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The Scottish Government

Marine Works (Environmental Impact Assessment) Regulations 2007 (Regulation 22)

Environmental Impact Assessment Consent Decision

Project Title: The MeyGen Tidal Energy electricity generating station Phase 1

Applicant: MeyGen Limited

Location: Inner Sound, Pentland Firth, between the north coast of Scotland and the Island of Stroma

1. Introduction

This document constitutes an environmental impact assessment (EIA) consent decision under regulation 22 of the Marine Works (Environmental Impact assessment) Regulations 2007 (MWR) (as amended) (MWR), in respect of an application which has been submitted by MeyGen Limited to Marine Scotland, the licensing authority on behalf of the Scottish Ministers, for a Marine Licence under the Marine (Scotland) Act 2010.

The works described in this application comprises part of a project listed at Annex ll of the Directive 85/337/EEC on the assessment of the effects of certain public and private projects on the environment (EIA Directive). The EIA Directive has been transposed into UK law for marine works (including works requiring a marine licence) by the MWR. The project in this instance comprises the marine elements of the MeyGen Tidal Energy electricity generating station Phase 1, within the Inner Sound, Pentland Firth, between the north coast of Scotland and the Island of Stroma within the area bounded by joining the following points:

58° 39.31’ N	003° 06.73’ W	58° 39.27’ N	003° 07.92’ W
59° 39.28’ N	003° 08.51’ W	58° 39.52’ N	003° 08.52’ W
58° 39.73’ N	003° 08.38’ W	58° 39.62’ N	003° 08.11’ W
58° 39.62’ N	003° 07.01’ W	58° 39.65’ N	003° 06.55’ W
58° 39.67’ N	003° 06.40’ W	58° 39.44’ N	003° 06.51’ W
58° 38.78’ N	003° 05.55’ W	58° 38.79’ N	003° 06.08’ W
58° 38.94’ N	003° 06.82’ W	58° 38.53’ N	003° 07.34’ W
58° 38.44’ N	003° 07.94’ W	58° 39.15’ N	003° 08.51’ W

The application made to Marine Scotland was then supported by an environmental statement (ES) and supporting information as required by regulation 12 of the MWR. MeyGen Limited was required to produce further information in support of their application and submitted a Supplementary Environmental Information Statement (SEIS).

2. Project Description

MeyGen Limited is proposing to develop an offshore tidal turbine array located in the Inner Sound in the Pentland Firth, between the north coast of Scotland and the Island of Stroma.

The proposal would see an initial deployment of up to 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.

The proposed project will be built out in stages with stage one being limited to a maximum of 6 turbines and all subsequent stages of the development subject to the prior written approval of the Scottish Ministers. These requirements will be enforced through the section 36 consent conditions. 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 done with a clear understanding of any potential impacts on the marine environment.

The Inner Sound is approximately 3km wide at the widest point between Mell Head on Stroma and Gills Bay on the Scottish mainland. The deepest part of the Sound is 48.6m and the Project is situated in the centre of the main channel where the useable water depths range from 31.5 to 38 m at Lowest Astronomical Tide (LAT). The turbine deployment area is 1.1 km^2 in the centre of the Agreement for Lease (AfL) area. A cable corridor to shore has been identified and of this area an estimated maximum area of 1.3 km^2 is required.

This proposed project will comprise of a tidal array of no more than 61 three-bladed single rotor horizontal axis fully submerged tidal turbines (each with a rotor diameter of no less than 16 metres and no more than 20 metres), all foundations, scour protection and cables connecting the offshore site to a landfall location, all as described in the ES and SEIS.

Each turbine will have its own dedicated electricity export cable to shore. Cable landfalls will take the form of Horizontally Directionally Drilled (HDD) bores which will be drilled from onshore. Cables will be laid across the seabed from the turbines to the HDD bores.

Onshore power conversion centres will comprise terminations of the export cables from the turbines, power conversion equipment, transformers and switchgear for grid connection housed in power conversion unit buildings, and a control centre.

3. The Environmental Statement

The principal potential impacts identified and discussed in the ES were:

- Physical Environment and Sediment Dynamics
- Benthic Habitats and Ecology
- Marine Mammals
- Ornithology
- Fish Ecology
- Commercial Fisheries
- Shipping and Navigation
- Marine Cultural Heritage
- Geology, Hydrogeology and Hydrology
- Terrestrial Habitats and Ecology
- Landscape, Seascape and Visual Impact Assessment
- Onshore Cultural Heritage
- Socio-Economics, Tourism and Recreation
- Onshore Transportation and Access
- Onshore Noise and Dust Impacts
- Accidental Events
- Environmental Management and Monitoring

3.1 Environmental sensitivities

Scottish Natural Heritage (SNH) advised that the proposal has the potential to impact upon protected sites. On reviewing the original ES, SEIS, Habitats Regulation Appraisal (HRA) and supplementary information, SNH advised that the proposal would impact on qualifying interests of various Special Protection Areas (SPAs) and Special Areas of Conservation (SACs). SNH also advised that, as the Competent Authority, Marine Scotland would be required to undertake an Appropriate Assessment (AA) in view of the conservation objectives for the sites.

SNH cited a number of SPAs that should be considered in any appraisal. These included, but were not limited to, Hoy SPA, Caithness and Sutherlands Peatlands SPA and the North Caithness Cliffs SPA. Examples of the qualifying interests at some of these SPAs included, but were not limited to, Black – legged Kittiwake, Red – throated diver, Artic Skua and Arctic Tern.

SNH also advised of a number of SACs that had qualifying interests that could be directly or indirectly impacted by the proposal. SNH identified the River Thurso SAC, River Spey SAC, River Dee and River South Esk and the associated following qualifying interests could be affected by the proposal: Atlantic salmon and Freshwater Pearl Mussels. These interests are not present at all of the aforementioned SACs.

SNH advised that the proposal would have no likely significant effect for any of the SACs designated for marine mammals and that they did not require to be considered in the AA. This included SACs such as the Moray Firth SAC (Bottlenose Dolphins) and Sanday SAC (Harbour Seals).

SNH recommended conditions for the proposal that, provided the project was undertaken strictly in accordance with these conditions, would ensure that the integrity of the relevant sites would not be affected. However, this did not abrogate Marine Scotland from undertaking an AA in view of the conservation objectives for the sites in accordance with SNH advice.

3.2 The appropriate assessment

The proposed works required an appropriate assessment under Regulation 48 of the Conservation (Natural Habitats, &c.) Regulations 1994. The appropriate assessment concluded, subject to appropriate conditions being attached to any consent, the Meygen proposal would not adversely affect the integrity of the Natura sites that could be potentially impacted by the development.

4. Consultation

This section summaries the project consultation undertaken by Marine Scotland in 2012 (application and ES) and 2013 (SEIS).

4.1 Public consultation

In accordance with Regulation 16 (1) (b) of the MWR, Marine Scotland instructed MeyGen Limited to place a public notice in two newspapers for two successive weeks. These public notices were "combined" with those required under The Electricity Works (Environmental Impact Assessment) Regulations 2000 (as amended). The public notices contained details of:

- the applicant's name and address
- that an application had been made under the MWR and Part 4 of the Marine (Scotland) Act 2010
- a statement of the nature and location of the project
- the address details of where the application and ES could be inspected during office hours
- notice that parties could make such requests and representations to Scottish Ministers on the ES (and later SEIS) by specified dates which were within 42 days of the first notice date

Notice of the application and ES appeared in the following publications:

- The Herald — 27th July 2012 & 3rd August 2012
- The John O'Groats Journal — 27th July 2012 & 3rd August 2012
- The Edinburgh Gazette — 27th July 2012 & 3rd August 2012

Notice of the SEIS appeared in the following publications:

- The Herald — 26th April 2013 & 3rd May 2013
- The John O'Groats Journal — 26th April 2013 & 3rd May 2013
- The Edinburgh Gazette — 26th April 2013 & 3rd May 2013

The application, ES and SEIS were made available for public inspection at the following locations:

- John o'Groats Post Office, John o'Groats, Wick, Caithness, KW1 4AYR
- Thurso Library, Davidson's Lane, Thurso, Caithness, KW14 7AF
- The Scottish Government Library, Victoria Quay, Edinburgh, EH6 6QQ

Marine Scotland received 2 public representations in support of the application and 13 public representations objecting to the application. Two representations received were considered neutral.

Members of the public who objected to the development stated concerns regarding the visual impact of the onshore infrastructure, 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 supported the development felt it would offer local benefits such as the creation of jobs and economic opportunities for the area. Other comments included a lack of a visual impact from the tidal turbines unlike onshore wind turbines.

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.

4.2 Consultees

As part of the consideration of the application and ES, Marine Scotland conducted a consultation with advisory and regulatory bodies for comment on the validity of the ES document and the conclusions of environmental impact drawn. The consultation on the ES opened on 27th July 2012 and closed on the 7th September 2012 with Local Authorities permitted additional time in accordance with The Electricity (Applications For Consent) Regulations 1990 (as amended). A second consultation was undertaken on the SEIS and opened on 26th April 2013 and closed on the 7th June 2013. Extensions to provide comments were permitted to consultees where appropriate.

4.2.1 Consultee List

The application, ES and the SEIS were sent to:

Consultee	**Consultee**
Association of Salmon Fishery Boards	NorthLink Ferries
British Telecom	Orkney Fisheries Association
Caithness District Salmon Fishing Board	Orkney Islands Council
Caithness Diving Club	Pentland Canoe Club
Caithness Kayak Club	Pentland Ferries
Caithness Regeneration Partnership	Royal Yachting Association
Caithness Sea Watching	Royal Society for the Protection of Birds

Chamber of Shipping	Salmon Net Fishing Association of Scotland
Dunnet & Canisbay Community Council	Scottish Canoe Association
Gills Bay Harbour	Scottish Environment Protection Agency
Health & Safety Executive	Scottish Fisherman's Federation
Highland Council	Scottish Fisherman's Organisation
Historic Scotland	Scottish Natural Heritage
Inshore Fishery Group	Scottish Pelagic Fisherman's Association
Inverness Sub Aqua Club	Scottish Surfing Federation
John O'Groats Ferry	Scottish Whitefish Producers Association
Marine Scotland Compliance – Orkney	Scottish Wildlife Trust
Marine Scotland Compliance – Scrabster	Scrabster Harbour
Marine Scotland Science	Surfers Against Sewage
Maritime Coastguard Agency	The Crown Estate
Marine Safety Forum	Transport Scotland
Ministry of Defence	Transport Scotland Ports & Harbours
National Trust for Scotland	Whale & Dolphin Conservation
Northern Lighthouse Board	Wick Harbour

4.2.2 Consultee Responses

The Highland Council (THC), a statutory consultee, 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 that 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 consent determined by Scottish Ministers under Section 36 of The Electricity Act (1989) on the 13th September 2013.

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 MeyGen Limited 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 (PBR) figure of 17. PBR is the number of individual seals that can be removed from the population without causing a decline in the population and is calculated annually by Sea Mammal Research Unit (SMRU) using the latest seal counts.

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 adverse 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 MeyGen Limited 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 was captured under wider conditions for environmental monitoring and mitigation as reflected in the consent determined by Scottish Ministers under Section 36 of The Electricity Act (1989) on the 13th September 2013.

SEPA have confirmed that some of the onshore works are likely to require authorisation and that MeyGen Limited 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 MeyGen Limited 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 as well as the requirement to establish an Advisory Group were captured in the consent determined by Scottish Ministers under Section 36 of The Electricity Act (1989) on the 13th September 2013. 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 were captured in the consent determined by Scottish Ministers under Section 36 of The Electricity Act (1989) on the 13th September 2013.

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.

MeyGen Limited held a meeting with the CKC to discuss these issues. MeyGen Limited 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 MeyGen Limited 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 are 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 has 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 the project and how vessels interact with the development. This request was captured in the consent determined by Scottish Ministers under Section 36 of The Electricity Act (1989) on the 13th September 2013.

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 request was captured in a condition in the consent determined by Scottish Ministers under Section 36 of The Electricity Act (1989) on the 13th September 2013.

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 electromagnetic fields (EMFs) 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 MeyGen Limited 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 current scientific knowledge, 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 inform further assessments. This condition is reflected in the consent determined by Scottish Ministers under Section 36 of The Electricity Act (1989) on the 13th September 2013.

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 MeyGen Limited 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

marine licence and consent determined by Scottish Ministers under Section 36 of The Electricity Act (1989) on the 13th September 2013. 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. This request was captured in a condition of the marine licence.

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 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 marine licence and consent determined by Scottish Ministers under Section 36 of The Electricity Act (1989) on the 13th September 2013. 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.

MeyGen Limited held a meeting with the PCC at the same time as the CKC to address their concerns. MeyGen Limited 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 MeyGen Limited have not yet finalised the 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 are reflected in marine licence.

The Royal Society for the Protection of Birds (RSPB) Scotland initially objected to the development pending the provision of further information This included, but was 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 MeyGen Limited. 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 MeyGen Limited. The RSPB also stated their support for comments and recommendations provided by Whale and Dolphin Conservation (WDC).

MeyGen Limited 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 MeyGen Limited 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 consent determined by Scottish Ministers under Section 36 of The Electricity Act (1989) on the 13th September 2013.

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 MeyGen Limited.

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 MeyGen Limited.

MeyGen Limited held a meeting with the SCA at the same time as the PCC and CKC to address their concerns. MeyGen Limited 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 MeyGen Limited 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 are 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 MeyGen Limited 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. MeyGen Limited, 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 are 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.

MeyGen Limited 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 MeyGen Limited 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 MeyGen Limited, 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 MeyGen Limited. 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 MeyGen Limited.

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 MeyGen Limited 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.

MeyGen Limited 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 consent determined by Scottish Ministers under Section 36 of The Electricity Act (1989) on the 13th September 2013.

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.

5. Conditions

Following consideration of all relevant information, including the ES, SEIS, supporting documents and consultation responses, Marine Scotland consider that the following conditions must be included in the marine licence:

5.1 General conditions

5.1.1 Licence conditions binding other parties

All conditions attached to this licence bind any person who for the time being owns, occupies or enjoys any use of the works for which this licence has been granted in relation to those licensed activities authorised under item 5 in section 21(1) of the 2010 Act whether or not the licence has been transferred to that person.

5.1.2 Agents/contractors/sub-contractors

The licensee must give a copy of this licence and any subsequent variations that have been made to the licence in accordance with section 30 of the 2010 Act to any agent, contractor or sub-contractor appointed to carry out any part, or all, of the licensed activity. The licensee must satisfy themselves that any such agent, contractor or sub-contractor is aware of the extent of the works for which this licence has been granted, the activity which is licensed and the terms of the conditions attached to the licence.

5.1.3 Vessels

The licensee must notify the licensing authority, in writing, of any vessel being used to carry on any licensed activity under this licence on behalf of the licensee. Such notification must be received by the licensing authority no less than 72 hours before the commencement of the works. The notification must include the master's name, vessel type, vessel IMO number and vessel owner or operating company.

The licensee must ensure that a copy of this licence and any subsequent variations made to it in accordance with section 30 of the 2010 Act have been read and understood by the masters of any vessels being used to carry on any licensed activity under the licence, and that a copy of this licence is held on board any such vessel.

5.1.4 Force majeure

If by any reason of force majeure any substance or object is deposited other than at the site which is described in this licence, then the licensee must notify the licensing authority of the full details of the circumstances of the deposit within 48 hours of the incident occurring (failing which as soon as reasonably practicable after that period of 48 hours has elapsed). Force majeure may be deemed to apply when, due to stress of weather or any other cause, the master of a vessel, vehicle or marine structure determines that it is necessary to deposit the substance or object other than at the specified site because the safety of human life or, as the case may be, the vessel, vehicle or marine structure is threatened. Under Annex II, Article 7 of the Convention for the Protection of the Marine Environment of the North-east Atlantic, the licensing authority is obliged to immediately report force majeure incidents to the Convention Commission.

5.1.5 Material alterations to the licence application

The licensee must, where any information upon which the granting of this licence was based has after the granting of the licence altered in any material respect, notify the licensing authority of this fact, in writing, as soon as is practicable.

5.1.6 Submission of studies and surveys to the licensing authority

The licensee must submit the details and specifications of all studies and surveys, detailed in both this licence and the section 36 consent, that are required to be undertaken in relation to the works under the licence, in writing, to the licensing authority, no later than three months before the commencement of the works for their written approval. Commencement of the works must not occur until the licensing authority has given its written approval to the licensee of the details and specifications of the studies and surveys.

5.1.7 Submission of reports to the licensing authority

The licensee must submit all reports, studies and surveys to the licensing authority as are required under the licence within the time periods specified in the licence to allow the licensing authority to consider whether any consequential action may be

required to be undertaken. Where it would appear to the licensee that there may be a delay in the submission of the reports, studies or surveys to the licensing authority then the licensee must advise the licensing authority of this fact as soon as is practicable and no later than the time by which those reports, studies or surveys ought to have been submitted to the licensing authority under the terms of the licence.

The reports, studies and surveys must include executive summaries, assessments and conclusions and any data must, subject to any rules permitting non-disclosure, be made publically available by the licensing authority or by any such party appointed at their discretion.

5.1.8 Chemical usage

All chemicals utilised in the drilling operations for the works must be selected from the List of Notified Chemicals assessed for use by the offshore oil and gas industry under the Offshore Chemicals Regulations 2002 (this list can be viewed/downloaded at www.cefas.co.uk). In the event that any system other that a water-based mud is considered by the licensee for use in the drilling operation then the prior written approval of the licensing authority must be obtained before such use. The licensee must comply with the terms of the guidance as to the disposal of any material arising from that operation which will be given to the licensee by the licensing authority.

The licensee must ensure that any chemical agents placed within the void of any of the turbine bases including biocides and corrosion inhibitors etc. are selected from the List of Notified Chemicals. The use of any chemical not contained within this list will require prior consent from the licensing authority.

5.1.9 Environmental protection

The licensee must ensure that all reasonable, appropriate and practicable steps are taken at all times to minimise damage to the Scottish marine area caused by the licensed activity authorised under this licence.

The licensee must ensure that any debris or waste materials placed below the MHWS during the construction and operation of the works are removed from the site, as soon as is reasonably practicable, for disposal at a location above the MHWS approved by the Scottish Environment Protection Agency.

The licensee must ensure that all substances and objects deposited during the execution of the works are inert and do not contain toxic elements which may be harmful to the marine environment, the living resources which it supports or human health.
The licensee must ensure that the risk of transferring invasive non-native species to and from the site is kept to a minimum by ensuring appropriate bio-fouling management practices are implemented during the works.

Any drill cuttings associated with the use of water-based drilling muds situated within the outer boundary of the works need not be removed from the seabed.

5.1.10 Availability of the licence for inspection

The licensee must ensure that copies of the licence are available for inspection by any authorised Enforcement Officer at:

a) *the premises of the licensee;*
b) *the premises of any agent, contractor or sub-contractor acting on behalf of the licensee; and*
c) *any onshore premises directly associated with the works.*

5.1.11 Inspection of the works

Officers of HM Coastguard, or any other person authorised by the licensing authority to include an authorised Enforcement Officer, must be permitted to inspect the works at any reasonable time. The licensee must provide access, and if necessary appropriate transportation to the site or any other associated works or vessels to facilitate any inspection considered necessary by the licensing authority.

5.2 Conditions specific to the works

5.2.1 Prior to the commencement of the works

5.2.1.1 Shielding or burial of cables

The licensee must, no later than three months prior to the commencement of the works, provide the licensing authority for their written approval a report detailing current 'best practice' relating to the attenuation of field strengths of cables by shielding or burial designed to minimise effects on electro-sensitive and migratory fish species. Such 'best practice' guidance as is identified must be incorporated into the Construction Method Statement, in respect of which condition 9 of the section 36 consent relates.

5.2.1.2 Third Party Verification

The licensee must, no later than three months prior to the commencement of the works, provide the licensing authority with a covering certificate of Third Party Verification of the tidal turbines, sub-structures and all associated ancillary works. Commencement of the works must not occur until the licensing authority has been provided with the covering certificate detailing Third Party Verification.

5.2.1.3 Marine Pollution Contingency Plan

The licensee must, no later than three months prior to the commencement of the works, submit in writing to the licensing authority for their written approval, a Marine Pollution Contingency Plan (MPCP).

The MPCP must make provision in respect of spills and collision incidents occurring during the construction and operation of the works and where such spills or collisions occur then the MPCP must be adhered to in full. The MPCP must take into account

existing plans for all operations, including offshore installations that may have an influence on the MPCP. Practices used to refuel vessels at sea must conform to industry standards and to relevant legislation. The MPCP must set out how any oil leaks within the turbine nacelle are to be remedied and that such relevant repairs are required to be undertaken without undue delay.

Commencement of the works must not occur until the licensing authority has given its written approval to the MPCP.

5.2.1.4 Commencement date of licensed activities

The licensee must, prior to and no less than one month before the intended commencement of the works, notify the licensing authority, in writing, of the date of commencement of the works authorised under the licence and confirm the date no less than 24 hours before commencement of the works.

5.2.1.5 Ecological Clerk of Works

The licensee must ensure that a suitably qualified and experienced Ecological Clerk(s) of Works (ECoW) / Environmental Manager(s) is, or are, appointed prior to the commencement of the works primarily, but not exclusively, for environmental liaison to establish and maintain effective communications between the licensee, contractors, stakeholders, conservation groups and other users of the sea during the period in which licensed activities authorised under this licence are undertaken. Prior to the commencement of the works the licensee must notify the licensing authority in writing of the identity, contact details and qualifications of the appointed ECoW / Environmental Manager(s).

The licensee must ensure that the ECoW / Environmental Manager(s) environmental remit includes monitoring compliance with the commitments made by the licensee in the Environmental Statement, Supplementary Environmental Information Statement and all plans or programmes required under this licence or the section 36 consent.

5.2.1.6 Navigational safety

The licensee must, as soon as practicable prior to the commencement of the works, notify the UK Hydrographic Office to permit the promulgation of maritime safety information and updating of nautical charts and publications through the national Notice to Mariners system.

The licensee must, as soon as reasonably practicable, prior to commencement of the works, ensure that local mariners, fishermen's organisations and HM Coastguard, in this case Shetland Maritime Rescue Coordination Centre, are made fully aware of the activity through local Notice to Mariners or any other appropriate means.

The works must also be promulgated in the Kingfisher Fortnightly Bulletin to inform the Sea Fish Industry of the vessel routes, the timings and the location of the works and of the relevant operations.

All navigational marking and lighting of the site or its associated marine infrastructure will require the Statutory Sanction of the Northern Lighthouse Board prior to deployment.

The licensee must prior to, and no later than one month before the commencement of the works, notify the Clyde Cruising Club to permit the updating of their Sailing Directions and Anchorages publications.

5.2.1.7 Monitoring of marine mammals

Prior to the commencement of the works the licensee must agree in writing the details of the appointment of a Marine Mammal Observer (MMO) with the licensing authority. The MMO must, as a minimum, maintain a record of any sightings of marine mammals and maintain a record of the action taken to avoid any disturbance being caused to marine mammals. The licensee must provide the licensing authority with the MMO's records no later than six months following commencement of the works, and at six monthly intervals thereafter.

5.2.1.8 Cable Installation Plan

The licensee must submit a detailed Cable Installation Plan (CIP), including landfall works for the approval of the licensing authority in consultation with Scottish Natural Heritage, Scottish Environment Protection Agency, the Local Authorities and any other advisors as required by the licensing authority. The CIP must be submitted to the licensing authority at least three months prior to the commencement of the works. The CIP shall include:

a) *The use of geotechnical data to ascertain optimal cable burial depth along the length of the export cable (including works in the intertidal zone);*
b) *The methods used for laying the cables minimising, where possible, the use of jetting in the intertidal area;*
c) *Detail of cable burial depths;*
d) *A burial risk assessment;*
e) *The need, type, source quantity and installation method for any scour protection.*

The CIP must be incorporated into the Construction Method Statement, in respect of which condition 9 of the section 36 consent relates. Cable installation must not take place until such time as the licensing authority has approved the CIP in writing.

5.2.1.9 Cable Protection Plan

In the event that cable protection is required the licensee must submit a Cable Protection Plan (CPP) for the approval of the licensing authority in consultation with Scottish Natural Heritage, Maritime and Coastguard Agency, Northern Lighthouse Board and any other advisors as required by the licensing authority. The CPP must be presented in conjunction with work undertaken to identify scour protection / armouring works required to protect the cable. The installation of any cable protection must not commence until the CPP has been agreed in writing by the

licensing authority. The CPP must be incorporated into the Construction Method Statement, in respect of which condition 9 of the section 36 consent relates.

5.2.1.10 Pre construction survey

Prior to the commencement of the works, the licensee must undertake a side scan sonar survey in grid lines (within operational and safety constraints), across the area of the works to include the tidal array and cable route. The results of this survey must be made available to the licensing authority within 3 months of the completion of the survey, or as otherwise agreed in writing with the licensing authority, and will be used as the baseline survey should a further side scan sonar survey be necessary in accordance with condition 3.2.2.1.

5.2.2 During the works

5.2.2.1 Transportation audit sheet

The licensee must, on the first working day of the month, create, maintain and submit to the licensing authority a detailed transportation audit sheet for each month during which construction associated with the works takes place. The audit sheet must include information on the loading facility, vessels, equipment, shipment routes, schedules and all materials listed in the licence to be deposited (e.g. piles, pipelines, turbine components, chemicals). Where, following the submission of an audit sheet to the licensing authority, any alteration is made to the component parts of the sheet the licensee must notify the licensing authority of the alteration as soon as practicable following the making of the alteration.

If the licensee becomes aware of any materials on the audit sheet that are missing, or an accidental deposit, they shall contact the licensing authority as soon as practicable after becoming aware to advise the licensee on the appropriate remedial action. If the licensing authority is of the view that any accidental deposits associated with the construction works are present then the deposits must be removed by the licensee as soon as is practicable and at the licensee's expense.

5.2.2.2 Nature and quantity of deposited substances and objects

In addition to the audit sheets required to be submitted to the licensing authority under condition 3.2.2.2, the licensee must, following the commencement of the works, submit audit reports to the licensing authority stating the nature and quantity of all substances and objects deposited below MHWS under the authority of the licence. Such audit reports must be submitted by the licensee at six monthly intervals, with the first such report being required to be submitted on a date no later than six months following the commencement of the works.

5.2.2.3 Navigational safety

The licensee must ensure the UK Hydrographic Office is notified of the works to permit the promulgation of maritime safety information and updating of nautical charts and publications through the national Notice to Mariners system.

The licensee must notify local mariners, fishermen's organisations and HM Coastguard, in this case Shetland Maritime Rescue Coordination Centre, of the progress of the works through local Notice to Mariners or any other appropriate means.

The licensee must ensure that the progress of the works are promulgated in the Kingfisher Fortnightly Bulletin to inform the Sea Fish Industry of the vessel routes, the timings and the location of the works and of the relevant operations.

The licensee must ensure the Clyde Cruising Club is notified of the progress of the works to permit the updating of their Sailing Directions and Anchorages publications.

5.2.2.4 Markings, lighting and signals of the works

The licensee must ensure that the works are marked and lit in accordance with the requirements of the Northern Lighthouse Board at all times and such marking and/or lighting must be continued unless and until such time as the licensing authority, by notice, relevantly varies this licence under section 30 of the 2010 Act.

The licensee must ensure that no marks or lights, other than those required by virtue of this licence, may be displayed unless they have been approved, in writing, by the Northern Lighthouse Board and the licensing authority.

5.2.2.5 Radio beacon and radar beacon

The licensee must ensure that no radio beacon or radar beacon operating in the marine frequency bands may be installed or used on the works without the prior written approval of the licensing authority.

5.2.2.6 Emergencies

If the assistance of a Government Department (to include departments of Devolved Administrations) is required to deal with any emergency arising from:

a) *the failure to mark and light the works as required by the licence;*
b) *the maintenance of the works; or*
c) *the drifting or wreck of the works,*

to include the broadcast of navigational warnings, then the licensee is liable for any expenses incurred in securing such assistance.

5.2.2.7 Ecological Clerk of Works

The Ecological Clerk(s) of Works (ECoW) / Environmental Manager(s) (in respect of which condition 3.2.1.5 relates) must provide regular (frequency to be agreed with the licensing authority) reports to the licensing authority as to the compliance with the commitments made by the licensee in the Environmental Statement, Supplementary Environmental Information Statement and the Project Environmental Monitoring Programme and all other plans and programmes provided by the section

36 consent to include the Vessel Management Plan and the Construction Method Statement.

5.2.3 Conditions upon completion of the works

5.2.3.1 Date of completion of the works

The licensee must no more than one month following the completion of the works notify the licensing authority, in writing, of the date of completion of the licensed activities.

5.2.3.2 Navigational safety

The licensee must notify the UK Hydrographic Office of the completion of the works to permit the promulgation of maritime safety information and updating of nautical charts and publications through the national Notice to Mariners system.

The licensee must ensure that local mariners, fishermen's organisations and HM Coastguard, in this case Shetland Maritime Rescue Coordination Centre, are made fully aware of the completion of the works through local Notice to Mariners or any other appropriate means.

The licensee must ensure that the completion of the works is promulgated in the Kingfisher Fortnightly Bulletin to inform the Sea Fish Industry.

The licensee must ensure the Clyde Cruising Club is notified of the completion of the works to permit the updating of their Sailing Directions and Anchorages publications.

5.2.3.3 Nature and quantity of deposited substances and objects

The licensee must, within 28 days of completion of the works or within 28 days of the date of expiry of the licence, whichever is the sooner, submit a written report to the licensing authority stating the nature and quantity of all substances and articles deposited below Mean High Water Springs under authority of this licence. Where appropriate, nil returns must be provided.

5.2.3.4 Markings, lighting and signals of the works

The licensee must ensure that the works are marked and lit in accordance with the requirements of the Northern Lighthouse Board at all times and such marking and/or lighting must be continued unless and until such time as the licensing authority, by notice, relevantly varies this licence under section 30 of the 2010 Act.

6. Regulatory Evaluation

6.1 Conclusions

In considering the application, in particular the ES, SEIS and the relevant provisions of the Marine (Scotland) Act 2010, a full and detailed assessment has been made of the potential direct and indirect effects of the proposal on human beings, fauna and flora, soils, water, air climate, the landscape, material assets, the cultural heritage and the interaction between any two or more of these factors.

Marine Scotland, as the Appropriate Authority, are satisfied with the findings of the ES and subject to the inclusion of the conditions referred to above in the marine licence that they may grant in due course, are of the opinion that the marine elements of the project will not have a significant adverse effect on the environment.

6.2 Recommendations

Having carried out assessments of the potential environmental impacts of the proposed project, the reviewers acting on behalf of Marine Scotland make the recommendations below:

Marine Scotland are satisfied that the ES and SEIS adequately address all environmental issues in relation to the MeyGen Tidal Energy electricity generating station Phase 1, subject to the conditions referred to above being included in the relevant marine licence subsequently issued by Marine Scotland.

The reviewers acting on behalf of Marine Scotland recommend that a favourable EIA consent decision is given in respect of the project, subject to the inclusion of the above conditions being attached to any relevant marine licence.

Reviewed by:	Andrew Sutherland and David O'Sullivan
Date:	30th January 2014
Approved by:	Gayle Holland
Date:	31st January 2014
The Licensing Authority:	Marine Scotland