phase 1 with an installed capacity of 2-10MW deployed in year 1, 10-20MW in year 2, and 56-74MW in year 3 taking the total capacity up to 86MW.
Each turbine has a separate electricity export cable which will be laid along the seabed for part of the distance onshore and then passed through Horizontally Directionally Drilled (HDD) bores for the remainder. There are 2 options for the cable landfall and onshore infrastructure along the north Caithness coast, Ness of Quoys and Ness of Huna, both of which have been granted planning permission.

ASSESSMENT IN RELATION TO REGULATION 20 or 48

3a. Is the operation directly connected with or necessary to conservation management of the site? NO *If YES give details:*

The operation is not connected with or necessary to conservation management of the site.

If yes *and it can be demonstrated that the tests in 3b have been applied to all the interest features in a fully assessed and agreed management plan then consent can be issued but rationale must be provided, including reference to management objectives.* ***If no,*** *or if site has several European qualifying interests and operation is not directly connected with or necessary to the management of* ***all*** *of these then proceed to 3b.*

3b. Is the operation likely to have a significant effect on the qualifying interest? Repeat for each interest on the site.

SPAs
SNH advised in their final response on the 7th June that they are content with the approach taken in HRA report and addendum provided by the developer for this stage of the development. In assessing whether the operation is likely to have a significant effect on the qualifying interest, the applicant has considered the following:

- whether the project area overlaps with the species foraging range during the breeding season,
- whether the project lies within an identified migratory path,

- whether a species was observed in the project area during the site characterisation surveys,
- whether a species is sensitive to any of the potential impacts identified, and
- whether or not there is potential for any of the conservation objectives to be undermined.

The following appraisal of SPA qualifying interests is based on the deployment of 86 turbines as originally proposed and applied for in 2012.
SNH have reviewed the HRA report and addendum and provided the following advice regarding likely significant effect (LSE) in relation to birds below:

Northern fulmar – yes – likely significant effect (LSE) with: North Caithness Cliffs SPA	Project located within SPA marine extension
Common guillemot – yes – LSE with: North Caithness Cliffs SPA East Caithness Cliffs SPA Hoy SPA Copinsay SPA Marwick head SPA Rousay SPA	Project located within SPA marine extension Project area within foraging range, species recorded during site surveys and sensitive to potential impacts.
Razorbill – yes – LSE with: North Caithness Cliffs SPA East Caithness Cliffs SPA	Project located within SPA marine extension Project area within foraging range, species recorded during site surveys and sensitive to potential impacts.
Atlantic puffin – yes – LSE with: North Caithness Cliffs SPA East Caithness Cliffs SPA Hoy SPA	Project located within SPA marine extension Project area within foraging range, species recorded during site surveys and sensitive to potential impacts.
Black-legged kittiwake – yes – LSE with: North Caithness Cliffs SPA Hoy SPA East Caithness Cliffs SPA Copinsay SPA Marwick Head SPA Rousay SPA Calf of Eday SPA West Westray SPA	Project located within SPA marine extension Project area within foraging range, species recorded during site surveys and sensitive to potential impacts.
Red-throated diver – yes – LSE with: Caithness and Sutherland Peatlands SPA Hoy SPA	Project area within foraging range, species recorded during site surveys and sensitive to potential impacts
Arctic tern – yes – LSE with: Pentland Firth Islands SPA	Project area within foraging range, species recorded during site surveys and sensitive to potential impacts
Arctic skua – yes – LSE with: Hoy SPA	Project area within foraging range, species recorded during site surveys and sensitive to potential impacts
Great skua – no LSE with: Hoy SPA	Very low numbers recorded during site surveys, low

Fair Isle SPA Noss SPA Hermaness, Saxa Vord and Valla Field SPA Fetlar SPA Foula SPA Handa SPA	sensitivity to the potential impacts identified in the HRA, broad diet and foraging over large distances offshore.
Great black-backed gull – no LSE with: Hoy SPA East Caithness Cliffs SPA Copinsay SPA **Calf of Eday SPA** North Rona and Sula Sgeir SPA	Although this species is experiencing a decline in abundance, only very low numbers were recorded during the site surveys, and it is considered to have a low sensitivity to the potential impacts identified in the HRA. Furthermore, it has a broad diet and a wide foraging range including terrestrial habitat
Storm petrel – no LSE with: Auskerry SPA Sule Skerry and Sule Stack SPA	Very low numbers recorded, project area is not considered important for this species.
Herring gull – no LSE with: East Caithness Cliffs SPA	Although this species is experiencing a decline in abundance (see SNH trend note), only very low numbers were recorded during the site surveys, and it is considered to have a low sensitivity to the potential impacts identified in the HRA Furthermore, it has a broad diet and a wide foraging range including terrestrial habitat.
Leach's petrel – no LSE with: Sule Skerry and Sule Stack SPA	Very low numbers recorded, project area is not considered important for this species.
Northern gannet – yes – LSE with: Sule Skerry and Sule Stack SPA Hermaness, Saxa Vord and Valla Field SPA Fair Isle SPA North Rona and Sula Sgeir SPA Noss SPA	Project area within foraging range, recorded in site surveys.

Marine Scotland have reviewed the Meygen Environmental Statement, addendum, HRA report and the appraisal completed by SNH and agree with the identification of LSE for the species/ SPAs in the table above and are therefore required to complete an Appropriate Assessment (section 3c).

SACs – Marine Mammals

In their interim responses dated 18th January 2013 and 5th April 2013 SNH identified no connectivity with SACs for both grey and harbour seals. They also advised that impacts to both grey and harbour seal populations not connected directly with SACs was of particular concern. Therefore SNH undertook an appraisal of the potential impacts to the population of the Orkney and North Coast Management Unit for grey and harbour seals.

In their final response dated 7th June SNH advised that current consideration is being given to the connectivity through foraging range data of both harbour and grey seals to SACs. In particular whether site fidelity is shown outside the breeding season to haul out sites (whether SAC or not).

SNH concluded that there was no LSE for grey seals from:

- North Rona SAC
- Berwickshire and North Northumberland Coast SAC
- Faray and Holm of Faray SAC
- Isle of May SAC

SNH concluded that there was no LSE for harbour seals from:

- Dornoch Firth and Morrich More SAC
- Sanday SAC

SNH also advised that as their understanding of seal behaviour and movements improves, the conclusions reached in this appraisal may require to be reconsidered for further phases / further turbine deployments at the MeyGen site.

In their final response dated 7th June SNH concluded that there was no LSE for bottlenose dolphins from:

- Moray Firth SAC

Within Scotland there are 2 coastal populations of bottlenose dolphins: 1) the well-studied population of the Moray Firth SAC and 2) a small population ~30 animals on the west coast of Scotland. In addition there is an offshore population. There are limited observations of bottlenose dolphins in the Pentland Firth and Orkney waters (see Evans *et al* 2011). No bottlenose dolphins were recorded as being present in the project area during the baseline surveys. Thompson *et a*l 2011 concluded 'the limited sightings reported over the past few years and the movements of known animals on the east and west coast suggest that the north coast and Northern Isles are not significant bottlenose dolphin habitat and very few matches between east and west coast Photo ID catalogues suggests there is very little movement of individuals through this region. The authors also concluded that these northernmost coasts are approaching the latitudinal limit for coastal populations of this species in the north-east Atlantic. It is considered, therefore, that the proposed development is unlikely to have a significant effect on bottlenose dolphins of the Moray Firth SAC.

SNH concluded that the project would have no likely significant effect for any of the SACs designated for marine mammals and that an Appropriate Assessment was therefore not required.

Marine Scotland have reviewed the Meygen Environmental Statement, addendum, HRA report and the advice received by SNH and agree with the conclusion of no likely significant effect for any SACs designated for marine mammals. Therefore an Appropriate Assessment is not required.

SACs – Migratory Fish and Freshwater Pearl Mussels

In their final response dated 7th June 2013 SNH advised that the Pentland Firth is considered to be one of the routes used by Atlantic salmon and sea lamprey migrating between freshwater spawning grounds and the open water feeding grounds. As the migration routes of fish from individual SACs is not currently known, it is considered that the proposed development has connectivity with a number of Atlantic salmon SACs on the east, west and north coast of Scotland, and, due to their limited distribution, sea lamprey SACs on the east coast. Freshwater pearl mussels (FWPM) rely on salmon and sea trout as host species during the larval stage of their reproduction. Any impacts on these host species may therefore have an impact on FWPM.

Potential impacts from the proposed tidal array on Atlantic salmon, FWPM and sea lamprey include:

Installation:

- Noise arising from installation activities including increased vessels activity, deployment of turbines, and piling and/or drilling, resulting in disturbance and barriers

to movement.
- Cumulative and in-combination impacts.

Operation & maintenance:
- Collision risk with the operational turbines.
- Effects of Electromagnetic Fields (EMF) on fish passage.
- Effects of noise on fish passage.
- Effects of turbidity on fish passage.
- Barrier effects on fish passage.
- Noise arising from maintenance activities, such as increased vessel activity, resulting in disturbance. Cumulative and in-combination impacts.

Decommissioning:
- Activity associated with removal of turbines may give rise to disturbance due to increased vessel movements and noise.
- Cumulative and in-combination impacts.

SNH concluded that the proposal is likely to have significant effect on the overall Scottish populations for Atlantic salmon, FWPM, and sea lamprey.

Marine Scotland have reviewed the Meygen Environmental Statement, addendum, HRA report and the advice received by SNH and agree with the identification of LSE for the migratory fish species and FWPM detailed above and are therefore required to complete an Appropriate Assessment (section 3c).

3c. Appropriate assessment of the implications for the site in view of the site's conservation objectives.

i) Describe for each European qualifying interest the potential impacts of the proposed operation detailing which aspects of the proposal could impact upon them.
ii) Evaluate the significance of the potential impacts, e.g. whether short/long term, reversible or irreversible, and in relation to the proportion/importance of the interest affected, and the overall effect on the site's conservation objectives. Record if additional survey information or specialist advice has been obtained.

Northern fulmar
North Caithness Cliffs SPA
This species is considered to have a low sensitivity to disturbance (Furness *et al* 2012). Any potential impacts during installation, maintenance, or decommissioning from increased vessel activity or installation works are likely to be temporary and over a limited area. Furthermore, Northern fulmars have a large foraging range and any potential displacement is unlikely to affect foraging ability and reproductive success.
In terms of potential habitat loss used for maintenance behaviours within the marine extension of the North Caithness Cliffs SPA, again this would be temporary and over a limited area.
Although in close proximity to the nest sites, any potential pollution incidents are likely to be of low magnitude, i.e. small scale and rapid dispersal, and therefore not of sufficient size to have any significant effects on the populations.
It is concluded that the proposal would have no adverse effect on site integrity.

Common guillemot
North Caithness Cliffs SPA
East Caithness Cliffs SPA
Hoy SPA
Copinsay SPA
Marwick Head SPA
Rousay SPA
Any potential disturbance during installation, maintenance, or decommissioning from increased vessel activity or installation works is unlikely to be significant. Any disturbance would be temporary and over a limited area. Furthermore, any potential disturbance would not affect the population viability of the species for any of the SPAs considered.

In terms of potential habitat loss used for maintenance behaviours within the marine extension of the North Caithness Cliffs SPA, again this would be temporary and over a limited area. There may also be displacement and a loss of foraging habitat due to the physical presence of the turbines. However, this will be over a limited area and unlikely to impact the population viability of the species.
Collision risk of diving birds with operational turbines is poorly understood. However, there is a potential for collision to occur, and MeyGen have used an exposure time-based encounter model to assess this. The predicted collision level is unlikely to have a population level effect for this species. Although collision risk has been considered against a regional population and not apportioned to individual SPAs, it is considered that the population viability of the species for each SPA will be maintained. Furthermore, as the initial deployment is likely to be for only 6 turbines, the predicted collision levels would be substantially reduced.
Although in close proximity to the nest sites, any potential pollution incidents are likely to be of low magnitude, i.e. small scale and rapid dispersal, and therefore not of sufficient size to have any significant effects on the populations.

Changes to the tidal regime caused by the operational turbines, are unlikely to cause significant impacts to the surrounding benthic habitats and associated prey species, which

in-turn is unlikely to have any significant indirect impacts on the qualifying species.
It is concluded that the proposal would have no adverse effect on site integrity.

Razorbill
North Caithness Cliffs SPA
East Caithness Cliffs SPA
Please see comments for common guillemot above. It is concluded that the proposal would have no adverse effect on site integrity.

Atlantic puffin
North Caithness Cliffs SPA
Hoy SPA
East Caithness Cliffs SPA
Please see comments for common guillemot above. It is concluded that the proposal would have no adverse effect on site integrity.

Black-legged kittiwake
North Caithness Cliffs SPA
Hoy SPA
East Caithness Cliffs SPA
Copinsay SPA
Marwick Head SPA
Rousay SPA
Calf of Eday SPA
West Westray SPA
Site surveys recorded this species in very low numbers (i.e. a peak abundance in the boat survey area of 2). Black-legged kittiwake are considered to have a low sensitivity to disturbance (Furness *et al.* 2012). Any potential impacts during installation, maintenance, or decommissioning from increased vessel activity or installation works are likely to be temporary and over a limited area. Any indirect impacts through changes in prey availability are likely to be very localised. Furthermore, black-legged kittiwake have a large foraging range and any potential displacement is unlikely to affect foraging ability and reproductive success.
Although in close proximity to the nest sites, any potential pollution incidents are likely to be of low magnitude, i.e. small scale and rapid dispersal, and therefore not of sufficient size to have any significant effects on the populations.
Changes to the tidal regime caused by the operational turbines, are unlikely to cause significant impacts to the surrounding benthic habitats and associated prey species, which in-turn is unlikely to have any significant indirect impacts on the qualifying species.
It is concluded that the proposal would have no adverse effect on site integrity.

Red-throated diver
Caithness and Sutherland Peatlands SPA
Hoy SPA
Although this species is considered to be highly sensitive to disturbance (Furness *et al.* 2012), site surveys recorded red-throated divers in low numbers (i.e. a peak abundance in the boat survey area of 4) and suggest the project area is not an important foraging area for this species. Any potential disturbance during installation, maintenance, or decommissioning from increased vessel activity or installation works are likely to be temporary and over a limited area.
There may be a loss of foraging habitat due to the physical presence of the turbines. However, this will be over a limited area and unlikely to impact the population viability of the species.
Any potential pollution incidents are likely to be of low magnitude, i.e. small scale and rapid dispersal, and combined with the low numbers of red-throated diver observed at the

development site it is considered that impacts are unlikely to be significant, particularly in an SPA context.
Changes to the tidal regime caused by the operational turbines, are unlikely to cause significant impacts to the surrounding benthic habitats and associated prey species, which in-turn is unlikely to have any significant indirect impacts on the qualifying species.
It is concluded that the proposal would have no adverse effect on site integrity.

Arctic tern
Pentland Firth Islands SPA
Although the project area is within the foraging range of Arctic terns from the Pentland Firth Islands SPA, this species was recorded infrequently during site surveys. Arctic tern are considered to have a low sensitivity to disturbance (Furness *et al.* 2012). Any indirect impacts through changes in prey availability are likely to be very localised. Any potential disturbance during installation, maintenance, or decommissioning from increased vessel activity or installation works are likely to be temporary and over a limited area.
Although in close proximity to the nest sites, any potential pollution incidents are likely to be of low magnitude, i.e. small scale and rapid dispersal. Also, due to the low numbers of Arctic tern observed at the development site and the birds spending very little time on the sea surface, there are unlikely to be any significant effects on the SPA population.
Changes to the tidal regime caused by the operational turbines, are unlikely to cause significant impacts to the surrounding benthic habitats and associated prey species, which in-turn is unlikely to have any significant indirect impacts on the qualifying species.
It is concluded that the proposal would have no adverse effect on site integrity.

Arctic skua
Hoy SPA
This species was recorded in low numbers (i.e. a breeding season peak abundance of 2) during the site surveys, and is considered to have a low sensitivity to disturbance (Furness *et al.* 2012). Any indirect impacts through changes in prey availability are likely to be very localised. Any potential impacts during installation, maintenance, or decommissioning from increased vessel activity or installation works are likely to be temporary and over a limited area.
Changes to the tidal regime caused by the operational turbines, are unlikely to cause significant impacts to the surrounding benthic habitats and associated prey species, which in-turn is unlikely to have any significant indirect impacts on the qualifying species.
It is concluded that the proposal would have no adverse effect on site integrity.

Northern gannet
Sule Skerry and Sule Stack SPA
Hermaness, Saxa Vord and Valla Field SPA
Fair Isle SPA
North Rona and Sula Sgeir SPA
Noss SPA
The low numbers of gannets recorded during the site surveys (i.e. a peak abundance in the boat survey area of 13) suggests the project area is not an important foraging area for this species. Any potential disturbance during installation, maintenance, or decommissioning from increased vessel activity or installation works is unlikely to be significant. Furthermore, any potential disturbance would be temporary and over a limited area.
There may also be displacement and a loss of foraging habitat due to the physical presence of the turbines. However, this will be over a limited area and unlikely to impact the population viability of the species.
The predicted collision level is unlikely to have a population level effect for this species. Although collision risk has been considered against a regional population and not apportioned to individual SPAs, it is considered that the population viability of the species for each SPA will be maintained. Furthermore, as the initial deployment is likely to be for only 6

turbines, the predicted collisions levels would be substantially reduced.
Although in close proximity to the nest sites, any potential pollution incidents are likely to be of low magnitude, i.e. small scale and rapid dispersal, and therefore not of sufficient size to have any significant effects on the populations.
Changes to the tidal regime caused by the operational turbines, are unlikely to cause significant impacts to the surrounding benthic habitats and associated prey species, which in-turn is unlikely to have any significant indirect impacts on the qualifying species.
It is concluded that the proposal would have no adverse effect on site integrity.

Cumulative and / in-combination impacts for bird species
Construction:
There are currently no other wave or tidal projects at application stage in the Pentland Firth, and therefore there will be no other offshore renewable developments in this area undergoing construction at the same time as the MeyGen Phase 1 project. A Marine Licence has recently been issued for the Gills Bay breakwater extension. The Marine Licence is valid until May 2014, so it is unlikely the construction works for both projects will overlap. However, if this breakwater extension work is delayed, it is considered there would be no adverse impacts.

Operation/Maintenance:
There are currently no other wave or tidal projects at application stage within the Pentland Firth, therefore there are no other projects to consider in-combination impacts with MeyGen Phase 1 project. However, any future projects, including further phases to the MeyGen project may be required to consider in-combination impacts with MeyGen Phase 1.

Diadramous fish and freshwater pearl mussel
For freshwater pearl mussel, the conservation objective that requires consideration is:
Distribution and viability of freshwater pearl mussel (FWPM) host species i.e. impacts on salmonids may have an indirect effect on FWPM. However, if Atlantic salmon are assessed not to be at risk from an adverse effect on site integrity, then the same conclusion applies to FWPM.

Assigning potential impacts to individual SACs
The environmental statement (ES) correctly notes the uncertainty regarding the detailed migration routes of Atlantic salmon, with even less known about the migration routes of sea lamprey at sea. Atlantic salmon smolts migrate to feeding areas in the seas to the north of the British Isles, not just from rivers in close proximity to the proposed development site, but also from other rivers further south; and returning adults may travel through the Pentland Firth to rivers around the Scottish coast. Evidence of these movements is provided in Malcolm *et al* 20102, and also in the preliminary results of a tagging study on the Scottish east coast in 2012 (http://www.scotland.gov.uk/Topics/marine/science/Research/Freshwater/SoutEskProject).
Given the substantial uncertainty associated with the migratory behaviour and the potential impacts on these migratory fish species, and consequences for individual river populations and stocks, discussions between Marine Scotland Science (MSS) and SNH have concluded it is not possible to assign any impacts associated with the Meygen proposal to any one individual SAC. In order to assess the potential impacts arising from this proposal, the following aspects are considered on potential impacts to the returning adult Atlantic salmon population:
Adult Atlantic salmon swim depth and distribution
A Scottish returning adult population
Avoidance and survival rates of fish with tidal turbines

Atlantic salmon, sea lamprey, and FWPM for the SACs considered above

Potential impacts from this development
Installation & decommissioning
Noise arising from construction activities including increased vessel activity, deployment of turbines, and piling and/or drilling, resulting in disturbance and barriers to movement.

There is a potential for disturbance to Atlantic salmon and sea lamprey during the installation and decommissioning of the tidal array, caused by increased vessel activity and associated noise, such as piling and/or drilling. Such disturbance could also result in a barrier to movement. The modelling presented in the ES indicates that hearing generalist fish (including Atlantic salmon and sea lamprey) would need to be less than 1 m from the source of the drilling activity to elicit any behavioural response. It is also stated (page 23 of volume 1) that background noise levels in the Inner Sound area are generally high, and that drilling noise would fall to background noise levels at a range of 0.5 km from the noise source. The ES concludes (page 24 of volume 1) that none of the installation and operation scenarios would expose diadromous fish species to noise that would cause mortality or injury.

While recognising data gaps, this would indicate that Atlantic salmon and sea lamprey are unlikely to suffer significant adverse physical impacts directly associated with noise. It also indicates that disturbance would be limited to a small area around the tidal array and temporary in nature whilst installation works were being carried out. It is also considered that there would be no barrier to movement as fish would be able to move through other areas of the Pentland Firth. However, it may be possible that their ability to perceive the devices and take any possible avoidance action is also reduced.
It is concluded that the project would have no adverse effect on site integrity.

Operation & maintenance
Collision risk with the operational turbines.

There is a potential for migrating Atlantic salmon and sea lamprey to collide with the operational turbines. For the impact assessment of the MeyGen proposal, an adapted Band collision risk model (CRM) was used to assess collision risk. Due to concerns regarding the assumptions made in the assessment, MSS and SNH undertook additional work on the following aspects:
A review of the adapted Band CRM
Adult Atlantic salmon swim depth and distribution
A Scottish returning adult population
Avoidance and survival rates of fish with tidal turbines

Using this additional information, the CRM for returning adult Atlantic salmon was revised, and predicted collisions calculated for a returning adult Atlantic salmon population of 540,000, and a range of turbines (see table 1). It should be noted that the predicted collisions presented here do not take into consideration active avoidance (i.e. the fish detecting and actively swimming away from the blade/turbine), or avoidance due to a potential slipstream effect as the water moves over the blade, as it is considered that our current limited knowledge of these avoidance types is not transferable to the MeyGen project. However, post-construction monitoring may help to address these knowledge gaps. The current levels of predicted collisions are, therefore, considered precautionary.

Table 1. Predicted annual collisions for a returning Scottish adult Atlantic salmon population of 540,000 for the MeyGen project.

6 turbines	**10 turbines**	**20 turbines**	**61 turbines**
171	284	567	1730

Due to potentially significant adverse impacts to other natural heritage features, namely the predicted collisions for harbour seals, an initial 1st phase deployment of 6 turbines is

recommended, with a comprehensive post-construction monitoring programme to inform future phases. For adult Atlantic salmon, it is considered that the predicted level of collision (or mortality) of 171 individuals from a population of 540,000 (i.e. 0.03%) would not have a significant adverse effect. Thus, it is concluded that the proposal would have no adverse effect on site integrity to any of the SACs with Atlantic salmon as a qualifying interest.
Less information is available on Atlantic salmon smolts and sea lamprey. However, the predicted collisions of 171 adult Atlantic salmon for 6 turbines is considered a suitable precautionary proxy, and allows a conclusion to be reached of no adverse effect on site integrity to any of the SACs with Atlantic salmon and sea lamprey as a qualifying interest.
Given the symbiotic nature of FWPM with Atlantic salmon, a conclusion has also been reached of no adverse effect on site integrity to any of the sites with FWPM as a qualifying interest.
Given the paucity of empirical data relating to the migratory fish behaviour, and evidence / knowledge of avoidance behaviour, it is identified that there are certain elements relating to tidal stream technologies which merit monitoring. This monitoring should be put in place to monitor fish movement through the area of the tidal array, and the interaction between fish and the tidal devices. This monitoring is not however required in order to conclude no adverse effect on site integrity.

Effects of EMF on fish passage.

The ES states (page 30, volume 1) that the worst case scenario will be for the array to include 1.3 km of subsea cabling. This cabling will stretch from the devices to the subsea boreholes. The cables will be designed with a screen that completely surrounds the conductor, which means that the E-field outside the cable will be zero. However, the ES also states that it is not known what the exact magnitude of the iE fields will be, although they are considered to be low. The ES further states that the magnetic field from the cables will be well below that of the Earth's magnetic field, which is identified as between 30 and 70μT.

Some mitigation for potential adverse impacts on fish is put forward on page 31 of volume 1. This includes: laying cables within natural crevices where possible; the length of the drilled boreholes for the cable will, as far as possible, increase the length of cable under the seabed; cables will be bundled into groups of 3.
Both Atlantic salmon and sea lamprey are considered to be open water fish, and Atlantic salmon tend to swim in the upper sections of the water column, it is concluded that the project would have no adverse effect on site integrity.

Effects of noise on fish passage.

There is a potential for disturbance to Atlantic salmon and sea lamprey caused by noise generated from the operational turbines. Based on modelling of the operational turbines, the mild behavioural threshold is predicted to be met for hearing generalist fish species (which includes both Atlantic salmon and sea lamprey) within 68m of the 36 turbine array (based on 2.4 MW turbines). Strong avoidance criteria for hearing specialists and generalists are only exceeded when fish are closer than 1m to the operating turbines.
It is concluded, therefore, that the project would have no adverse effect on site integrity.

Barrier effects on fish passage.

The presence of the array would present a potential barrier to movement in less than 10% of the cross-sectional area of the Pentland Firth, including any potential disturbance from operational noise. It is concluded, therefore, that the project would have no adverse effect on site integrity.

Noise arising from maintenance activities, such as increased vessel activity, resulting in

disturbance.

Potential disturbance from maintenance activities is likely to be temporary in nature and limited to a small zone of impact. It is concluded, therefore, that the project would have no adverse effect on site integrity.

Cumulative and in-combination impacts.

Construction:
There are currently no other wave or tidal projects at application stage in the Pentland Firth, and therefore there will be no other offshore renewable developments in this area undergoing construction at the same time as the MeyGen Phase 1 project. A Marine Licence has recently been issued for the Gills Bay breakwater extension. The Marine Licence is valid until summer 2014. It is not considered that construction of both projects simultaneously would result in any adverse impacts on the integrity of sites.

Operation/Maintenance:
There are currently no other wave or tidal projects at application stage within the Pentland Firth, therefore there are no other projects to consider in-combination impacts with MeyGen Phase 1 project. However, any future projects, including further phases to the MeyGen project may be required to consider in-combination impacts with MeyGen Phase 1.

The HRA (Section 10) considers various projects in the north of Scotland and whether these have a potential for contributing to cumulative and in-combination impacts. Impact mechanisms where cumulative impacts could arise are also identified. The HRA (Section 10) correctly recognises that there is uncertainty over some potential impacts from the project, and that the findings of a post installation monitoring programme will be required to further our understanding of potential cumulative impacts.

It is concluded that the project would have no adverse effect on site integrity of any SACs or SPAs.

iii) In the light of the assessment, ascertain whether the proposal will not adversely affect the integrity of the site for the European interests. Separate conclusions must be provided if the SAC and/or SPA and/or Ramsar site. If conditions required, proceed to 3d.

It is considered that the proposal will not adversely affect the integrity of the sites in 1a.

3d. Conditions required.
Indicate conditions/modifications required to ensure adverse effects on site integrity are avoided, & reasons for these.

Condition:	**Reason:**
The first phase of the Phase 1 MeyGen development shall be restricted to 6 turbines. Monitoring is required to gain knowledge / evidence of fish interactions with tidal turbines at this location.	Our understanding of fish interactions with tidal turbines in tidal streams is extremely limited. In this particular location it does not exist. Our assessment, particularly for collision risk indicates that adverse effects can be avoided based on collision risk modelling for 6 turbines. Monitoring of the devices to understand fish interaction / behaviour will inform subsequent phases.

4. RESPONSE

a) Marine Scotland Comments

For Marine Scotland advice to other authorities:

Will not adversely affect integrity of the protected sites detailed in section 1a.

For Marine Scotland response to request for opinion on effects of permitted development:

Will not adversely affect integrity of the protected sites detailed in 1a.

For Marine Scotland response to application:

Licence process will continue

Name of assessor	Finlay Bennet
Date	07 August 2013
Name of approver	Gayle Holland
Date	11 September 2013

References

Evans, P.G.H., Baines, M.E. & Coppock, J. (2011). Abundance and behaviour of cetaceans and basking sharks in the Pentland Firth and Orkney Waters. Report by Hebog Environmental Ltd & Sea Watch Foundation. Scottish Natural Heritage Commissioned Report No.419.

Furness, R. W., Wade, H. M., Robbins, A. M. C., and Masden, E. A. 2012. Assessing the sensitivity of seabird populations to adverse effects from tidal stream turbines and wave energy devices. – ICES Journal of Marine Science, 69: 1466–1479.

Malcolm, I. A., Godfrey, J., and Youngson, A.F. 2010 Review of Atlantic Salmon, Sea Trout and European Eel in Scotland's Coastal Environment: Implications for the Development of Marine Renewables.

Thompson, P.M., Cheney, B., Ingram, S., Slovick, P., Wilson, B. & Hammond, P.S. (Eds) 2011. Distribution abundance and population structure of bottlenose dolphins in Scottish waters. Scottish Government and Scottish Natural Heritage funded report. Scottish Natural Heritage Commissioned Report No.354.

ANNEX F – PUBLIC REPRESENTATIONS

A total of seventeen valid representations were received by Marine Scotland from members of the public. Of these, thirteen representations objected to the Development, two were in support of the project and two were deemed to be neutral.

All representations received were, with the exception of three objections, from members of the public who currently reside in the area local to the Development.

Members of the public who objected to the Development stated concerns regarding the visual impact of the onshore infrastructure which is not in keeping with the current landscape, noise and dust pollution from onshore construction and operation activities, impact on wildlife and children, that the technology proposed is unproven and not yet developed as well as a belief that there had been a failure to meet the requirements of the Aarhus Convention.

Representations which noted support for the project were of the belief that the Development would offer local benefits such as the creation of jobs, economic opportunities for the area which are believed to be of importance with the decommissioning of the Dounreay nuclear power station. Other comments included a lack of a visual impact from the tidal turbines unlike equivalent wind turbines onshore.

Representations deemed to be neutral did not offer any support or objection to the Development however they stated that cetaceans should be adequately taken into account when considering the proposal.

ANNEX G – PROJECT LOCATION

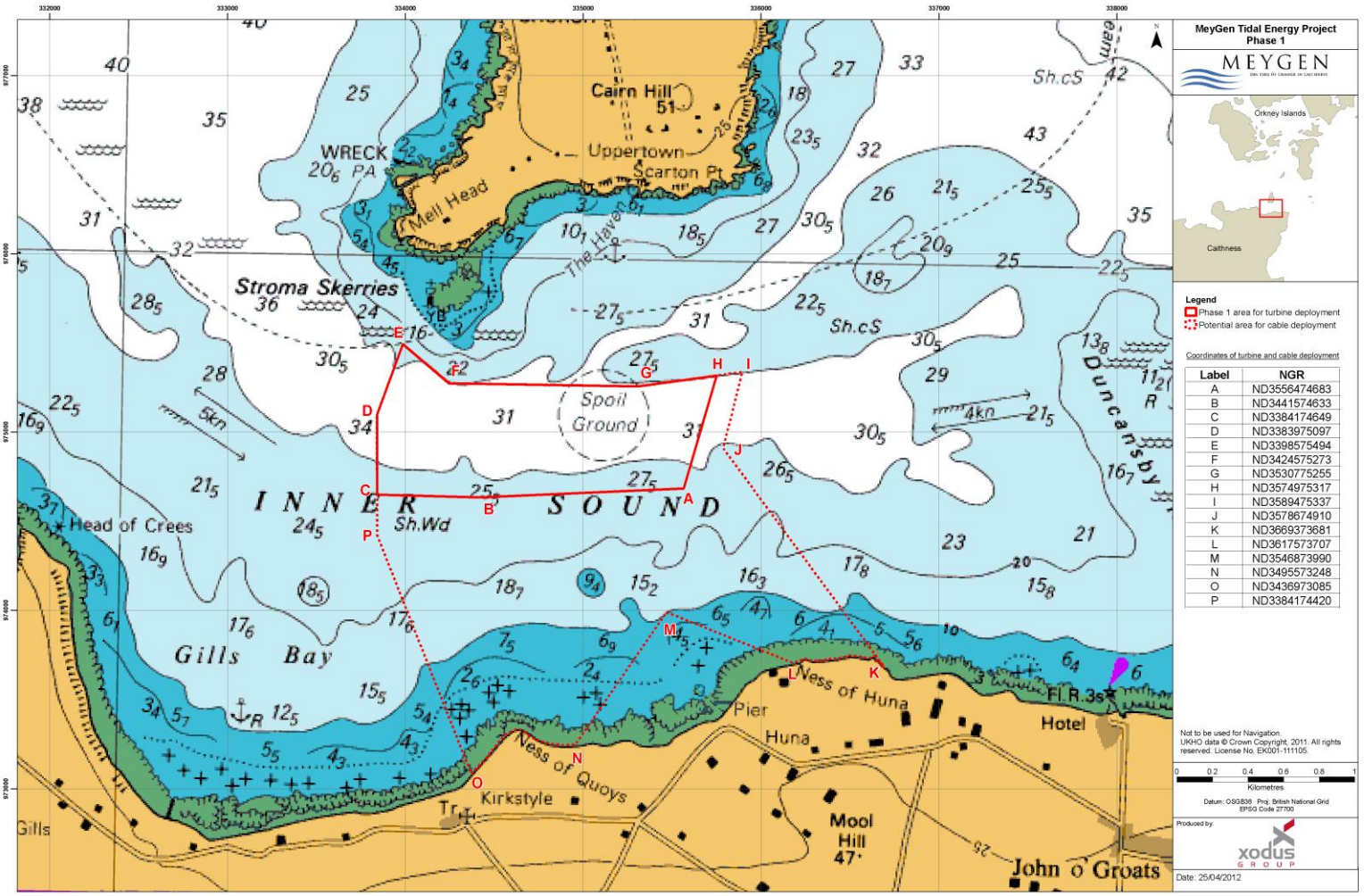


Figure 1. Phase 1 area for turbine and potential cable deployment.

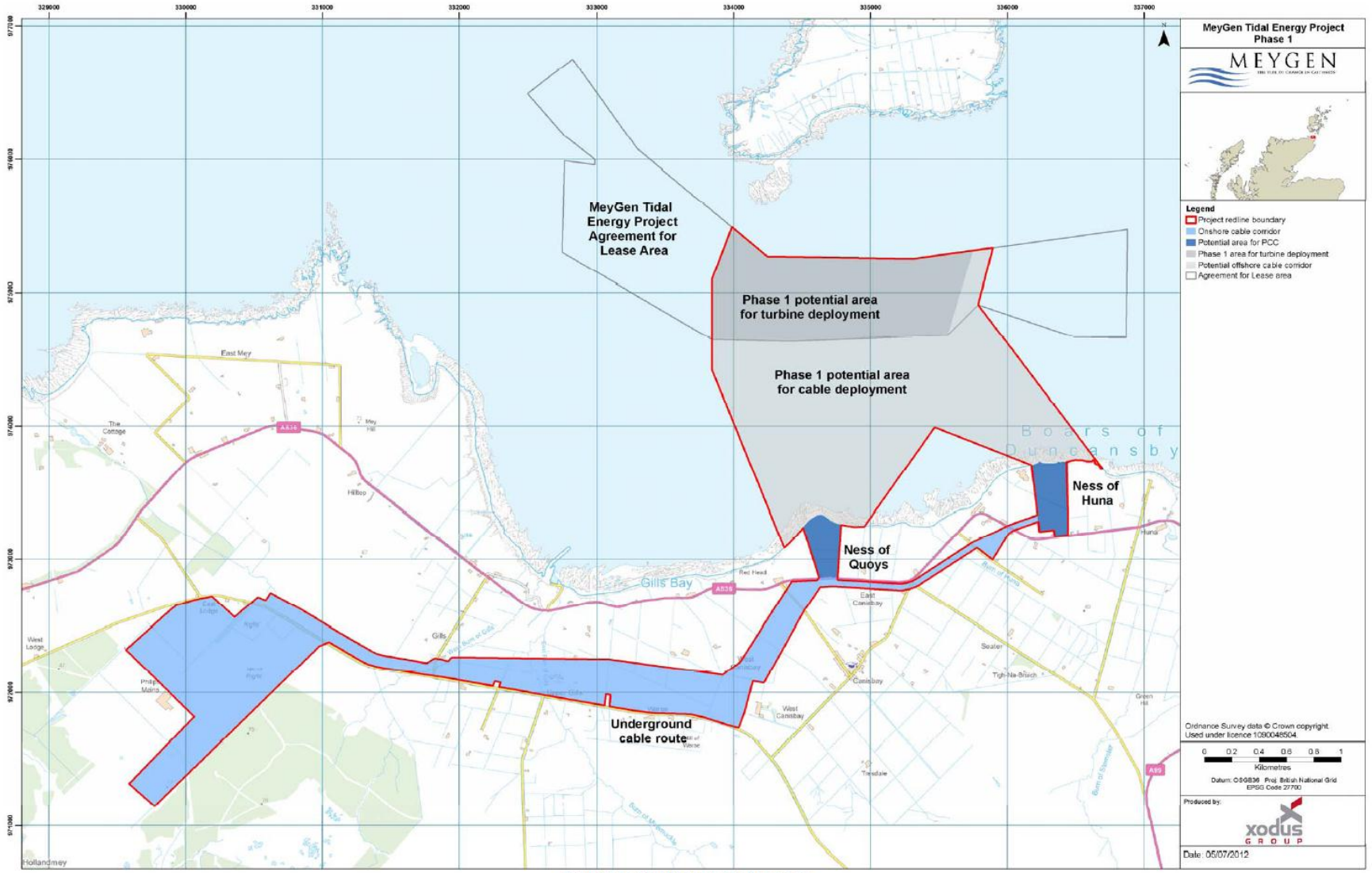


Figure 1.3: MeyGen Tidal Energy Project, Phase 1

Figure 2. Map detailing indicative MeyGen proposal in its entirity.

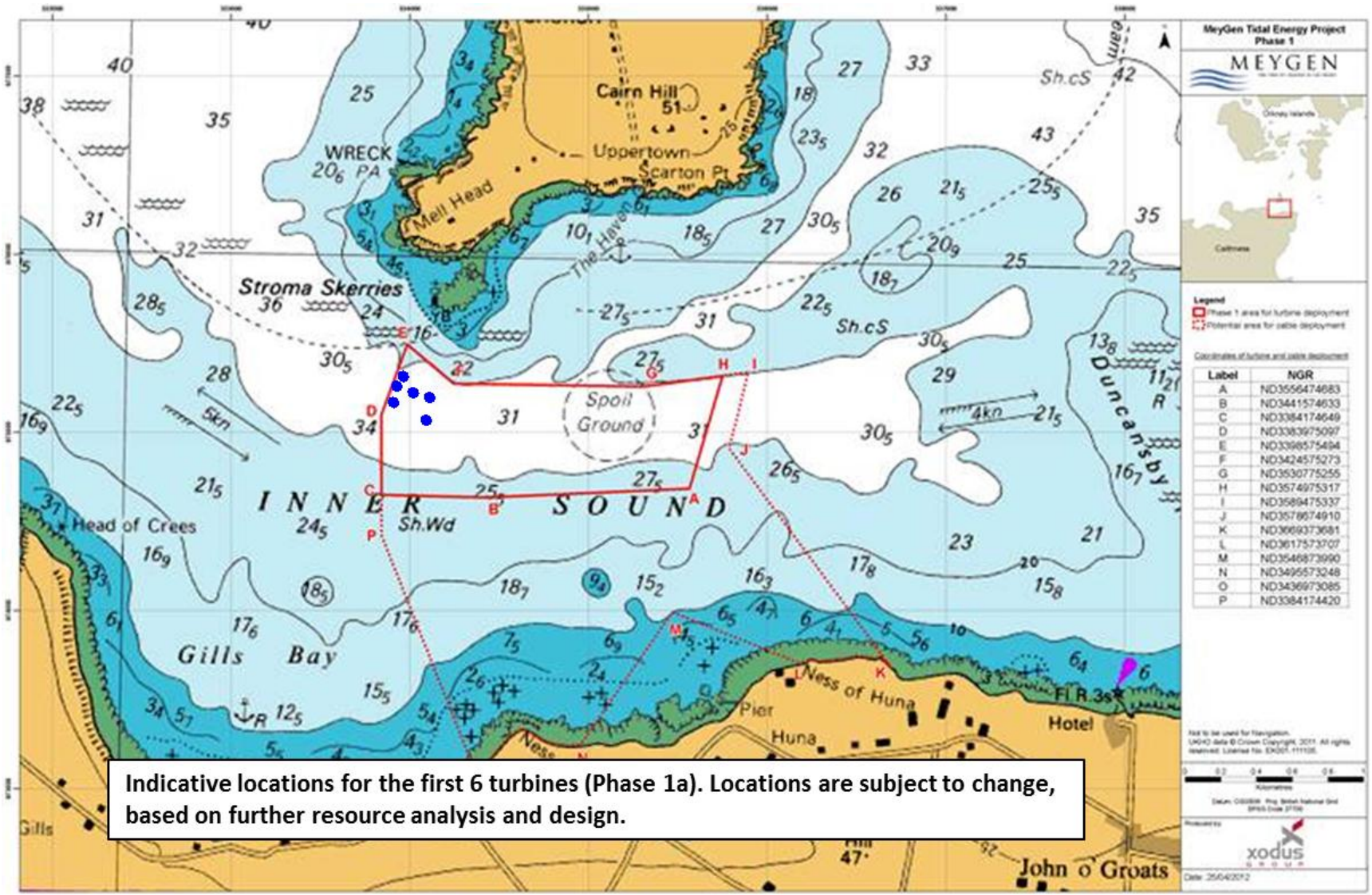


Figure 3. Map displaying potential locations for the initial six turbines. These locations inidicative are subject to change.