The Planning Inspectorate
The Square Temple Quay
Bristol
Avon
BS1 6PN

Our ref: AE/2018/122585/01-L01
Your ref: TR030003

Date: 20 March 2018

Dear Sir/Madam

APPLICATION BY PORT OF TILBURY LONDON LIMITED FOR AN ORDER GRANTING DEVELOPMENT CONSENT FOR A PROPOSED PORT TERMINAL AT THE FORMER TILBURY POWER STATION (TILBURY 2) - WRITTEN REPRESENTATIONS. FORT ROAD, TILBURY, ESSEX, RM18 7NR

Thank you for the opportunity to comment further on the application for a Development Consent Order for the proposed Tilbury 2 development. We have inspected the application as submitted and our written representations are provided in this response.

Within our letter we have included updates of progress made since the submission of our relevant representations. Throughout the text we have made reference to a statement of common ground. This is a draft document that has been produced by the applicants and ourselves and which was last updated on 14 February 2018, the document has the reference: XX. Where appropriate we have cross referenced areas where further information has been requested by the Examining Authority via the first written questions and requests for information, issued on 27 February 2018.

1.0 The Role of the Environment Agency

1.1 The Environment Agency is a statutory consultee on all applications for Development Consent Orders. We have a responsibility for protecting and improving the environment, as well as contributing to sustainable development.

1.2 We have three main roles:

(i) 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.

(ii) 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.

(iii) 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 Main Rivers or the sea.

2.0 - Hydrogeology and Ground conditions

2.1 The site could contain contamination from previous uses. The northern part of the new port area was reportedly used for historic tipping, other previous uses of the site could also pose a risk of contamination. Development work at the site, including remediation work and piling, could disturb contamination and open up pollution pathways which could result in pollution of the underlying groundwater.

2.2 A full preliminary risk assessment should be provided by the applicant including sources of evidence that have informed the report. This could include historic maps, operational plans, building blueprints and pollution incidents that have occurred at the site. Currently the draft Construction and Environmental Management Plan (October 2017) (CEMP) refers to the Environment Agency Groundwater Protection: Principles and Practice and this has been superseded.

2.3 A requirement could be used to address the issues related to contaminated land, and we would suggest this should include the following wording:-

Following the granting of the DCO no development shall take place until a scheme that includes the following components to deal with the risks associated with contamination of the site has been submitted to and approved, in writing, by the Environment Agency.

- *A preliminary risk assessment (1) which has identified all previous uses, potential contaminants associated with those uses and a conceptual model of the site indicating sources, pathways and receptors of potentially unacceptable risks arising from contamination at the site.*

- *A site investigation scheme (2), based on (1) to provide information for a detailed assessment of the risk to all receptors, including those off site that may be affected.*

- *The results of the site investigation and detailed risk assessment referred to in (2) and, based on these, an options appraisal and remediation strategy (3) giving full details of the remediation measures required and how they are to be undertaken.*

- *A verification plan providing details of the data that will be collected in order to demonstrate that the works set out in the remediation strategy in (3) are complete and identifying any requirements for longer-term monitoring of pollutant linkages, maintenance and arrangements for contingency action. The verification plan shall be implemented as approved.*

2.4 With respect to piles and ground improvement techniques, a foundation works risk assessment will be required. This should consider the impacts of possible detriment to water quality via infiltration. We would seek to approve this prior to the commencement of piling to ensure that groundwater is protected during development.

2.5 The position we have detailed in relation to hydrology and ground conditions broadly mirrors the situation we included in our relevant representations. We have since been in correspondence with the Environmental Consultant working for the applicant. The scope of investigation is being refined and we have had input on the scope of works. Once the investigations have been completed we will review and comment on these. At present we do not consider that there are any major concerns in this area based on the information provided to date.

2.6 We have agreed the approach to ground investigations and the quantitative risk assessment (GQRA) in the draft statement of common ground (section 4). We have also ruled out the need for alluvium to be considered further within these investigations (section 4 – statement of common ground). Within the statement of common ground we have also agreed with the applicant, that depending on the findings of the GRQA, they could be required to submit a detailed quantitative risk assessment, remediation strategy and verification report. We would seek to review and agree these documents (section 4 – statement of common ground). Whilst engagement has commenced between ourselves and the developers in regards to contaminated land, we are satisfied this could continue after the granting of the Development Control Order and be covered by a requirement as detailed in section 2.3 of this response. As we also stated piling can pose a risk to groundwater and within the statement of common ground we have agreed to review and agree a detailed piling risk assessment that will be undertaken as part of the CEMP (section 4 – statement of common ground).

3.0 - Flood Risk Across the Estuary

TE2100 Policy

3.1 The site benefits from the presence of flood defences, which defend Tilbury to a 1 in 1000 (0.1%) annual probability standard of protection. This figure relates to the risk of flooding at the site in any given year. The site is also within the area covered by the Environment Agency's Thames Estuary 2100 (TE2100) Plan.

3.2 The TE2100 Plan was published in November 2012, setting out our recommendations for flood risk management for London and the Thames Estuary through to the end of the century and beyond. This site is located within the Purfleet, Grays and Tilbury unit, which has a policy of "P4". Policy P4 is to take further action to keep up with climate and land use change so that flood risk does not increase

(Page 44 of TE2100 Plan).

3.3 The TE2100 Plan is an aspirational document, rather than a definitive policy, so whether the defences are raised in the future will be dependent on a cost benefit analysis and the required funding becoming available. If the defences are able to be raised, the proposed development will be protected from flooding during the 1 in 1000 annual probability event in line with climate change.

3.4 The first written questions request a copy of the TE2100 plan (section 1.19.1) which will be provided via that submission.

TE2100 Plan for Tilbury Barrier

3.5 The TE2100 Plan takes an adaptive approach to managing flood risk. One identified option for managing this risk in the future is for a new barrier to provide flood protection to London and beyond which would replace the existing Thames Barrier. The Environment Agency expects to identify the location of a future barrier by 2050 and this will be determined by a number of factors including changing sea levels related to climate change. The Tilbury area has been identified as a potential location for a future barrier.

3.6 It is estimated that construction of a future barrier would require at least 6ha of land on the north bank and thereafter a smaller area to allow for the operation of the new barrier. Construction of a new barrier at Tilbury could potentially have an impact on the future operations at the port and impact on berthing and navigation of ships using the port.

3.7 Given the ongoing work to identify the final location of a new barrier and timescales involved, it is important continuing dialogue takes place between us and the applicant. A draft memorandum of understanding (MoU) regarding this issue has been produced and is in the final stages of being agreed (section 4 – statement of common ground) Further information is provided in section 1.19.6 of the written questions response.

4.0 - Flood Risk on Site

4.1 The National Policy Statement (NPS) for Ports reflects the policy and guidance on flood risk contained within the national planning policy framework and planning practice guidance. Our flood risk maps show the site lies within tidal Flood Zone 3a, defined by the 'Planning Practice Guidance: Flood Risk and Coastal Change' as having a high probability of flooding. The proposal is for a new port and infrastructure corridor, which is classified as a 'water compatible' development, as defined in Table 2: Flood Risk Vulnerability Classification of the Planning Practice Guidance. Therefore, to comply with national policy the application is required to pass the Sequential Test and be supported by a site specific Flood Risk Assessment (FRA).

4.2 We have reviewed the submitted Level 3 flood risk assessment (FRA), by AECOM, referenced 6.2 16.B and dated 03.10.2017, and consider it does not comply with the requirements set out in the Planning Practice Guidance, Flood Risk

and Coastal Change, Reference ID: 7-030-20140306. It does not, therefore, provide a suitable basis for assessment to be made of the flood risks arising from the proposed development.

4.3 Whilst the comments included in the following section relate to our current position, we did receive an addendum Flood Risk Assessment from the developers on 15 March 2018. Due to the late submission of this document and the complex information it contains, it has not been possible to provide an update on flood risk to meet this submission deadline. We will review the submitted addendum Flood Risk Assessment and be in the position to submit further comments in relation to flood risk in the near future.

Flood Risk Modelling

4.4 The site is currently protected by flood defences above the present-day 0.1% (1 in 1000) annual probability flood event, and the defences will continue to offer protection over the lifetime of the development, provided that the TE2100 policy is followed and the defences are raised in line with climate change, which is dependent on future funding.

4.5 Therefore the FRA has undertaken breach flood modelling to determine the flood levels on the site and the rest of the Tilbury flood compartment, both for the existing baseline scenario, and the proposed development. We have a number of concerns with some of the methods used. Our River Thames flood levels have recently been remodelled and updated. We have also recently had new national breach modelling guidance issued. The use of the new flood levels and breach modelling guidance may result in different breach modelling outputs.

4.6 The applicant's consultants should obtain the new flood levels and breach guidance and determine the effects of using the new flood levels and modelling guidance, and whether it would have an impact on the breach modelling. If the outputs would be lower than the current breach modelling then it would be considered acceptable to use the existing breach modelling. If the outputs would be higher, then the breach modelling should be revised.

4.7 We have had discussions with the applicant and they have confirmed that they will obtain the new flood levels and breach guidance and will undertake a comparison with the current modelling. This information was sent to the applicant during January 2018. They have stated they will remodel if they consider the new information would result in higher breach flood levels, or will provide a comparison table to demonstrate why they consider the new information will not result in higher breach flood levels. This approach has been agreed through the statement of common ground (section - 4).

Flood Risk Modelling - Offsite Flood Risk Analysis

4.8 The FRA states that if the breach modelling showed alterations to the flood depths as a result of the proposed works that were less than 100mm deep, then

these were removed from the maps, as with the Light Detection and Ranging (LIDAR) method of modelling, accuracy is considered to be /-150mm.

4.9 We do not consider that this is an appropriate approach as it prevents the full assessment of the offsite impacts of the proposed works being shown, and especially since if the error in LIDAR is in the other direction then the actual difference in flood depths could be 250mm, which would be a significant alteration to flood depths, and therefore needs to be shown on the maps. We consider differences in flood depths below 100mm should be shown on the maps.

4.10 We have had a discussion with the applicant and they have agreed that all changes in level, including those below 100mm, will be shown on the figures that will be included in the addendum to the FRA.

Flood Risk Modelling - Offsite Increase in Flood Depths

4.11 The FRA states that the breach modelling shows that the proposed works will reduce the flood depths in Tilbury town but will increase the flood depths in two fields, one to the east of Fort Road and one to the north west of Tilbury Fort. The FRA only provides depth bands but no specific information on the increase in offsite flood risk.
Without specific information on flood levels and flood depths the precise increase in flood depths is not known, and therefore it will be difficult for the examining authority to determine whether this increase in flood depths is acceptable.

4.12 The FRA should provide information on the specific flood levels and depths in these fields, both with the baseline scenario and the proposed works, and therefore provide details of the precise increase in flood depths, not just the depth bands as shown on the maps. The examining authority will need to determine whether this increase in flood depths is acceptable. The applicant may want to obtain agreement from the affected landowners regarding the potential increases in flood depths in a breach flood.

4.13 We have had a discussion with the applicant and they have agreed that specific flood depths will be included in the report that will form an addendum to the FRA (Section 4 - statement of common ground).

Flood Risk Modelling - Tilbury Flood Storage Areas Embankments

4.14 It is not clear whether the existing embankments for the Tilbury East and West Flood Storage Areas have been taken into account in the breach modelling, as there doesn't appear to be a reduction in flood depths within the flood storage areas, as we would expect. It needs to be ensured that the flood storage areas are accurately represented, as they may not be at risk of tidal flooding, and therefore the potential flood depths in the remaining areas may be higher than currently shown on the maps. The Tilbury East and West Flood Storage Area embankments should be included within the breach model.

4.15 We have had a discussion with the applicant and they have stated that existing level data for the flood storage area has been requested from us and will be

included in the breach model.

Flood Risk Modelling - Infrastructure corridor culvert modelling

4.16 Section 6.2 of the FRA states that the infrastructure corridor reduces flood risk to Tilbury town as it provides a barrier to the flood flows, reducing the flood volumes passing into Tilbury and therefore the resultant flood depths. It then explains how the infrastructure corridor will incorporate culverts, including new culverts over the existing open channels of Chadwell Cross Sewer and East Tilbury Dock Sewer which will 'enable flows from a future breach event on the Tilbury2 site to propagate to surrounding areas similar to the baseline scenario'. This seems to indicate that these culverts were not included within the proposed scenario breach modelling, particularly since section 4.2 on the breach modelling methodology states that 4 culverts were included in the modelling, and there are 4 replacement culverts proposed around Fort Road, and the two new culverts are in addition to these four replacement culverts.

4.17 Without the six new and replacement culverts accurately represented in the modelling, the actual impacts of the infrastructure corridor on the flood risk to Tilbury and other offsite areas is not accurately known.

4.18 It should be ensured that all six of the proposed new and replacement culverts are included within the breach modelling. Consequently the final culvert sizes should be determined at this stage, designed for both fluvial and tidal flood risk (see section on culvert design below), and included within the breach modelling, so the accurate impacts on tidal breach flood risk can be determined.

4.19 Our concerns regarding flood risk modelling could be addressed by the applicant undertaking the appropriate modelling using the new and updated modelling for the Thames. The modelling should demonstrate that the development does not increase offsite flood risk. The breach model should also include Tilbury East and West flood storage area embankments and ensure the impact of the new and replacement culverts are considered. Since the submission of the DCO, these matters have been discussed with the consultants acting for the Port of Tilbury on Tilbury 2, with a view to addressing the issues we have raised and working towards a memorandum of understanding regarding flood risk. We look forward to reviewing any submitted documents related to culvert modelling in due course.

4.20 Whilst we have raised some concerns in relation to modelling we have maintained a dialogue with the applicant in order to assist them in overcoming our concerns and in producing the addendum FRA. As previously stated this document has now been provided to us and we will review this and provide comments in order to update our position.

Climate change allowances

4.21 The breach modelling has used the standard River Thames levels obtained from us, using the usual climate change allowances in the NPPF and PPG. Our previous responses, to the applicant at the pre-application stage, have referenced the NPS on Ports which requires alternative climate change allowances to be

considered for port developments. It needs to be ensured that the breach modelling climate change allowances adhere to the requirements of the NPS, or are precautionary higher, to ensure the correct flood risk impacts over the lifetime of the development are known.

4.22 The FRA should include a calculation of these required NPS climate change allowances and compare them to the new River Thames climate change levels. If the NPS climate change levels are higher than the standard River Thames climate change flood levels then they should be included in the breach modelling scenarios to determine the breach risk, or a worst-case comparison of the NPS climate change flood levels with site levels should be undertaken. This is particularly likely to be required for the H scenario required to be assessed under section 4.13.11 of the NPS on Ports, for critical features of the design of new ports infrastructure which may be seriously affected by more radical changes to the climate. We have taken this to mean elements of the design which must remain operational during the credible maximum scenario, to ensure that the facility can operate and the occupants and staff and the environment remain safe from the potential impacts (e.g. flooding). The FRA should detail whether they have any of these features and therefore whether the H scenario needs to be assessed.

4.23 We have had a recent telecom discussion with the applicant and they have agreed that further explanation is required in the FRA addendum confirming that the applicants do not considered Tilbury 2 as 'Safety Critical Infrastructure' and therefore it is not appropriate to apply the NPS H climate change guidance to this scheme. This approach is agreed in the statement of common ground (section - 4.). As previous noted we have now received the addendum FRA and will provide comments in due course once we have fully reviewed this document.

5.0 - Fluvial Flood Risk

Culvert Design

5.1 Section 6.2 of the FRA states that it is recommended that the proposed new culverts for the Chadwell Cross Sewer and East Tilbury Dock Sewer will be 'suitably sized, so they can accommodate peak flows, including allowances for climate change in accordance with our latest guidance'. However Section 3.3.1 on climate change states that the FRA will not undertake any fluvial modelling of the existing surface water drainage network as there is no history of fluvial flooding in the area for development, and that reference has therefore been made to the Tilbury Integrated Flood Strategy. Therefore it is unclear how the culverts will impact on flood risk.

5.2 The applicant will need to provide cross sections of both the existing and proposed culverts to show that they are using the largest possible diameter of culverts that will fit the watercourse. There should be no reduction in the size of the culverts to ensure that the capacity to carry peak flow is maintained and where possible enhanced. Further the applicant will need to show where water will flow if capacity is exceeded or if the culvert becomes blocked. They need to clearly show

that the proposed culverts will not increase flood risk to people and property both on and off the development site.

5.3 Since the submission of the DCO application we have discussed this issue with the applicants. These discussions will continue with a view to resolving this issue. If the applicant is unable to demonstrate that the proposed culverts would not increase the risk of flooding, they may need to undertake modelling so that the 1% (1 in 100 chance) annual probability flood flows (including 35% climate change allowances) are determined and the culverts are sized to contain the required flows as stated in the FRA.

5.4 We had discussions with the applicants, where they suggested that the culverts should be sized to be no smaller than existing culverts on the watercourses. We informed them that the culverts should be the largest size that can be accommodated within the watercourse, as an existing inadequately sized culvert should not be used as a reason to allow further inadequately sized culverts, as they can increase the risk of blockage as well as reducing the usual capacity of the watercourse and so increasing offsite flood risk. Also since runoff may enter the watercourse between the inadequately sized culvert and the proposed culvert, the inadequately sized culvert should not act as justification for further similar sized culverts downstream. We also reiterated that the FRA should show the location of exceedence flow paths should there be a blockage of the culvert, and demonstrate that the exceedence flows would not increase flood risk to property. If this cannot be demonstrated then the proposed culvert should be modelled. We are willing to review any plans related to the culverts as they are produced.

6.0 - Flood Risk Management

Flood Risk to development

6.1 Section 5.3 of the FRA provides details of the breach flood levels in mAOD in the location of each of the proposed buildings but does not provide site levels or flood depths. Appendix C provides depth maps but only in 0.5m bands. The FRA also does not state the finished floor levels for each building, instead section 6.1 of the FRA states that the finished floor levels should ideally be raised 300mm above these breach flood levels, and states that should the finished floor levels not be achievable due to other design constraints for the site then alternative flood management measures of flood resistant/resilient measures will be implemented as detailed in Section 8.1.

6.2 Section 8.1 states that a ‘Flood Emergency Plan should be developed for the whole site to establish a procedure to reduce the potential for future users of the site being exposed to the flood hazard as a result of a potential breach on the site’. It also states that it is possible that a breach could occur without suitable prior warning for all staff to safely evacuate from the site and therefore a suitable refuge area should be available in the upper levels of the ancillary buildings in the event that a full evacuation cannot take place. However the Flood Emergency Plan has not been provided, and nor have any details of the location or provision of the refuge.

6.3 The FRA does not provide the full flood risk picture of the impacts of a breach

flood event by providing the detailed flood depths on the site and within the buildings, and the mitigation measures proposed for each building, so it is unclear whether the examining authority will be able to determine whether the proposed mitigation measures will ensure the safety of the development. The FRA should also provide details of the proposed site levels in each of these locations, and the proposed flood depths on the site.

6.4 The FRA should specifically state the proposed finished floor level for each building, and so specify whether they will be raised above the flood levels or whether the alternative measures of flood resistant/resilient construction will be used, detailing what measures will be implemented within each building, and the resulting flood depths within each building. The FRA should not contain alternatives, but should detail exactly what is proposed for each building. The Planning Inspectorate will need to determine whether the specific proposed measures are acceptable to manage and mitigate residual breach flood risk to the development.

6.5 The FRA should provide details of where the refuge will be located, what it will contain, and its finished floor level. The examining authority will need to be satisfied that the Flood Emergency Plan is sufficient. Whilst we will review the recently submitted addendum FRA and comment on issues of flood risk management, the local authority emergency planners are the competent body on matters of evacuation and rescue. The examining authority may wish to contact the emergency planners in order to clarify the suitability of the flood emergency plan.

East Dock Sewer

6.6 Whilst the outline surface water drainage strategy is not within our direct remit to comment upon, Figure 7-1 shows the proposed road corridor drainage out falling into East Tilbury Dock Sewer. This channel does not have the adequate conveyance required to accommodate additional flow due to bed level irregularities. These irregularities are associated with the poor footing conditions of Thurrock Highways Ferry Road retaining wall (western extent of scheme). If the East Dock Sewer is not improved then it may not be able to adequately accommodate the proposed surface water flows from the road drainage corridor.

6.7 The retaining wall of the East Dock Sewer, where the road corridor meets the existing road infrastructure at the western extent of the site boundary, is a third-party asset that will need to be repaired/refurbished/replaced in order to permit the required highway works for the development, but also to allow us to safely exercise our permissive powers to restore an appropriate bed level to the watercourse and undertake intermittent maintenance activities to ensure a uniform bed level to aid conveyance. These works will need to be included within the environmental permit applications for the works to the main rivers in order for us to issue a future environmental permit (or consent under the protective provisions).

7.0 - Flood Defences

7.1 The application proposes to construction a link bridge over existing flood defences. The design will need to allow for sufficient space for future maintenance

and upgrades of the defences, ensuring they continue to provide sufficient protection to the site. In addition three crossings of main rivers on the site are proposed and as already stated there are plans to culvert and re-route rivers to enable the development of the infrastructure corridor.

7.2 Whilst some pre-application discussions have taken place with regards to the works proposed for the flood defences, we are yet to receive detailed plans. Following these discussions we understand that the design will need to consider the feasibility of the port's operations, but the applicant will need to demonstrate how protection will be maintained for the site and show how access will be maintained to allow us to carry out maintenance to the defences under our permissive powers. The defences will need to be raised to a future height of 8MAOD.

7.3 The examining authority have requested further information in regards to flood defences which will be included in our response to the written questions (Questions 1.19.2, 1.19.3 and 1.19.4).

8.0 - Ecology

8.1 The size and scale of the development poses a number of challenges in ecological terms. The environmental statement covers the main ecological issues that we would expect to be addressed by the applicant. However in some specific areas we have some remaining concerns that will need to be considered before we can be certain that the development will not cause a negative environmental impact. It must be ensured that any negative impacts of development are addressed satisfactorily with avoidance, mitigation and compensation measures. This principle is agree in the statement of common ground (section - 4).

8.2 The Ecological Mitigation and Compensation Plan (EMCP) needs further exploration to show how mitigation is to be achieved. After considering Section 10.226: Impact on Priority (S41) Habitat, we believe there is a compensation short-fall leaving a residual net loss for certain habitat (e.g. open mosaic). We believe more compensation is required off site for certain habitats to address this issue. The examining authority's first written questions requests more information on this issue, which will be included in that response (Question – 1.2.6). Section 2.3 of the landscape and ecological management plan shows there should be offsite compensation for the 2.5 ha of coastal and floodplain grazing marsh to be permanently lost. Through the statement of common ground (section 5) it has been agreed the applicant will supply us with details of mitigation and compensation plans as part of the ecological mitigation and compensation plan.

8.3 A phasing plan is key for the development so that new habitats on and off site are created well in advance of the destruction of the existing ones. This will ensure there is no loss of biodiversity at the site. Phasing of new habitats will give translocated species a chance to establish. This is particularly important when it comes to the open mosaic habitats. A phasing plan, as referenced above, could be included in the Ecological Mitigation and Compensation Plan. This approach has been agreed through the statement of common ground (section - 5).

8.4 We note that no eel survey has been undertaken because the suitability of the

watercourses are judged to be low. It is hard to be certain of the absence of eels without a survey of the relevant watercourses to avoid a negative impact on them during construction and operation in accordance with the Eel (England and Wales) Regulations 2009. We believe a survey of suitable watercourses for eels should be completed and if appropriate, mitigation and compensation measures for habitats affected should be produced.

8.5 We welcome the intention to retain water voles on the site and to include mammal shelves within the proposed culverts of the re-routed rivers. Cross sections of watercourses and plans are needed to ensure that the biodiversity function of drainage ditches is maximised. The developer should produce detailed designs for the concentric rings of open ditches needed to provide enhanced water vole habitat. The phasing of habitat creation for water voles needs very careful consideration otherwise it may fail due to inadequately established vegetation around the new ponds. A phasing plan should be produced detailing how these concerns may be addressed. This approach has been agreed through the statement of common ground (section - 5.)

8.6 Invasive species should be monitored as the establishment of any plants such as floating pennywort will threaten the success of the wetland habitats. There should be long term monitoring of invasive plant species post construction of compensatory habitats. This approached is agreed through the statement of common ground (section – 4).

8.7 We request the following points form part of a requirement appended to the DCO to address our concerns in relation to ecology. The applicant should provide us with information on how they would address our concerns prior to the commencement of construction. We would review and agree any measures related to the requirement.

- The developer should undertake a survey to confirm that the development will not impact upon eels. If eels are found to be present at the site, they should produce a plan which we will need to agree showing how eels and their habitat will be protected during the development of the site.
- The applicant should clearly demonstrate how mitigation for any loss of habitat will be achieved both on and off site. This should include the phasing of new habitat creation to ensure there is no loss of habitat during development.
- The applicant should provide cross sections of watercourses to demonstrate that the biodiversity function of ditches is maximised.
- The applicant should produce a detailed plan showing how they will deal with invasive species at the site during development and following construction during the operational period.

8.8 We received further information from the applicant in regards to ecology, within a week of the submission of this representation. The information concentrates on ecological issues in relation to eels and saltmarsh. We are currently in the process of reviewing the submitted information and will continue to work with the applicant’s appointed ecologists to resolve outstanding concerns we have in these areas.

9.0 - Water Framework Directive

9.1 The construction of the development and dredging works will need to demonstrate compliance with the Water Framework Directive (WFD). Priority and priority hazardous (WFD) substances are not set down in scoping or impact assessment matrices and appear to be missed off the initial scoping assessment. Some broad term reference to the treatment of these chemicals is included within the impact assessment sections with the inference being they will not leave the sediment and thus levels of transfer to water are largely assumed to be minimal.

9.2 In the event that there remains uncertainty over the risks to water quality whilst undertaking dispersive dredge techniques, we would recommend some additional water sampling for WFD pollutants, to provide confidence of no deterioration, and this could be developed in conjunction with our national Estuarine and Coastal Monitoring and Assessment Service (ECMAS), since the real risks of PAH's transferring from sediment to water in significant amounts in this turbid environment are relatively poorly understood. Further information has been requested on this issue via the written questions and will be submitted within that response (questions – 1.9.3 and 1.19.22)

9.3 In-combination effects did not include the possibility of the construction of a new power station adjacent to the port. If the power station is built then there will be cooling water effluents in close proximity to the port's maintenance dredging operations. The possible thermal uplifts should have been identified as potentially requiring consideration –because increased temperature will affect the solubility of contaminants, and may make dredging riskier for chemical compliance.

9.4 Whilst we accept that the capital dredge could not be affected by a thermal plume once built the Port of Tilbury will have to maintenance dredge quite large volumes of sediments every year. The power station could have little in the way of options to cease discharging whilst dredging is in progress. More protective alternative dredge methods such as water injection methods may be options in this scenario but there are cost implications which the Port of Tilbury should be aware of. The Port would need to ensure operations remain WFD compliant when it undertakes maintenance dredging.

9.5 Further investigation into this operational phase risk should be undertaken in conjunction with the applicants for the power station, to define the level of risk to WFD compliance. If necessary work should be undertaken to seek suitable mitigation strategies that would be mutually acceptable to both operations. At this stage we are aware that thermal plume modelling has not yet been carried out for the power station application. However we believe that engagement between the developers of both the port and power station would be advantageous in resolving this issue.

9.6 A WFD assessment for the maintenance dredge completed separately, informed by an understanding of the chemical nature of the sediment to be dredged, and the baseline conditions that will be prevailing at the time of dredge (to include consideration of any thermal uplifts in the area caused by the power station

discharge, should it be consented). The capital dredge works we accept as likely to be WFD compliant, though the exact dredge methodology will need to be stated and this may affect the levels of risk. It would be appropriate for the Port to provide an updated WFD assessment once dredge methodologies and timings are decided. We would want to review and agree capital and maintenance dredge methodologies. We have provided further details regarding this issue in our response to the written questions (question – 1.9.3).

9.7 The WFD assessment is satisfactory from a terrestrial habitat perspective. Natural channel design is to be specified, and designs of diverted ditches will need to be provided before the application is determined. This approach has been agreed through the statement of common ground (section – 5.). Compensation is provided matching watercourse length and number of ponds, but ideally enhancements should be sought for a development of this scale with greater length of watercourse and number of ponds established. The design of watercourses and ponds should also be exemplary and provide better habitats than those destroyed to aid with offsetting. This approach is agreed in the statement of common ground (section - 5). With regards to the proposed culverts, mitigation measures are proposed and these are acceptable. We require further detail on fish passage measures, the applicant should consider the use of flaps which don't restrict fish and eel passage in the same way as other sluice designs. We are willing to comment on any plans regarding eel passages as plans become available.

10.0 - Environmental Permitting

10.1 Part of the development falls within the boundary of the permit issues to Tilbury Power Station under the Environmental Permitting (England and Wales) Regulations 2016. The permit and controls laid down in it remain in force until surrender by the operator, RWE Generation UK plc. The applicant should be aware that there is a formal process to fully or partially surrender this permit. Supporting information will need to be provided as part of the surrender application. We recommended that the developer and permit holder discuss this to ensure permit surrender links in with development plans.

11.0 Drainage Strategy

11.1 The applicant must ensure they are always discharging clean, uncontaminated surface water. Discharged water should not lead to a deterioration in the water quality of receiving water bodies and rivers. A fuelling facility is referred to in page 35 of the Drainage Strategy. It is agreed through the statement of common ground that any fuel storage will need to be constructed and maintained in accordance with the Control of Pollution (Oil Storage) (England) Regulations 2001 (section – 4).

11.2 The Drainage Strategy also states that a new foul SPS will be constructed. We suggest the applicant discusses this proposal with RWE and their plans for waste water disposal from the new Tilbury Power station. The SPS could be sized to accommodate waste water flow from the new power station or provide ability to increase capacity at a later date.

11.3 The mitigation route map indicates that permeable pavements are being considered as part of a drainage strategy. The permeable pavements should be used as attenuation storage and treatment, and have their bases lined where there may be an unacceptable impact to water quality via leaching of contaminants. Permeable pavements are acceptable for some forms of drainage but where pollution incidents may occur, they may be inappropriate due to not being able to isolate any pollution.

11.4 We welcome the inclusion of green roofs into the development to assist with drainage but more detail is needed on their design and construction to show the impact these would have on the overall drainage at the site.

12.0 – Disapplication of Legislation

12.1 The Applicant seeks to disapply various pieces of legislation (Article 3 of the draft Development Consent Order submitted with the application) which relate to the Environment Agency's consenting regimes.

12.2 The applicant is seeking disapplication of Regulation 12 of the Environmental Permitting (England and Wales) Regulations 2016 in relation to the need for flood risk activity permits. Disapplication of this legislation can only take place with consent from the EA under s150 Planning Act 2008. We are content in principle to agree to disapplication but we would only give such agreement conditionally on the basis that the DCO includes a form of protective provisions to which we have agreed. Also we see no justification for the disapplication to continue beyond the period of construction of the proposed development. We have provided the applicant with our preferred form of protective provisions which they are considering and we hope to agree a form of protective provisions with the applicant soon.

12.3 The applicant also seeks to disapply the legislative provisions relating to water abstraction licensing (s24 Water Resources Act 1991). The Environment Agency issues abstraction licences. We have requested an explanation as to why disapplication of these provisions is necessary. Again disapplication of this legislation can only take place with consent from the EA under s150 Planning Act 2008.

12.4 The applicant also seeks to disapply the Thames Barrier and Flood Prevention Act 1972. This legislation relates mainly to the construction of the existing Thames Barrier. We have requested an explanation as to why disapplication of this Act is necessary.

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