

The Planning Inspectorate
National Infrastructure Planning
Temple Quay House
2 The Square
Bristol
BS1 6PN

Our ref: HA/2020/121925/01
Your ref: EN020022

Date: 19 February 2020

Dear Sir or Madam,

Application by AQUIND Limited for an Order Granting Development Consent for the AQUIND Interconnector.

Please find enclosed our relevant representation for the AQUIND Interconnector Project, which follows after our introductory comments below:

1. The Role of the Environment Agency

The Environment Agency has a responsibility for protecting and improving the environment, as well as contributing to sustainable development.

Our work helps to support a greener economy through protecting and improving the natural environment for beneficial uses, working with business to reduce waste and save money, and helping to ensure that the UK economy is ready to cope with climate change. We will facilitate, as appropriate, the development of low carbon sources of energy ensuring people, and the environment, are properly protected.

We have three main roles:

We are an environmental regulator – we take a risk-based approach and target our effort to maintain and improve environmental standards and to minimise unnecessary burdens on business. We issue a range of permits and consents.

We are an environmental operator – we are a national organisation that operates locally. We work with people and communities across England to protect and improve the environment in an integrated way. We provide a vital incident response capability.

We are an environmental advisor – we compile and assess the best available evidence and use this to report on the state of the environment. We use our own monitoring information and that of others to inform this activity. We provide technical information and advice to national and local governments to support their roles in policy and decision-making.

One of our specific functions is as a Flood Risk Management Authority. We have a general supervisory duty relating to specific flood risk management matters in respect of flood risk arising from rivers classified as ‘Main Rivers’ or from the sea.

2. Environment Agency area affected

The proposed interconnector cable passes through one Environment Agency area – Solent & South Downs.

3. Pre-application engagement

Consultants for the Applicant (AQUIND Limited) approached us in March 2018 to discuss their initial plans for the project and the potential environmental issues that they would need to address. Since this early contact we have had a number of meetings and email correspondences with representatives of the Applicant (namely WSP UK Limited and Natural Power Consultants Limited).

On 29 April 2019, we provided a formal response to the Applicant’s Section 42 (Planning Act 2008) consultation .

4. Outstanding information and issues of concern

Our relevant representation outlines where further work, clarification or mitigation is required to ensure that the proposal has no detrimental impact on the environment.

In regard to this proposed development, our particular focus has been on the following matters:

- Protection of sensitive groundwater at the site of the converter station at Lovedean. The site is located within the Bedhampton and Havant Springs Source Protection Zone 1 (see **Figure 19.4 of Document Ref 6.1.19** (Environmental Statement - Volume 1 - Chapter 19 Groundwater)). The groundwater is utilised by Portsmouth Water to provide public water supplies to around 250,000 homes. There are known to be karstic features present within the underlying bedrock in the converter station area. Karstic features can form when water dissolves channels and flow paths in an underlying bedrock. These can result in very rapid direct pathways for contaminants to underlying sensitive geology. Therefore, the protection of groundwater at this location from the risk of pollution both during construction and operation of the converter station is of paramount importance.
- The methods for the proposed cable route where it crosses designated Main Rivers, and the impacts of these techniques on surface water receptors and associated ecology such as fish, eel, otter and water vole.

The Applicant has acknowledged the requirement to obtain Flood Risk Activity Permits (FRAPs) from us before commencement of works in, under, over or within 8 metres of the top of the bank of any designated Main River. However, we have not yet received any detailed methodology for such works, and therefore are not able to comment on this aspect, nor indicate whether such permits can be obtained, or advise upon any requirements that would be applied to such permits if obtained. The Applicant does not intend to disapply the need for FRAPs under section 150 of the Planning Act 2008, and has stated their intention that once they have appointed contractors, those contractors will liaise with us to obtain FRAPs

prior to commencement of works. Should this position change, and the Applicant intends to seek disapplication of the need for FRAPs, we will expect such methodologies to be provided for our examination (with sufficient time granted for this work) and also recommend that a number of protective provisions are included in the DCO.

Note for the Planning Inspectorate: the Environment Agency have responsibility for protecting designated 'Main Rivers'. Local Authorities are responsible for protecting 'Ordinary Watercourses'. There are both Main Rivers and Ordinary Watercourses along the proposed cable route. The applicant would separately have to apply for an Ordinary Watercourse Consent from the Lead Local Flood Authority where required.

- The impacts of offshore cable installation techniques on diadromous migratory fish namely Salmon, Sea Trout, Allas and Twaite Shad, Sea and River Lamprey. In particular, the risks posed by increased suspended sediments including impacts on migratory routes, associated reduced oxygen and respiratory effects on these fish.
- The potential impacts of the project on European sites designated for nature conservation, as well as the potential risk to Annex II diadromous fish (under the *Habitats Directive*, as transposed in UK legislation by the *Conservation of Habitats and Species Regulations 2010*).
- The potential impacts on freshwater and transitional waterbodies under the Water Framework Directive (WFD).
- Potential impacts of the cable installation upon planned coastal flood defences (being delivered by the Eastern Solent Coastal Partnership) along the coast of Portsea Island. These coastal defences are of vital importance for communities and seek to prevent 8,000 homes and businesses from flooding. Our understanding is that the Applicant has had pre-application engagement with the Eastern Solent Coastal Partnership, and there are on-going discussions regarding the potential crossing under the high ground bund at Milton Common.

- Assessment of the impacts on marine water and sediment quality, Shellfish Waters and Bathing Waters.

During the pre-application engagement with the Applicant's representatives, we have been given sufficient reassurance in regard to the above matters to conclude that we do not have any outstanding issues of significant concern. However, there remain some matters that require clarification as detailed in our relevant representation below. For these matters, it may be acceptable for additional information to be provided later, by requirement. These are:

- Groundwater and land contamination;
- Flood risk and watercourse crossings – including construction methodologies; and
- Biodiversity and fisheries – including biodiversity net gain/enhancement.

Please do not hesitate to contact us if you require any further information. We look forward to continuing to work with the Applicant to resolve the matters outlined above and contained within our relevant representation, finalise any necessary requirements, and to ensure the best environmental outcome for this project.

Yours faithfully,

Anna Rabone

Sustainable Places Advisor

Environment Agency, Solent & South Downs

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Relevant Representation on behalf of the Environment Agency

Summary of outstanding issues

1.1 Converter station at Lovedean

The proposed converter station is to be located within a parcel of land at Lovedean, Hampshire. The exact location of the converter station within this parcel of land is not yet confirmed, with two options presented in the submitted document entitled 'Indicative Converter Station Layout Plans' (**Document Ref: 2.7**). However, we note that the Applicant intends to notify relevant parties once a decision has been made about the exact location (Schedule 2, paragraph 4 of the submitted draft DCO (**Document Ref: 3.1**)). We find this satisfactory.

As noted above, this location, regardless of which of the two locations are picked for the converter station, is located upon the Bedhampton and Havant Springs Source Protection Zone 1 and Principal Aquifer. Portsmouth Water utilise this aquifer for public water supply to around 250,000 homes within the area. This is the largest spring supply of water in Europe.

Karst features are present in the area. Karstic features can form when water dissolves channels and flow paths in an underlying bedrock. These features are known for rapid direct pathways to the aquifer. To provide context, a Source Protection Zone defines the travel time of a contaminant from ground to abstraction as less than 50 days. However, in Chalk with Karst features present, travel time can be in hours rather than days. Therefore, it must be appreciated that such rapid pathways mean that there is little time to prevent contaminants from reaching the public water supply. The Applicant has identified two Karst features within the converter station area, and propose to 'block' these features – this is an approach we support.

We have advised the Applicant to keep a watching brief for such features during construction as there may be further Karst features present that are not yet identified.

Should the aquifer be rendered unusable in order for work to be done to remove pollutants and/or allow turbidity to disperse, this will impact on the availability of water for homes in the area, which in the worst case scenario could cause grave difficulties for water supply if this occurred during a time of significant water stress (i.e. during drought). The South East area is classified as a water stressed area¹.

The risks to the public water supply from the converter station are as follows:

- Spills/leakages from the storage of hazardous substances (such as from diesel oil for generators, glycol for cooling purposes). In particular, there are known Karst features on the site which can create quick pathways for hazardous substances to reach the aquifer.
- Infiltration of water contaminated with hazardous substances following any efforts to deal with incidents such as a fire on the site.
- Piling activities during construction causing turbidity.
- Spills/leakages of hazardous substances from construction activities (such as petrol/diesel or oil leaks from construction equipment and vehicles).
- Leaks from foul drainage on site.

We, alongside Portsmouth Water, have sought sufficient reassurance during pre-application engagement with the Applicant that robust measures will be put in place to decrease the risks as far as possible. For the most part, we have been given such reassurance and support the general principles proposed by the Applicant and set out

¹ <https://www.gov.uk/government/publications/water-stressed-areas-2013-classification>

in the Aquifer Contamination Mitigation Strategy document (**Document Ref: 6.3.3.6**). The main principles are summarised below:

- There will be no underground storage of hazardous substances. It is recognised that there will be an underground dump tank for oil containments to be contained in the event of failure. This will be double lined and have the necessary controls to isolate any discharge as necessary.
- All hazardous substances will be stored in double-skinned tanks and these will be contained within concrete bunded areas, with alarm systems in place to identify spills/leakages quickly. Bunds will only discharge run-off from rain water, with appropriate automatic shut-off systems in place to prevent discharge in the event of contaminants being detected as present.
- All oil pipes will have alarm systems to identify leaks/spills quickly. They will be located in fully impermeable (concrete) channels, in order to contain any leaks.
- The foul drainage system will be a small volume cesspool (i.e. a fully sealed double lined container) for the convenience of any personnel visiting the site, and this will be pumped out at appropriate intervals. The shower facility (required as some electrical equipment will contain SF6 gas) will also connect to the cesspool. An alarm will be connected to the cesspool.
- Surface water drainage with the potential for containing contaminants such as oil, will be directed to oil separators/interceptors prior to discharge.
- Piling will utilise pre-cast driven piles.
- Pollution prevention measures will be utilised during construction activities.

It should be noted that the converter station will be an unmanned site. The Applicant will monitor the site 24/7 remotely via alarms and CCTV (referenced by the Applicant as a SCADA system).

Whilst we are reassured that in general, suitable protections will be put in place, we still require clarification on the following points:

- The response time for any personnel to be on site in the event of any alarm trigger. We would hope the response times would be within hours after any alarm has been triggered indicating a significant possibility of hazardous substances being leaked/spilled, and in the event of an incident such as a fire.
- Details of the maintenance schedule for checking alarms, pipework and equipment. As this is unlikely to be able to be provided until the Applicant has appointed a contractor, we would recommend this is specified in a requirement within the DCO.
- A document identifying a Pollution Incident Plan. As this is unlikely to be able to be provided until the Applicant has appointed a contractor, we would recommend this is specified in a requirement within the DCO.
- During earlier engagement with the Applicant, it was agreed that the Applicant would endeavour to cover the transformer, to minimise rainwater collection in underground storage tanks. We can see no evidence within the submitted documentation that this is to be done, and would like this to be clarified.
- Details of how fire water will be contained in the event of a fire, and how the water will be subsequently dealt with.

There is minimal reference to groundwater within the Onshore Outline Construction Environment Management Plan (CEMP) (**Document Ref: 6.9**). In particular, though they appear on maps, there is no specific reference, assessment or acknowledgement of the Source Protection Zone 1 (SPZ1), which covers a significant proportion of the northern section of the development. Impact to the groundwater quality in the Source Protection Zone 1 could have potentially strategically significant impacts to regional water supply. As such, we regard this as a major shortfall of the CEMP. We would request that this document is revised, and that Requirement 15 of Schedule 2 to the draft DCO (**Document Ref: 3.1**) is amended to provide that the Environment Agency, in addition to the relevant planning authority, must also be required to approve the

CEMP prior to the commencement of any phase of the authorised development. We would expect the CEMP to include a Piling Works Risk Assessment.

Further specific comments on the Onshore Outline CEMP (**Document Ref: 6.9**) are shown below:

- Listed Receptors - there is no specific reference here that the converter station is located in a Source Protection Zone. While “Water Users” and “groundwater” is included in the potential receptor list, there is no explicit reference to the Source Protection Zone.
- We have significant concerns regarding the spill management procedure specified in paragraph 4.6.2.1. This does not appear to give any attention to risks to groundwater. This is a major concern in an area of Source Protection Zone 1, where losses to ground could have potentially strategically significant impacts to regional water supply.
- Section 5.6.1 (Groundwater) - this again makes no specific references to the Source Protection Zone 1 or underlying Principal Aquifers. Many of the measures to protect groundwater appear to relate to surface water (silt traps), or air (dust suppression), and their relevance to groundwater is not clear.
- Section 5.6.1.4 – there is no reference to our [‘Groundwater Protection Position Statements, February 2018, Version 1.2’](#). This is our core document on groundwater protection and should be referenced.
- Section 6.2.5.4 – the Applicant notes that permits may be required from us for dewatering and discharges to ground/surface water. However, there are no specific volumetric limits specified. We would comment that returning clean uncontaminated unaltered groundwater back to the same aquifer it was abstracted from may not require a permit.
- Section 6.2.5.5 (Drilling fluid losses) - we welcome this section, though if there are any significant losses of drilling fluid (even in the Lambeth group strata),

Portsmouth Water and the Environment Agency should be informed immediately. This should be reflected within this section.

- Section 6.3.5 - we welcome the reference to a temporary surface water management plan for this section of the development. We can confirm that we would wish to be consulted on this management plan.
- Section 6.3.5.11 – similarly to our comments on section 5.6.1.4, this section should include reference to our groundwater protection position statements.
- Section 6.4.3.1 - we welcome the recommendation in this section regarding groundwater, where the Applicant is identifying that the trenches in the vicinity of Kings Pond and Denmead Meadows will be undertaken at the end of summer.
- Section 6.9.2 - measures to ensure that groundwater (Secondary Aquifers) and surface water are protected during any works affecting the landfill should be outlined in this section.
- In the event of contamination of land or ground water it is important that any remediation measures taken in accordance with Requirement 13 of Schedule 2 to the draft DCO (**Document Ref: 3.1**) have a positive effect upon the contamination. Given the sensitivity of groundwater in the vicinity of the converter station, we would request that Requirement 13 of the draft DCO (**Document Ref: 3.1**) is amended to provide for the Environment Agency to approve, in addition to the relevant planning authority, any verification report that is produced following a contamination incident.

1.2 Groundwater protection along the cable route

We have advised the Applicant that some of the cable route itself falls within Source Protection Zone 1. During laying of the cable, the Applicant's contractors should keep a watching brief for Karst features, and ensure sufficient pollution prevention measures are in place to minimise risks of contamination of the underlying aquifer.

If any significant unexpected contamination is encountered during the development, then we should be informed on the extent and nature of any contamination. The Onshore Outline CEMP should include a method statement on steps and safeguards that will be utilised to ensure that any contamination present along the route is not mobilised into the wider controlled water environment.

We note that Chapter 19 Groundwater (**Document Ref: 6.1.19**) references Phase 1 and Phase 2 ground investigation works (section 19.5.4.4). It would be helpful to have sight of these reports.

1.3 Main River crossings

There are 8 Main Rivers along the cable route; 5 of these will be crossed by the cables (as specified in 'Appendix 20.3 Watercourses Summary' (**Document Ref: 6.3.20.3**)):

- Soake Farm South;
- Old Park Farm;
- North Purbrook Heath (North);
- Broom Channel; and
- Great Salterns Drain.

During our pre-application engagement with the Applicant, we advised that our preferred method for crossing a Main River is Horizontal Directional Drilling (HDD), as this presents the least risk in terms of flood risk and effects on migratory fish and other species using the river. HDD essentially involves drilling underneath the river.

An alternative method to cross is open trench cutting, which involves excavating a trench, installing the cable, and refilling the trench. This method poses a much greater risk to the fish, ecology and geomorphology of a river system.

The Applicant will be using HDD to cross the following Main Rivers:

- Soake Farm South; and
- Broom Channel (this is the longest HDD crossing).

The Applicant will be crossing the other 3 Main Rivers by utilising existing culverts with the carriageway.

We are in principle supportive of the proposed methods for crossing the 5 Main Rivers. However, we have not yet seen any detailed methodology for these works (i.e. HDD crossings, and crossings utilising the existing culverts). The Applicant is aware that they will need to obtain Flood Risk Activity Permits (FRAPs) from us for these works. The Applicant is not proposing to apply for the disapplication of the FRAPs under section 150 of the Planning Act 2008, and has stated their intention that once they have appointed contractors, those contractors will liaise with us to obtain FRAPs prior to commencement of works. The detailed methodologies will be an important aspect for us to determine whether a FRAP can be issued for any particular works, and therefore we are unable to provide certainty at this stage that the Applicant can obtain such permits. We are also unable to advise upon any particular requirements that may be applied to such permits, if obtained.

In regard to the proposed crossings utilising existing culverts, it should be noted that culverts are critical assets, and the issue of a FRAP for those works will be dependent on a methodology that provides sufficient evidence that the works are not causing damage to the culvert (whether such culverts are owned/maintained by the Environment Agency or other third parties).

We would recommend that a requirement is included in the DCO to cover the need for such permits to be obtained prior to works being undertaken.

Note for the Planning Inspectorate: Any works in, under, over or within 8 metres of the top of the bank of any Main River require a Flood Risk Activity Permit (FRAP) from the Environment Agency under the Environmental Permitting (England and Wales) Regulations 2016.

1.4 Landfall and Langstone Harbour

The cable makes landfall at Eastney, and will then be installed using HDD underneath Langstone Harbour. This is the preferred method for reducing any impacts on the ecology of Langstone Harbour, which is highly designated for nature conservation (Chichester and Langstone Harbours SPA (Special Protection Area), Solent Maritime SAC (Special Area of Conservation and Langstone Harbour SSSI (Site of Special Scientific Interest) – see **Figure 16.1 of Document Ref: 6.1.16** (Environmental Statement - Volume 1 – Chapter 16 Onshore Ecology)). We are therefore supportive of the HDD method for this location. However, a FRAP will need to be obtained prior

to the commencement of such works and so our comments in section 1.3 above about obtaining a FRAP also apply to this aspect of the project.

1.5 Flood risk across the cable route

Given the nature of the development (cables being installed underground), flood risk is not of particular concern across the cable route. Our concern would be regarding activities during the laying of the cables and ancillary works (such as storage of soil, etc), to ensure that these activities do not increase flood risk elsewhere. In general, we can support the approach proposed by the Applicant to manage flood risk.

The converter station site is located in Flood Zone 1 (low risk of flooding from rivers or the sea). Therefore, this is of no concern in regard to fluvial or tidal flood risk.

The Lead Local Flood Authority (Hampshire County Council) may have comments regarding surface water flood risk across the cable route.

Note for the Planning Inspector: the Environment Agency are responsible for managing the risks of flooding from fluvial and tidal sources. The Lead Local Flood Authority are responsible for managing the flood risks from surface water drainage and groundwater (unless it is within an area that has critical drainage problems – there are no critical drainage problems within the boundary of this project). This separation of responsibilities was set out in the Town and Country Planning (Development Management Procedure) (England) Order 2015 which came into force on 15 April 2015.

1.6 Interaction with coastal defences

The Applicant has been in pre-application discussions with the Eastern Solent Coastal Partnership regarding the potential interactions of the cable with the coastal flood defences, and possible overlapping of their respective construction activities whereby space may be needed for construction compounds, etc.

The delivery of the coastal defences is of utmost importance for the community of Portsea Island. Whilst the details of any agreement would be between the Applicant and Eastern Solent Coastal Partnership, we would expect to see written confirmation during the DCO process that the coastal flood defences will not be negatively impacted by the cable during construction and operation.

We understand specifically that there are on-going discussions relating to the cable crossing of the high ground bund for flood risk protection at Milton Common. This discussion must be satisfactorily concluded prior to any DCO being granted.

1.7 Dewatering

Dewatering is likely to be required during construction as high groundwater levels are likely to be encountered at particular points along the cable route when digging trenches.

The Applicant may need to apply for permits for dewatering activities from us (unless an exemption applies). The Applicant has determined that such permits will be applied for at the relevant time. This is satisfactory to us.

However, we would like to see further details regarding the proposed principles for any dewatering activities. The CEMP should cover these principles.

Dewatering activities will be more of a concern when in the area designated as Source Protection Zone 1, mainly in regard to the pumping and subsequent discharge of water. Sufficient measures should be put in place to ensure that the water discharged does not contain contaminants. Discharges of dewatering water may require an environmental permit from us.

Dewatering activities should not increase flood risk elsewhere.

1.8 Bathing Water

The cable route and landfall site at Eastney are within proximity of the Eastney Bathing Water protected area. Any sediment disturbance in proximity to the bathing water during the Bathing Water season (May to September), has the potential to impact on bathing water quality and Water Framework Directive Assessment compliance by elevating suspended sediment concentrations and potential faecal contamination.

We would like to see details regarding any proposed works in that area during Bathing Water season, and be notified in advance of any works taking place. Ideally, no works which have the potential to disturb sediment during May to September would take place. Further clarification regarding the timing of works is required.

1.9 Biodiversity net gain/enhancement

During a pre-application meeting with the Applicant on 23 July 2019, we stated that a project of this scale should seek opportunities for biodiversity net gain/enhancement. This is in keeping with the Overarching National Policy Statement for Energy (EN-1). Paragraph 5.3.4 of which states that *“The applicant should show how the project has taken advantage of opportunities to conserve and enhance biodiversity and geological conservation interests”*.

At the meeting, we were informed that incorporating biodiversity enhancement would be a key part of the design work going forward. We were informed that the project team were working on identifying opportunities for environmental enhancement/gain. We would wish to see details of the opportunities identified, and which opportunities will be carried forward by the Applicant.

We believe that biodiversity enhancement should be intrinsic to a development of this scale. We are disappointed that this point has not been addressed sufficiently within the submission, and believe this is a missed opportunity for the environment. The cable route is located within and adjacent to areas of high nature conservation value and areas that provide opportunities for biodiversity enhancement.

1.10 Comments on the Draft Development Consent Order

In addition to the recommended inclusions specified in other sections above, we have a few additional comments to make in relation to the Draft Development Consent Order (**Document Ref: 3.1**):

- Article 2(1) – It would be helpful if the definition of “watercourse” distinguishes between ‘Ordinary Watercourses’ (which fall within the remit of Local Authorities) and ‘Main Rivers’ (which fall within the remit of the Environment Agency).
- Article 19(1) – Trial holes, trenches, etc can cause risks of turbidity in underlying aquifers in some circumstances. This section may need to acknowledge that in

areas where Portsmouth Water abstract for public water supplies, prior approval from them should be sought before any digging (of sufficient depth) occurs.

- Schedule 2, paragraph 4 'Converter station option confirmation' – We would seek to be informed of which converter station perimeter option has been decided upon. This section does not specify who will be informed.
- Schedule 2, paragraph 6 – We would also seek to be consulted upon the detailed design for the converter station.
- Schedule 2, paragraph 13 (5) – This should also include reference to consultation with the Environment Agency.
- Schedule 15 (1) – This should also include reference to consultation with the Environment Agency on the Construction Environment Management Plan.
- Schedule 2, paragraph 18 (2) – In the event of a pollution incident, the Environment Agency must be informed as soon as possible by contacting our incident hotline on **0800 80 70 60** (24-hour service). This paragraph says that only the planning authority will be informed.