23rd January 2020
Our Ref: 2019_12_06-113
Scottish Power Application Reference: EA1N-DWF-ENV-REP-IBR-000337 Rev 01

Dear Ian,

RE: The Proposed East Anglia North ONE Offshore Windfarm Order

1.1 Role of the Eastern Inshore Fisheries and Conservation Authority (EIFCA)

The role of the Eastern IFCA is "to lead, champion and manage a sustainable marine environment and inshore fisheries" in our district, which extends from the Humber to Harwich, and six nautical miles out to sea. The proposed cable route for the East Anglia ONE North Offshore Windfarm will pass through the Eastern IFCA district. Therefore, given the potential impacts upon inshore fisheries and habitats, it is considered appropriate for Eastern IFCA to register as an Interested Party and to provide a Relevant Representation. Our interest focuses primarily on the inshore section of the of the cable route corridor.

1.2 Use of the relevant marine plan

In all consultation responses, the Authority assesses applications (and pre-applications) according to the Eastern IFCA vision and adherence of those same applications with policies detailed in the relevant marine plan, as directed under section 58(1) of the Marine and Coastal Access Act 2009.

The plans relevant to the Authority's district are the East Inshore and East Offshore Marine Plans. We consider whether proposed developments will have a positive, negative or negligible effect on plan policies related to the IFCA vision to "manage a sustainable marine environment and inshore fisheries". These considerations also enable the IFCA to provide advice in relation to the need to protect the environment, the need to protect human health and the need to prevent interference with other legitimate users of the sea.

2. East Marine Plan policy considerations

The Authority has reviewed the Development Consent Order application and associated documents and considers the following policies to be relevant to the interaction of the application with the remit of the Eastern Inshore Fisheries and Conservation Authority:

Policy	Policy detail	Relevance to application
GOV2	Opportunities for co-existence should be maximized wherever possible	There is potential for short-term disruption to any commercial fisheries activities operating in the area in or near the cable route corridor.
EC 3	Support proposals that contribute to offshore wind energy generation.	As the proposed project is for electricity generation of more than 100MW, it is classed as a Nationally Significant Infrastructure Project.
ECO 1	Cumulative impacts affecting the ecosystem and adjacent areas (marine, terrestrial) should be addressed in decision-making and plan implementation.	Significant amount of development in the North Sea. Proposed activities may have the potential to impact on fish spawning areas.
BIO 1 BIO 2	Appropriate weight should be attached to biodiversity taking account of the best available evidence, including on habitats and species that are protected or of conservation concern.	Proposed activity could impact on benthic subtidal and intertidal ecology, including habitats and designated features within the Eastern IFCA district.
MPA 1	Impacts on the overall Marine Protected Area network must be taken account of in strategic level measures and assessments, with due regard given to any current agreed advice on an ecologically coherent network.	The offshore cable corridor coincides with The Outer Thames Estuary SPA and Southern North Sea SAC.
GOV 3	Displacement of other activities should be avoided, minimised or mitigated against.	Important fishing grounds lie within the proposed cable corridor, particularly for inshore potting and finfish fishing. Need for continued liaison with all local fishing interests.
FISH 1	Proposals should not prevent fishing activities on or access to fishing grounds; impacts should be minimised or mitigated.	Important fishing grounds lie within the proposed cable route corridor, particularly for inshore potting and finfish fishing. We acknowledge and appreciate the efforts the developer proposes in order to minimise impacts on commercial fishing activity in connection with this project.
FISH 2	Proposals should not have an adverse effect on spawning and nursery areas; impacts should be minimised or mitigated.	Inshore habitats which provide important spawning and nursery areas are found within the cable corridor.

CAB1	Preference should be given to proposals for cable installation where the method of installation is burial. Where burial is not achievable, decisions should take account of protection measures for the cable that may be proposed by the applicant.	Preference for cable burial is outlined in section 2.4.

2.1 Policy GOV2 and GOV3

There is potential for construction, decommissioning, and operation and maintenance activities within the cable corridor to result in interference with inshore fishing activities. Within the Eastern IFCA district, the inshore section of the East Anglia ONE North export cable corridor is positioned in ICES statistical rectangle 33F1, an important area for potting fisheries targeting crab, lobster and whelk. These fisheries provide a substantial contribution to the local economy, represented by first sale value, shellfish factory sales and tourism revenue. Gillnetting, longlining and trawling also occur to a lesser extent within this area. Most vessels engaged in these fisheries are of the smaller vessel size category (under 10m in length) and primarily targeting fish species such as sole, plaice, rays, cod and bass.

Potential impacts on commercial fisheries include temporary loss of access to fishing ground, increased transit times and changes in the distribution of target species. Although the level of fishing effort that occurs inshore is much less than that undertaken by larger offshore fishing vessels, displacement during construction or maintenance works has the potential to have disproportionately large impacts on the inshore fishing fleet, because of their smaller working range.

Any issue arising concerning sea users, particularly navigation access must always be communicated in due time to avoid any potential misunderstandings or collisions. Continued access to fisheries grounds is vital for small inshore fisheries that operate from the Suffolk and Norfolk coast. Displacement of commercial and recreational fishing activity should be avoided wherever possible. Chapter 13 Commercial Fisheries, Table 13.3, outlines the “Worst Case Assumptions” and gives a parameter of an approximate window of 27 months for the offshore construction works. The rationale also states that this timeframe “*represents the assumed duration and extent of potential fishing exclusion throughout the construction phase and hence the greatest potential for displacement of fishing activity into other areas.*”

Construction operations and activities, as well as the inclusion of safety zones around the construction works, with the presence of up to a maximum of 74 construction vessels simultaneously operating on site have a great potential to cause temporary access restrictions to fishing grounds. Even temporary reduction in access to

established fishing grounds within the cable corridor could lead to increased pressure on adjacent fishing grounds, or a temporary lack of fishing opportunity for certain vessels.

Eastern IFCA acknowledges that the applicant is committed to working closely with commercial fisheries stakeholders and recognises that "*the appropriate liaison will be undertaken with all relevant fishing interests to ensure they are fully informed of all construction, maintenance and decommissioning activities.*" (Environmental Statement, Chapter 13, Table 13.5, Policy FISH1**).** We also acknowledge the creation of the Commercial Fisheries Working group, as well as appointment of a Fisheries Liaison Officer to advise the fishing industry on operations. We also support the use of advertisement on Kingfisher charts and the promulgation of Notice to Mariners, to manage and minimise the disruption of fishing activities; this communication is extremely important and should be carried out on a continuous basis and well in advance of any scheduled works. We would ask that these measures are coupled with regular communication with the relevant fisheries managers – Eastern IFCA out to six nautical miles and the Marine Management Organisation, as well as Defra beyond the Eastern IFCA boundary. Regular communication ensures that mitigation includes the most up-to-date fisheries management measures and advice.

The worst-case scenario is that some of the export cable may become unburied during the lifetime of the project as a result of sediment movement. Eastern IFCA would like to highlight that if unburied, the presence of subsea cables can result in snagging of fishing gear. This poses a significant safety implication particularly for small vessels operating in the area, could result in semi-permanent exclusion of fishing activities from an area, and is therefore a concern for Eastern IFCA.

2.2 Policy BIO1/BIO2 and MPA1

Any activity that disturbs the seabed has the potential to have negative impacts on habitats and biodiversity and the extent of these impacts can be highly dependent on sea bed habitat and the nature of activities. Benthic, metocean and geophysical surveys as well as additional desk-based studies conducted between 2010-18 identified communities typical of the southern North Sea across the site, characterised by marine worms and crustaceans and being relatively homogenous in sediment and benthic community. The Environmental Statement details that two potential Annex I Habitats were identified within the offshore development; reefs created by the marine worm *Sabellaria* spinulosa and Vegetated Shingle at the landfall.

The East Anglia ONE North windfarm site does not overlap with any internationally, nationally or locally important sites designated for benthic ecology receptors. The

export cable corridor will pass through the Outer Thames Special Protection Area (SPA) designated for wintering populations of Red-throated diver (*Gavia stellata)* and is located wholly within the Southern North Sea Special Area of Conservation (SAC) designated for Harbour porpoise (*Phocena phocena*).

Eastern IFCA support the decision to use Horizontal Direction Drilling (HDD) at landfall as embedded mitigation to avoid impacts on sensitive intertidal habitats.

2.2.1 The Outer Thames Estuary Special Protection Area (SPA)

The East Anglia ONE North windfarm site does not overlap with any designated sites protected for their benthic habitats or features however the offshore cable corridor bisects the Outer Thames Estuary SPA. As per the Environmental Statement (Chapter 9, 9.7.2.5 Impacts Upon the Outer Thames Estuary SPA during Construction), EIFCA acknowledges that "*During the installation of the proposed East Anglia ONE North and East Anglia TWO export cables there is potential for cumulative impacts on benthic receptors associated with the Outer Thames Estuary SPA. Impacts would primarily be related to increases in suspended sediment and associated smothering during ploughing*".

The applicant has acknowledged that there is "*potential for disturbance and displacement of non-breeding red-throated divers resulting from the presence of vessels installing the offshore infrastructure (wind turbines, offshore platforms and met mast) and the offshore export cables, including when they are laid through the Outer Thames Estuary SPA*" (Environmental Statement, Chapter 12, 12.6.1.1.1, 96). Foraging Red-throated Divers are "*considered sensitive to disturbance by noise and visual presence caused by anthropogenic activities during the winter*" (Garthe and Huppop, 2004), and disturbance "*can cause these birds to reduce or cease feeding in a given area or to be displaced*" (JNCC and Natural England, 2013).

The relevant conservation objective for the Outer Thames Estuary SPA is "*subject to natural change, maintain or enhance the Red-throated diver population and its supporting habitats in favourable condition*" (JNCC and Natural England 2013).We defer to Natural England and the JNCC for detailed conservation advice including any need to consider other activities that could cause cumulative impacts to sensitive species or habitats.

2.1.2.2 Micrositing the offshore cable route to avoid *Sabellaria spinulosa* reef

Although *Sabellaria* reef is not a designated feature of the Outer Thames Estuary SPA, it is an Annex 1 protected species and the cable corridor could result in the permanent

loss of seabed habitat utilised by the species from within the SPA. Whilst it is widely understood that *Sabellaria spinulosa* have high recruitment rates that allow for rapid recovery and regrowth of reefs in the right conditions, resulting in a 'medium' assessment outcome for recoverability, this does require the appropriate habitat for recolonisation to be maintained. EICFA acknowledge that "*micrositing mitigation would be agreed through consultation with the MMO and Natural England on the identified sensitive features which are required to be avoided (e.g.* Sabellaria *reef) and subsequently through the Design Plan and In Principle Monitoring Plan (document reference 8.13), secured within the DCO*" (Environmental Statement, Chapter 9, 9.3.3.2.1, 63)

Conservation advice provided by Natural England in sites where S. *spinulosa* is a designated feature includes objectives for conditions suitable for reef formation to be maintained (Natural England, 2018). Eastern IFCA defer to Natural England to provide formal conservation advice, and appreciate, as highlighted, ongoing discussions with Natural England will agree suitable mitigation to reduce potential impacts on *S. spinulosa*. Eastern IFCA support and strongly encourage the decision to use micrositing within the identified offshore cable corridor for known areas of *S. spinulosa* reef identified in the footprint.

2.1.2 Southern North Sea Special Area of Conservation (SAC)

The East Anglia ONE North project offshore development area is located wholly within the Southern North Sea SAC, a European Marine Site (EMS) designated for the protection of Harbour porpoise under the Habitats Directive as transposed by the Conservation of Habitats and Species Regulations 2010 and the Offshore Marine Conservation Regulations 2007. EIFCA acknowledges that studies analysing foraging rates in harbour porpoise have found that they feed almost continuously and are therefore highly sensitive to disturbance. EIFCA supports the use of mitigation measures such as establishing a mitigation zone and the activation of acoustic deterrent devices prior to soft-start during piling to aim to remove marine mammals from the mitigation zone prior to the start of piling to reduce the risk of any physical or auditory injury.

Sandeels, which inhabit and spawn in the project area, represent one of the most important prey species for Harbour porpoise. Eastern IFCA acknowledges that the Environmental Statement determined that there will be a low magnitude of impact on fish species and that the impact of the proposed works on prey species of the Harbour porpoise are of 'minor adverse significance'.

We defer to Natural England for formal conservation advice on this matter, however we would like to once again highlight Eastern IFCA's concern about the scale of both licensed and planned offshore activities in the Southern North Sea, because of cumulative effects these could have on seabed habitats. Sandeels depend on the presence of adequate sandy substratum in which they burrow and are demersal spawners that lay eggs on the seabed. Whilst we appreciate the difficulty in studying potential wide-scale impacts of all offshore activity, this is an important issue requiring further consideration.

2.2 Policy EC3:

Whilst the East Marine Plans state that proposals that contribute to offshore wind energy generation within the East Marine Plan area should be supported, consideration needs to be made to the cumulative impacts that developments within the area, i.e. The East Anglia TWO project and Sizewell C New Nuclear Power Station etc., and adjacent areas have on the ecosystem. Eastern IFCA suggests that all cumulative effects associated with the combined impact of all cited projects should be considered. This is particularly important in the inshore waters of the Southern North Sea, which contains extensive development areas for offshore wind farm development and aggregate extraction and has been identified as being suitable for further expansion regions, with East Anglia identified as a suitable region for project proposals during Round 4 of Crown Estate leasing, and with the Yorkshire Coast and The Wash under further consideration (The Crown Estate, 2018).

Many existing – or consented but not yet constructed – projects lie off the coast of Lincolnshire and East Anglia, with export cables running through inshore waters to make landfall in Lincolnshire, Norfolk and Suffolk. The region is also important for marine aggregate resource, with many active or planned dredging areas in existence – for example the East Coast dredging region has affected an area of sea bed totalling over 195.73 km^2 between 1998-2017 and contributes over one third of the UK's marine aggregate resource (The Crown Estate and BMAPA, 2018). The government recently highlighted the need to strategically address cumulative impacts of offshore windfarms on "other users of the sea space such as navigation, fishing and dredging" in order to deliver offshore wind energy in a sustainable way, as well as the need to "better understand the cumulative impacts, both in the ecological and socioeconomic arenas: including birds, marine mammals, navigation and fisheries, and coastal and onshore communities affected by associated infrastructure" in order to continue to support the fast pace of windfarm deployment in UK and European waters (GOV.UK, 2019).

The cumulative impacts of multiple windfarms and dredging areas on marine life and on the viability of the inshore fishing industry need to be properly considered during planning and should be informed by full consultation with relevant stakeholders. We suggest that particular effort is required in engagement with inshore fishery stakeholders – a sector that is not well co-ordinated or represented but holds a valuable knowledge base of the marine environment and is potentially at greater risk of impact than larger marine sectors. The impacts should be considered in combination, highlighting any potential cumulative effects associated with the application and guiding decision making and plan implementation in a stepwise approach.

2.3 Policy FISH1, FISH2 and ECO1:

Any activity that causes a disturbance to the sea bed has the potential to impact fish spawning or nursery areas and could have a negative impact on fish populations and marine ecosystems. The East Anglia ONE North cable corridor falls within nursery and spawning grounds for many fish species including sandeel, whiting, sole, cod, Tope shark and Thornback ray (Ellis *et al*., 2012). The proposed works have the potential to cause physical disturbance, increase seabed height and increase suspended sediments, with sediment being released into the water column and dispersed with the tide and therefore, EIFCA recommends that the MMO considers the value of undertaking a regional study to examine potential overall impacts of offshore activities (including wind farm-related works, aggregate extraction and demersal fishing) on fish spawning and nursery grounds in the southern North Sea. We consider this is in keeping with the government recommendation for a strategic assessment of cumulative impacts of offshore wind farms (GOV.UK, 2019) and is likely to be a piece of work beyond the scope of a single developer.

2.4 Policy CAB1:

Policy CAB1 of the East Marine Plans states that "*preference should be given to proposals for cable installation where the method of installation is burial*" (HM Government, 2014). Eastern IFCA supports commitments made by the Applicant to bury, as far as possible, the offshore export cables with target depths of between 1m and 3m and according to Environmental Statement (Chapter 6, 6.5.10.4, 154) "*the total worst case estimates for export cable protection required have been estimated based on up to 5% of the export cables being unable to be buried because of ground conditions and therefore requiring cable protection*".

However, Eastern IFCA note the project description states that where cables become unburied over time as a result of mobile sediments, the use of alternative methods of

protection may be required. Alternative protection methods could include rock placement, concrete mattressing, frond mattressing, and/or the use of uradact. These alternative methods are not in keeping with the East Marine Plans. Eastern IFCA have concerns over the requirement for rock armouring cable protection, due to the potential impacts on soft-sediment habitats and on the fishing industry. Recent experience of cable installation in The Wash and North Norfolk Coast Special Area of Conservation (SAC) have shown operation and maintenance requirements have increased significantly beyond initial projections with subsequent increases in seabed disturbance and exclusion of fishing activities where cables cannot be buried. This has further potential to increase in-combination effects with other activities. Every effort should be made to maximise the length of cables that are buried and maintain burial over time. Using cable armouring instead of cable burial increase the likelihood of adverse long-term environmental and fisheries impacts.

3. Electromagnetic fields (EMF)

Eastern IFCA holds concerns about the proliferation of marine electricity cables off the East Anglian coast and the potential – but very poorly understood – impacts of electromagnetic fields on marine life. Although the applicant "*is committed to burying offshore export cables where possible (between 1m to 3m), reducing the effects of EMF and also reducing the need for surface cable protection*"(6.1.10 Chapter 10 Fish and Shellfish Ecology, pg. 17, section 10.3.3 Mitigation and Best Practice) , we would like to highlight that there are appreciable gaps in the scientific literature as to the potential effects of EMF emissions from subsea cables on marine fauna, and therefore there remain uncertainties in the ability of the Applicant to determine that there will be no adverse effects on fish and shellfish ecology. Of particular concern are potential impacts on elasmobranchs (sharks, skates and rays), which are the most widespread electrosensitive fish group of UK coastal waters. There is also recent evidence (Scott et al., 2018), which is not referenced in the Environmental Statement, to suggest that electromagnetic fields emitted from subsea power cables could impact on the behaviour and physiology of edible crabs.

Eastern IFCA would very much like to see regular updates on the latest understanding of electromagnetic fields and their impacts on marine life, which could develop significantly during the examination. Eastern IFCA defer to Natural England and Cefas for formal conservation advice on impacts of electromagnetic fields and whether precautionary mitigation should be required.

4. General comments

Eastern IFCA is continually seeking to improve how we respond to consultations, both in terms of efficiency and content. Therefore, if any of the points raised in this response are reflected in the outcome we would appreciate being informed.

Please do not hesitate to contact me should you have any queries on the above response.

Yours sincerely,

Rebecca Treacy
Marine Science Officer
Eastern Inshore Fisheries and Conservation Authority

rebeccatreacy@eastern-ifca.gov.uk

References:

Ellis, J.R., Milligan, S.P., Readdy, L., Taylor, N. and Brown, M.J., 2012. Spawning and nursery grounds of selected fish species in UK waters. *Sci. Ser. Tech. Rep., Cefas Lowestoft*, *147*, p.56.

Garthe, S. and Hüppop, O., 2004. Scaling possible adverse effects of marine wind farms on seabirds: developing and applying a vulnerability index. *Journal of applied Ecology*, *41*(4), pp.724-734.

6 North Lynn Business Village, Bergen Way, King's Lynn, Norfolk PE30 2JG
T: +44(0)1553 775321 **F:** +44(0)1553 772031 **E:** mail@eastern-ifca.gov.uk **W:** www.eastern-ifca.gov.uk