



**Able Humber Ports Ltd
Marine Energy Park
Proposal to build a quay and associated development
on the south bank of the River Humber**

Planning Inspectorate Reference: TR030001

**Summary of oral representations made by
The Environment Agency
at the Issue Specific Hearings held on
12th & 13th November 2012
Unique Reference Number: 10015552**

20 September 2012

Issue Specific Hearing in respect of Cherry Cobb Sands Habitat Regulation Assessment

At the hearings on 12th and 13th November 2012 Ms Carol Bolt, Mrs Susan Manson (Dr Susan Adair) and Mr Daniel Normandale made the following submissions on behalf of the Environment Agency (EA).

- 1. The effectiveness of the proposed Regulated Tidal Exchange scheme at Cherry Cobb Sands and the proposed wet grassland scheme.**
- 1.1 Mrs Manson referred to Able Humber Ports Ltd's (the applicant) submission of 1st November, 2012, which was submitted in response to the Rule 17 letter from the Examining Authority (ExA). The question posed by the ExA was:
- 1.2 Paragraph 1.2.1 of the Non-Technical Summary of the Final Compensation Proposals (EX 28.3), amplified in Section 1.4 of EX 28.3 Part 2, states that since the construction of the Humber International Terminal (HIT) the trend of erosion at North Killingholme Marsh Foreshore has been reversed, to the extent of a 3.5m rise in foreshore level over a ten-year period. Accepting the uncertainty associated with this "dynamic foreshore", if the Able Marine Energy Park (AMEP) quay development were not to proceed, what is the best estimate as to how much of the current inter-tidal mudflat in the quay site would be likely to become salt marsh, and over what period?
- 1.3 The EA welcomed the acceptance by the applicant of our most recent figures on losses within the estuary arising from coastal squeeze, as published in the Humber Flood Risk Management Strategy Habitat Regulations Assessment (HFRMS HRA) (2011). The EA clarified that, as replicated at present, the applicant has not reproduced the assumptions on which these losses are based as reproduced in our submission of 9th November (paragraph 7.2). The assumptions being:
 - The foreshore at Killingholme Marshes is 1.2% of the Middle estuary extent;
 - Losses are evenly distributed within the Middle Estuary.
- 1.4 The EA has not undertaken an analysis to confirm the 1.2% extent of Middle Estuary, nor has it seen any evidence from the applicant to underpin this assumption. The EA has accepted this figure to date, but should significant weight be placed on this percentage, it would be advisable for the ExA to seek clarification on how the applicant has arrived at this assumption.
- 1.5 In addition, the EA confirms that it does not calculate losses and gains over particular stretches of the estuary, but over the entire estuary. The estuary is sub-divided into four zones (Inner, Middle, Outer North and Outer South) as a means for managing our obligations under the Habitat Regulations. As such, the above losses reported, are underpinned by an assumption that losses/ gains are evenly distributed

within the zone of management. In reality, this is not always the case, as seen by the evidence presented by the applicant in EX8.9 in terms of changes in the foreshore in the vicinity of HIT. These smaller scale changes are not seen in our evidence, as they are counteracted by more severe losses elsewhere. The removal of this assumption in the applicant's submission removes the contextual understanding of our work and could lead to misunderstandings.

- 1.6 Mr Upton referred to the Paull Holme Strays (PHS) site as being ineffective and having failed in its objectives. Mrs Manson advised that very different objectives in terms of quantities of mudflat were required to be delivered at PHS compared to the applicant's requirements. We were required to deliver a total of 12.4 ha of mudflat, with the majority of this being for coastal squeeze losses, which are upper shore losses between Mean High Water Springs (MHWS) and the flood defences. The total requirement for mudflat arising from direct losses (as a consequence of direct impacts arising from our flood defence schemes) was 1.4 ha of mudflat. In 2010 (7 years after breach) the PHS site still had over 33ha of mud remaining, obviously still well within our requirements and we expect it to deliver in excess of 12.4 ha of mud for the foreseeable future. There will be a further review of the PHS site's performance after 10 years of the site operating. As the site was breached in 2003, this review will take place during the year 2013-14.

2. The possible impacts of the two schemes

- 2.1 The EA has outlined in detailed the impacts of the schemes in its submission to the applicant of 9th November 2012 (copied to the ExA).
- 2.2 Mrs Manson expressed concerns with respect to the warping up phase of the Regulated Tidal Exchange (RTE) scheme. EX28.3 (Part 3) indicates a greater impact resulting from the RTE scheme than the original managed realignment (MR) proposal. Paragraph 8.4 indicates increase in erosion of Stone Creek of up to 20% (1.8m) per year compared to the original assessment. Dr Dearnaley indicated a significant change to the sluices may be required at the detailed design stage, this has not been explored in the assessments and we request an assessment of the impact of this is carried out. As a result of this we may need to request a further DCO Requirement.
- 2.3 Paragraph 8.5.7 outlines impacts on our tidal outfall at Keyingham Drain and how long our pointing doors will be able to operate. These doors are designed to operate with a specific head of water up and downstream to prevent flooding up through Keyingham drain, while allowing effective drainage of freshwater from the surrounding catchment. However, the tide could be higher as a result of this scheme, resulting in the tidal doors being shut for longer and an increase in the head of water within the Keyingham drain due to the reduced time of discharge. The applicant has indicated there will be a

change in low water as a consequence of the scheme, such that low tide will be higher as a result of the scheme (Environmental Statement (ES) Chapter 32, paragraph 32.6.6). There is also a potential impact from this on our infrastructure, which has not been assessed.

- 2.4 There is erosion potential on the new flood defence and therefore we are recommending the use of an appropriate robust erosion protection along its entire length (EX28.3, Part 3 Fig 8.1). During the warping up phase, there is potential for a significant amount of scour, as further explained in our submission of 9th November (paragraphs 8.0-8.7, and 8.11). We will also be requesting a further DCO requirement to limit the flow regimes within the site.
- 2.5 We are currently working with the applicant in respect of the flood defence agreements and are hoping these will be finally agreed by the close of the examination. We need to be satisfied that appropriate maintenance will be in place.
- 2.6 In response to Mrs Osgerby and Mr Hickling's concerns regarding potential increase in flood risk, Mr Normandale confirmed that the applicant has produced a Supplementary Note (EX36.3) in respect of this issue, which explains the situation. The existing defence at Cherry Cobb Sands is in a poor and deteriorating condition and has not been built to take account of climate change predictions. The EA has asked the applicant to build a new defence that will definitely provide an improved standard of protection and will be in better condition than that currently existing. Although the new defence will be in closer proximity to residential property, it will not be subject to the full force of waves from the estuary due to the presence of the managed realignment site. We hope to secure legal obligations to carry out these improvements in the agreement mentioned above, during the coming week. This is crucial if we are to remove our objection on flood risk in relation to the compensation site.
- 2.7 In response to Mrs Osgerby's concern regarding saline ingress into Keyingham Drain, Mr Normandale confirmed that there will always be some ingress due to the operation of the tidal (pointing) doors. Their purpose is as a flood defence to prevent the tidal water surging up the drain and to enable fresh water to drain out into the estuary. On a monthly basis we close a set of inner tidal doors to allow fresh water to build up behind the doors and then release it at low tide to flush accumulated sediment out of the drain. This is part of regular weekly, monthly and yearly maintenance activities. The applicant's intention to abstract water upstream from Keyingham drain will not impact on this maintenance. We will continue to clear it in this way, which we believe is more hydraulically effective than that suggested by Mr Simon Taylor during the previous day's Hearing. This method also prevents saline intrusion. Mr Taylor suggested that the EA holds open the tidal doors and allows the tide to travel up Keyingham Drain in an attempt to desilt

the channel. However, as explained above that is not actually the case.

- 2.8 Mr Upton requested us to advise the ExA of any other matters relating to the adequacy of the assessment of the impacts of the scheme that we were unable to present at the hearing due to the time-constraints in the preparation for the hearing. These additional matters are presented below, not necessarily in order of importance.
- 2.9 The EA would like a further explanation as to how we can be sure that if the sluices are increased in size (and capacity) to ensure that sufficient water can be impounded at Mean High Water Springs (MHWS) to enable cross filling of the RTE fields during Mean High Water Neaps (MHWN), at detailed design stage this will not in any way impact of the potential hydrodynamic forces (particularly velocity and shear stress) during the warping up phase of the operation of the site. At present this is unclear, and it may be that the EA will request a further DCO Requirement to ensure that it is not possible for a sluice that exceeds a specified capacity to be installed.
- 2.10 A further point in relation to the above is that we do not believe we have seen the evidence (modelling or expert judgement) on the impacts of the 20% increase in erosion within Cherry Cobb Sands Creek during the warping up phase of the RTE/ MR. If this evidence has been presented we would be grateful if the applicant can direct us to where in the submission it can be found. We expressed some of our concerns in our submission of 9th November (paragraph 8.4) as we do not know where the additional 1.8 m per annum of material will be deposited. As we currently understand it, the design of the RTE will be in warping up phase for between 18-36 months, which results in an additional 2.7-5.4m of material to be deposited somewhere. There are potential implications in the vicinity of Stone Creek from this change, which at present we do not believe has been adequately assessed.
- 2.11 Following on from the above points, and the adequacy of the assessment, the EA wish to point the Panel to paragraphs 11.5.1-11.5.2 of EX28.3 Part 3. The text in this section of the report indicates that once the Cherry Cobb Sands Creek has increased in capacity as a consequence of drainage from the MR/RTE, there is the potential to change flows in the wider region. The report states "*the creek is also likely to become a more preferred route for drainage from Foul Holme Sand and also the Compensation Site during the early part of the ebb site while Foul Holme Sand is still inundated*". The EA is unclear on this statement on two counts. Firstly, we were of the understanding that the MR/RTE was to predominantly discharge via the Cherry Cobb Sands Creek. This statement indicates that discharge may be over Foul Holme Sand directly into the main Humber Estuary deep water channel. The EA has seen no assessment of this potential impact, or the potential impacts this may have on the intertidal area at Foul Holme Sands. It may be necessary for us to review both the short and longer-

term compensation requirements if the local impacts were greater than we had previously understood. Secondly, we do not believe we have seen any assessment of the longer-term impacts of the change in drainage from Foul Holme Sands, which is indicated to be potentially via Cherry Cobb Sands Creek. Paragraph 11.5.1 indicates a change in the local hydrodynamics in the region, but we have not seen the model outputs from this assessment. Paragraph 11.5.2 indicates some modelling has been undertaken, but this is not referenced or figures presented. As such we are very unclear as to whether adequate assessment has been undertaken, and secondly, whether the potential impacts of this scheme have been adequately assessed. If Foul Holme Sands were to preferentially drain via Cherry Cobb Sands Creek in the future, we believe this has the potential to have significant impacts on our operation of the tidal sluices at Keyingham Drain/ Stone Creek. In particular the delay in their operation would be significantly greater than the 10-30 minutes per tide indicated in paragraph 32.6.6 (ES Chapter 32, paragraph 32.6.6). In addition, it is also likely to result in a different change in low tide levels within Stone Creek, currently presented at 0.1m above existing low water level (ES Chapter 32, paragraph 32.6.6). EX28.3, Part 3 paragraph 5.3.10 points to Chapter 36 within the ES to consider the above changes, but Chapter 36 (paragraph 36.6.15) refers to both a small reduction in the duration of low tide and a small raising of low tide level as presented in Chapter 32 (see above). As such we do not believe the change in the site operating as an MR/RTE site, with a changed overall site dimension, has been adequately assessed in terms of the impact on the wider hydrodynamics, including drainage from Stone Creek and Keyingham Drain, or how this will change over time as climate change starts to play a potential role in these interactions.

- 2.12 The EA is unsure as to what account the applicant has taken of climate change within their design and assessment of the MR/RTE. From the presentation of EX28.3 (all parts), it appears that the site will have a 100 year design life (EX28.3, Part 3, paragraph 4.6.9), with certain elements in need of potential replacement after 30 years (paragraph 4.6.9). However, the site's Environmental Management and Monitoring Plan (EMMP) (EX28.3, Part 7) at present is for a 10 year duration. It is our opinion that replacement of certain mechanical features of this design needs assessing in terms of feasibility and impact on the functionality of the site pre-construction. The site is at present heavily engineered and we are not clear if there has been adequate assessment of the feasibility of site access post-breach, or the impacts on function of this intervention.
- 2.13 Related to the above point, it is the EA's opinion that as sea levels rise, there is a potential requirement for capital works on the existing breached flood defence. It is our understanding that this defence forms a critical part of the MR/RTE design as currently presented. We welcomed the inclusion of an Embankment Inspection and Maintenance Report (EX36.4), but were confused by the statement that

“the existing embankment ...will offer storm and wave protection to the compensation site and the new defence”. It is our understanding from Figure 8.2 that the existing defence forms the back of the RTE field structure. We require clarification as to whether we have misunderstood the design concept and a further bund is to be built between the existing defence and the operational RTE field or, if our understanding is correct, as to how the RTE fields operate, how the existing defence is to be amended over time to adapt to climate change. The defences either side of the RTE/MR site will continue to function as the primary line of defence for flood risk purposes. At present there appears to be no adequate assessment as to how the RTE fields will cope and adapt to an increased risk of both overtopping and potential breach into the future. Paragraph 4.2 (EX36.4) indicates that *“a standard of protection of 1 in 18 years in 2108 (approximately 90 years after the site becomes functional according to the timeline presented at the specific hearing on 13th November, 2012) should be sufficient to prevent regular overtopping and any significant adverse impact to the compensation site”*. The EA seeks clarification as to where the evidence underpinning the above statement resides.

- 2.14 As indicated at the hearing the EA has not had time to review the response by the applicant to the Rule 17 letter which was submitted on 8th November. In response to Question 6, with particular reference to paragraph 70, the applicant does not seem to indicate that assessment has been made of the final dimensions of the channel and invert level. We may request a further DCO Requirement to ensure that the final channel and invert level are constrained to those currently assessed.
- 2.15 We require further clarification in response to paragraph 77 of the applicant’s submission. The “consideration” of removal of any sediment build up in Stone Creek following bed levelling within the RTE, is not enforceable. This will need to be included within the Legal Agreement between the applicant and the EA in order to secure not just the monitoring of Stone Creek during bed levelling and flushing operations, but also to ensure remedial action following this, if necessary (we note the monitoring of Stone Creek is secured by Requirement 37 in Schedule 11 of the DCO).
- 2.16 We wish to comment on the applicant’s response, dated 8th November 2012 to Question 7, Figure 1 (ExA Rule 17 letter of 1st November), which does not appear to have a full key to enable interpretation of paragraph 80. It is unclear whether just the dotted line refers to the year 2030, and the existing lines refer to 2010. As the current (2010) 2.5m OD contour is not presented, it does not enable a direct comparison to help interpret the degree of change when compared to MHS and MHN. As currently presented there is an indication of a steepening of a cliff along this coastline. As noted in EX8.9 the change was mainly in volume, not area (paragraph 6.1):

This led to raised levels over an area of approximately 60 hectares, with an increase in intertidal area above -2m ODN (1m above MLWS) of 20 hectares. Examination of the ABP bathymetric collector charts shows little evidence of any changes to the total area of intertidal above Chart Datum.

- 2.17 EX8.9 acknowledges there is no apparent slowing in the rate of accretion shown up to 2010, however as this trend has not been previously observed on the estuary, some degree of caution needs to be applied in the extrapolation of the 2.5m OD contour. From the evidence presented in paragraphs 78-82 and Figure 1, it is not clear whether there is any precaution in the 2.5m OD contour line.
- 2.18 In response to Mr Upton's requests for a view on the adequacy of the consultation undertaken by the applicant, Ms Bolt advised that we did not think the consultation had been adequate due to the volume of information received at this late stage in the examination process and the difficulty of considering it properly in the short time available. Important changes have been made to the application as part of the package of information submitted in October (EX28.3). Although there are still questions to be answered, we are keen to, and will continue to work with the applicant to resolve the issues in the time remaining.
- 3. The requirement for over-compensation (item 4 on the Agenda)**
- 3.1 The EA's views on the issues in respect of this proposal are outlined in section 13 of our letter to the applicant of 9th November 2012. Ms Bolt confirmed that this site lies within the red line boundary of the Able Humber Ports: Northern Area (often referred to as the Able Logistics Park) planning application. This application is currently outstanding, pending the completion of a legal agreement with the EA in respect of continued maintenance of flood defences. These negotiations have stalled and if they are not resolved to a satisfactory conclusion in the near future, we will almost certainly use our statutory powers to enter the site and construct a cross-bank (as outlined in our summary of oral representations made at the previous HRA Hearings held on 11th/12th September – see pages 4-6 and Appendix D). The defence adjacent to this over-compensation proposal will continue to deteriorate and will have adverse consequences for the use of this site as a wet grassland. The SoS, after having carried out his Appropriate Assessment, may conclude that the over-compensation at East Halton is essential to securing the coherence of the Natura 2000 site (as per our submission 9th November, paragraphs 13.0-13.7) but if we proceed to build the cross bank the necessary appropriate functioning habitat will not be deliverable.
- 4. The implementation process (item 3 on the Agenda)**
- 4.1 Ms Bolt advised that the EA has an issue with the implementation timetable provided by the applicant at this Hearing. The timetable shows only 3 months between the construction of the new flood defence embankment and the breaching of the existing defence. The

new defence will need to be allowed to settle and vegetation to establish prior to the breach of the existing defence (this position was outlined in paragraph 4.127 and Appendix L (Statement of Daniel Normandale) of our Written Representations, submission of 29 June 2012). A winter period will be required between completion of the new defences and breach of the old defences, which could delay the timetable by 9-12 months.

5. The operation of the Environmental Monitoring and Management Plan

5.1 Ms Bolt advised that the monitoring undertaken will need to be Water Framework Directive (WFD) compliant. She also raised the issue of sustainability of the RTE scheme as the plan appears to cover 10 years with no indication of what happens after this period. The EA raised these concerns in paragraphs 8.8-8.9 in our submission of 9th November.

5.2 Mr Gibbs requested the EA provide clarification with regard to the WFD and deterioration in status or condition of water bodies. We confirm that the issue of concern in respect to water bodies is the deterioration in status.

5.3 The EA wish to refer the ExA to the National Policy Statement for Ports, and specifically paragraphs 5.1.22 and 5.1.23 with regard to both capital and maintenance dredging. In paragraph 5.6.7 (duplicated below for ease of reference)

The decision-maker should satisfy itself that a proposal has regard to the River Basin Management Plans and the requirements of the Water Framework Directive (including Article 4.7) and its daughter Directives, including those on priority substances and groundwater. The specific objectives for particular river basins are set out in River Basin Management Plans. The decision-maker should also consider the interactions of the proposed project with other plans such as Marine Plans, Water Resources Management Plans and Shoreline/Estuary Management Plans.

5.4 We have advised the applicant on the suitability of their WFD Assessment throughout the Examination period. Under WFD, “deterioration” has its own specific meaning in relation to the Directive. The decision maker should not allow movement from one classification to another lower classification for any quality element (biological elements or supporting elements) for the water body (or adjacent water body) where the plan or project will occur. We have attached (at Appendix A) the UK TAG guidance note (UK TAG is a partnership of the UK environment and conservation agencies which was set up by the UK Administrations. It was created to provide coordinated advice on the science and technical aspects of the European Union’s Water Framework Directive (2000/60/EC)) on this to further assist the ExA in its decision of the application with regard to WFD matters.

- 5.5 As currently written the WFD assessment (EX8.12A) supplied by the applicant is ambiguous in some places (as set out in our submission of 9th November, 2012, paragraphs 3.0-3.19). There is a potential (as currently written) that the application requires an assessment under Article 4.7 of the WFD. Article 4.7 may enable a project or plan to proceed under the WFD, when otherwise it would not have been able to. Application of Article 4.7 of the WFD requires the following tests to be met (as defined in *Common Implementation Strategy for the Water Framework Directive: Exemptions to the Environmental Objectives under the Water Framework Directive, Technical Report 2009-027, Guidance Document 20*).

Member States will not be in breach of this Directive when:

-failure to achieve good groundwater status, good ecological status or, where relevant, good ecological potential or to prevent deterioration in the status of a body of surface water or groundwater is the result of new modifications to the physical characteristics of a surface water body or alterations to the level of bodies of groundwater, or

-failure to prevent deterioration from high status to good status of a body of surface water is the result of new sustainable human development activities and all the following conditions are met:

(a) all practicable steps are taken to mitigate the adverse impact on the status of the body of water;

(b) the reasons for those modifications or alterations are specifically set out and explained in the river basin management plan required under Article 13 and the objectives are reviewed every six years;

(c) the reasons for those modifications or alterations are of overriding public interest and/or the benefits to the environment and to society of achieving the objectives set out in paragraph 1 are outweighed by the benefits of the new modifications or alterations to human health, to the maintenance of human safety or to sustainable development, and

(d) the beneficial objectives served by those modifications or alterations of the water body cannot for reasons of technical feasibility or disproportionate cost be achieved by other means, which are a significantly better environmental option

- 5.6 The Secretary of State is the competent authority for the WFD in determination of Development Consent Orders.
- 5.7 The EA also wish to clarify the definition of the morphology sensitive exemption for the benefit of the ExA (our 9th November submission, paragraph 3.1). A heavily modified water body (HMWB) is an existing body of water that has had its original appearance significantly changed to suit a specific purpose. The Humber Lower water body is heavily modified for flood protection and navigation. Heavily modified water bodies must aim to achieve good ecological potential rather than good ecological status. Good ecological potential takes account of the modifications to a water body to maintain its use. The HMWB designation only protects the extent of the modification that was present at the time of designation and for the specified use. Any new

'use' for which a water body was not originally designated should be treated as a new modification. In addition, any extension, change in technique or frequency of ongoing activities should be treated as a new modification, it is not covered by the HMWB designation. As such, we believe the case as presented by the applicant in section 3.2 of EX8.12A does not comply with the above, and does not preclude the need for mitigation measures.

- 5.8 We received a further amended version (version 4) of the WFD assessment from the applicant yesterday. We are currently reviewing this and hope to provide further advice to the ExA on this issue before the close of the Examination.
- 5.9 Ms Bolt did indicate at the hearing on the 13th November that the EA had not had time to review the new version of the Compensation EMMP that was issued that day. The EA has now had time to undertake a brief review of that document and our comments were sent to the applicant on 16th November 2012. A copy of this letter is attached at Appendix B for the ExA's information.
- 5.10 The EA would like to draw to the ExA's attention that we did not have the time to review the methodologies applied in either the applicant's or RSPB's submissions with regard to Paull Holme Strays (PHS). At the hearing it became apparent there was a discrepancy between ash free dry weight and tissue dry weight with some of the PHS data. In the time available to us we have not been able to corroborate this evidence.
- 6. The operation of the legal agreement**
- 6.1 Ms Bolt advised that the EA believed it did not need to be party to this agreement. Our own agreements with the applicant will cover flood defences and WFD issues, which should be sufficient to protect our interests. However, the EA is happy to be a member of the Steering Group to which the agreement refers.

Appendix A

UK Technical Advisory Group on the Water Framework Directive

UK Technical Advisory Group on the Water Framework Directive

Prevent Deterioration Of Status

This Guidance Paper is a working draft defined by the UKTAG. It documents the principles to be adopted by agencies responsible for implementing the Water Framework Directive (WFD) in the UK. This method will evolve as it is tested, with this working draft being amended accordingly.

Working Paper	UKTAG prevent deterioration_limitation_KTTW	Status:	Approved for release
Version:		UKTAG	UKTAG (May 2006)
WFD	WFD, objective setting	Review:	
Requirement:	This guidance complements the EU guidance: draft Article 4(7); & objective setting guidance.		

- Two of the objectives of the Water Framework Directive are to ‘prevent deterioration of the status of all bodies of surface water’ and ‘prevent the deterioration of the status of all bodies of groundwater’¹. This paper sets out the UKTAG’s understanding of these requirements. It also discusses the exceptions allowed by the Directive.

Limit of application of this paper

This paper sets out understanding of the WFD ‘prevent deterioration’ objectives only.

The existing ‘No deterioration’ policies applied by the individual agencies, to inform regulatory decisions on new discharges and increases in load for existing discharges, will continue to be applied. These policies consider sustainable development and fair allocation principles when considering consent/permit limits and any permissible changes to the existing water quality of the receiving watercourse. These policies can be obtained from the relevant agencies in Scotland, England & Wales and Northern Ireland.

Principles

Application

- The Directives requires that Member States implement measures to prevent deterioration of the status of each water body. The wording of Article 4(1)a and 4(1)b defines this as the prevention of deterioration between status class.²
- The requirement of no deterioration of status class applies to each water body. Deterioration of the status of one water body cannot be offset by an improvement of another.

From when must deterioration of status be prevented?

- The date from which Member States must ensure that deterioration of status is prevented is not stated explicitly in the Directive.
- Failing to take action to prevent deterioration of status can increase future costs. This is because restoring damaged water bodies can be more expensive than preventing damage in the first place. Accordingly, UKTAG advises that its member agencies:
 - Use their existing powers in a way that is consistent with the objective of preventing deterioration of status; and

¹ Article 4(1)(a)(i) and 4(1)(b)(i)

² and is compared to the wording of Article 4(7) for Drinking Water Protected Areas.

- In liaising with other decision-makers, promote decisions that are consistent with the objective of preventing deterioration of status.

Preventing Deterioration of Status

6. The status class reported for a surface water body is dictated by the quality element worst affected by human activity. Similarly, for a groundwater body to be in Good Status, each of the conditions defining good status must be met³.
7. Suppose the condition of one quality element in a surface water body puts the water into Poor Status, and all the other quality elements are compatible with Good Status or better. In this instance the condition of the other quality elements normally would not be permitted to deteriorate to Poor⁴.
8. The environment agencies make regulatory decisions (like issuing an environmental permit) by reference to environmental standards. When making regulatory decisions, the agencies will apply the established principles of no deterioration to each environmental standard. Suppose a single environmental standard (for example, the Specific Pollutant, copper) is failed. The water body would be classed as Moderate. When making regulatory decisions, the agencies would not authorise another environmental standard to be failed.

Where deterioration of status is unavoidable

9. Where the following criteria apply, it may not be possible to prevent deterioration of status:
 - The deterioration results from effects that occurred before the introduction of the controls required as part of the Directive's Programme of Measures;
 - It is unfeasible, technically or economically⁵, to prevent deterioration of status; and,
 - All practicable steps are taken to mitigate the adverse impacts on the status of the water body.
10. For example, pollutants released into the unsaturated layers overlying a groundwater body may enter the body some time later. This may eventually cause the deterioration in status of groundwater or surface water bodies. Controlling further releases of pollutants into the unsaturated zone of the groundwater might not prevent such deterioration. In this example it may be possible to reduce the risks from some sources of pollution. In other cases it may be "technically infeasible" or "disproportionately expensive" to do so⁶.
11. The Directive provides no exemptions from its objective of preventing deterioration of status in the circumstances described above. However, no Member State would be able to meet the objective of no deterioration in status in such circumstances.

Managing the risk of deterioration and reporting status changes

12. The status class assigned to a water body may appear to change either because of the play of errors in monitoring or as improvements in monitoring enable errors in previous classifications to be reduced. This does not necessarily mean that an actual change in status has occurred. For example, it may mean that improved data have indicated that the status was previously misclassified. Such misclassifications are inevitable because monitoring data are never error

³ Refer paragraphs 4.3 and 7.3 of EU CIS guidance: *Overall Approach to the Classification of Ecological Status and Ecological Potential (November 2003)*

⁴ EU Commission policy summary: Environmental Objectives Under The Water framework Directive – 20 June 2005 references: A 'less stringent objective' does not mean that (a) the other quality elements are permitted to deteriorate to the status dictated by the worst affected quality element or (b) the potential for improvement in the condition of other quality elements can be ignored. (Page 20).

⁵ by this we mean a higher degree of test for disproportionately expensive. This is the more likely test to be applied.

⁶ This issue has been addressed in the forthcoming Daughter Directive on Groundwater which addresses 'preventing or limiting inputs'.

free. In this case, the substantive requirement of the Directive to prevent deterioration of status has not been breached.

13. This means that the monitoring process will produce different types of result:

- apparent changes in class that are produced by the play of chance from the errors in monitoring. This is called the face-value change in class. There is up to 50 per cent confidence that this change has not happened in the real environment and would not have been observed if it had been possible to have error-free monitoring. Deterioration of status for an individual water body will not be reported on the basis of a face value change in class as to do so would be clearly misleading;
- changes in class for which there is a particular degree of confidence that the change is real taking into account the uncertainties of monitoring. Deterioration of status for an individual water body will be reported where there is at least 95 percent confidence that the water body has deteriorated from one status class to a lower one.

14. The intent is to report deterioration of status class, where we are sure there is actual failure in meeting the status class requirements. There are cases where data provides between 50 and 95 percent confidence that a water body may have deteriorated from one status class to a lower one. Deterioration of status of a particular water body will not be reported on the basis of such results. The agencies will target further monitoring and investigation to ascertain whether the apparent deterioration is real and will review the effectiveness of those measures in place to prevent deterioration of status (e.g. by agencies undertaking site inspections and audit monitoring of authorised water uses).

15. Aggregated face-value monitoring data for a River Basin District (RBD) will be used to identify trends. Such evidence may be insufficient to identify deterioration of status of any particular water body in the RBD but may well be sufficient to suggest a deteriorating trend, and a risk to the RBD and water bodies generally. We recommend that the environment agencies use such evidence to seek action at the RBD scale to prevent further deterioration.

16. If a water body's status class is reported to be worse than previously reported, the reasons for the change will be communicated, setting out, for example:

- why the previous monitoring results are thought to have misclassified;
- the improvements to data that have allowed a more reliable classification; and,
- the efforts made to check that there is no evidence that the apparent change in status class is due to an increase in pressures on the water environment

Where Deterioration of Status is Allowed

17. The Directive has two exceptions to the requirement to prevent deterioration of status. These are set out in Article 4.6 (temporary deterioration of the status as a result of circumstances of natural cause or *force majeure*) and Article 4.7 (new modifications).

Temporary Deterioration (Article 4.6)

18. Article 4.6 allows a temporary deterioration of status where this is the result of circumstances of natural cause or *force majeure* which are exceptional or could not reasonably have been foreseen. In particular:

- extreme floods, or
- prolonged droughts, or
- the result of circumstances due to accidents which could not reasonably have been foreseen.

19. The exception does not apply to those effects of extreme floods and prolonged droughts, which could reasonably have been planned for and prevented.

20. The exception does not apply in the case of accidents, which could reasonably have been foreseen.

21. This only applies if the deterioration of status is temporary and so the previous status will be restored as soon as reasonably practicable.

22. The natural effects of prolonged droughts or extreme floods cannot themselves cause a deterioration of status. Status classes describe the magnitude of the effects of human activity on the water environment. Prolonged droughts and extreme floods cause deterioration of status by, for example, washing increased amounts of pollutants into water bodies or by exacerbating the effects of abstractions for public water supply or other purposes.

23. The exception only applies when all of the conditions in the boxes are met.

a. *All practicable steps are taken to prevent further deterioration of status and in order not to compromise the achievement of the objectives of this Directive in other bodies of water not affected by those circumstances*

24. We interpret the word 'practicable' implies a test of reasonableness that includes a consideration of cost and benefits.

b. *The conditions under which circumstances that are exceptional or that could not reasonably have been foreseen may be declared, including the adoption of the appropriate indicators, are stated in the river basin management plan;*

25. Several existing Directives have waivers for 'unusual weather condition' waivers. Policies have been developed setting out the circumstances under which a waiver is used. These policies have been developed in the light of experience in applying the specific requirements of each Directive.

26. It is recommended that for the first round of River Basin Management Plans that UKTAG develops a standard set of words that can be applied to each River Basin District. This will need to be (by necessity) high level and generic in nature.

c. The measures to be taken under such exceptional circumstances are included in the programme of measures and will not compromise the recovery of the quality of the body of water once the circumstance is over

27. The measures to prevent further deterioration and mitigate damage caused by exceptional circumstances will be tailored to individual circumstance. Should exceptional circumstances occur, the actions in response to it will be added to the programme of measures.

d. The effects of the circumstances that are exceptional or that could not reasonably have been foreseen are reviewed annually and subject to the reasons set out in paragraph 4(a), all practicable measures are taken with the aim of restoring the body of water to its status prior to the effects of those circumstances as soon as reasonably practicable

28. Article 4.4(d) requires Member States to attempt to restore a water body to its status prior to the effects of the exceptional circumstances. There is no requirement however, to take any restorative action that would be disproportionately expensive.

e. A summary of the effects of the circumstances and of such measures taken or to be taken in accordance with paragraph (a) and (d) are included in the next update of the river basin management plan

29. Article 4.6(e) is in effect a reporting requirement for the public and the Commission. Competent Authorities will need to ensure that their reporting and RBMP review processes address this requirement.

New Modifications (Article 4.7)

30. Article 4(7) makes provision for deterioration of status provided that all the following conditions are met:

- all practicable steps are taken to mitigate the adverse impact on the status of the body of water;
- the reasons for those modifications or alterations are specifically set out and explained in the river basin management plan required under Article 13 and the objectives are reviewed every six years;
- the reasons for those modifications or alterations are of overriding public interest and/or the benefits to the environment and to society of achieving the objectives set out in paragraph 1⁷ are outweighed by the benefits of the new modifications or alterations to human health, to the maintenance of human safety or to sustainable development;
- the beneficial objectives served by those modifications or alterations of the water body cannot for reasons of technical feasibility or disproportionate cost be achieved by other means, which are a significantly better environmental option; and
- exemption for activities that prevent the future achievement of good status through restoration activities have been defined.

31. The European Commission (DG Environment) is currently developing a paper on the application of Article 4(7). Once approved, UKTAG will consider whether this paper needs to include further consideration of Article 4(7)⁸.

⁷ Article 4(1)(a)(i) and 4(1)(b)(i)

⁸ And other European guidance that develops our understanding of the Directive's requirements

Directives Requirements

REQUIREMENTS

Article 1 Purpose

The purpose of this Directive is to establish a framework for the protection of inland surface waters, transitional waters, coastal waters and groundwaters which:

Article 1(a) Prevent further deterioration and protects and enhances the status of aquatic ecosystems and, with regard to their water needs, terrestrial ecosystems and wetlands directly depending on the aquatic ecosystem

Article 4.1 Environmental objectives

In making operational the programmes of measures specified in the river basin management plan:

Article 4.1(a) For surface waters

Article 4.1(a)(i) Member states shall implement the necessary measures to prevent deterioration of the status of all water bodies of surface water, subject to the application of paragraphs 6 and 7 and without prejudice to paragraph 8

Article 4.1(b) For groundwaters

Article 4.1(b)(i) Member states shall implement the measures necessary to prevent or limit the input of pollutants into groundwater and to prevent deterioration of the status of all bodies of groundwater, subject to the application of paragraphs 6 and 7 and without prejudice to paragraph 8 of the Article and subject to the application of Article 11(3)(j)

Article 4.1(b)(iii) Member states shall implement the measures necessary to reverse any significant and sustained upward trend in the concentration of any pollutant resulting from the impact of human activity in order progressively to reduce pollution

Article 4.4 The deadline established under paragraph 1 may be extended for the purposes of phased achievement of the objectives for bodies of water, provided that no further deterioration occurs in the status of the affected body of water when all of the following conditions are met: [*non of which qualify the no further deterioration requirement*]

Article 4.5 Member states may aim to achieve less stringent environmental objectives than those required under paragraph 1 for specific bodies of water when they are so affected by human activity, as determined in accordance with Article 5(1), or their natural condition is such that the achievement of these objectives would be infeasible or disproportionately expensive, and all the following conditions are met:

Article 4.5(c) No further deterioration occurs in the status of the affected body of water

EXCEPTIONS

- Article 4.6 Temporary deterioration in the status of bodies of water shall not be in breach of the requirements of this Directive if this is the result of circumstances of natural cause or *force majeure* which are exceptional or could not reasonably have been foreseen, in particular extreme floods and prolonged droughts, or the result of circumstances due to accidents which could not reasonably have been foreseen, where all of the following conditions are met:
- Article 4.6(a) All practicable steps are taken to prevent further deterioration in status and in order not to compromise the achievement of the objectives of this Directive in other bodies of water not affected by those circumstances;
- Article 4.6(b) The conditions under which circumstances that are exceptional or that could not reasonably have been foreseen may be declared, including the adoption of the appropriate indicators, are stated in the river basin management plan;
- Article 4.6(c) The measures to be taken under such exceptional circumstances are included in the programme of measures and will not compromise the recovery of the quality of the body of water once the circumstance is over;
- Article 4.6(d) The effects of the circumstances that are exceptional or that could not reasonably have been foreseen are reviewed annually and subject to the reasons set out in paragraph 4(a), all practicable measures are taken with the aim of restoring the body of water to its status prior to the effects of those circumstances as soon as reasonably practicable, and
- Article 4.6(e) A summary of the effects of the circumstances and of such measures taken or to be taken in accordance with paragraph (a) and (d) are included in the next update of the river basin management plan.
- Article 4.7 Member states shall not be in breach of the Directive when:
- Failure to achieve good groundwater status, good ecological status, or where relevant, good ecological potential or to prevent deterioration in the status of a body of surface water or groundwater is the result of new modifications to the physical characteristics of a surface water body or alterations to the level of bodies of groundwater, or
- Failure to prevent deterioration from high status to good status of a body of surface water is the result of new sustainable human development activities
- And all the following conditions are met:
- Article 4(7)(a) All practicable steps are taken to mitigate the adverse impact on the status of the body of water;
- Article 4(7)(b) The reasons for those modifications or alterations are specifically set out and explained in the river basin management plan required under Article 13 and the objectives are reviewed every six years;
- Article 4(7)(c) The reasons for those modifications or alterations are of overriding public interest and/or the benefits to the environment and to society of achieving the objectives set out in paragraph 1 are outweighed by the benefits of the new

modification or alterations to human health, to the maintenance of human safety or to sustainable development, and

Article 4(7)(d) The beneficial objectives served by those modifications or alterations of the water body cannot for reason of technical feasibility or disproportionate cost be achieved by other means, which are a significantly better environmental option.

Article 4(8) When applying paragraphs 3, 4, 5, 6 and 7, a Member State shall ensure that the application does not permanently exclude or compromise the achievement of the objectives of the Directive in other bodies of water within the same river basin district and is consistent with the implementation of other Community environmental legislation

Article 4(9) Steps must be taken to ensure that the application of the new provisions, including the application of paragraphs 3, 4, 5, 6, and 7, guarantees at least the same level of protection as the existing Community legislation.

Appendix B

Letter to Able re Compensation Site Environmental Management and Monitoring Plan

Mr Richard Cram
Able UK Ltd
Able House (Billingham Reach Industrial
Estate) Haverton Hill Road
Billingham
Cleveland
TS23 1PX

Our ref: AN/2012/113982/01-L14
Your ref: IPC-Pro-11
Date: 16 November 2012

Dear Mr Cram

**Environmental Management and Monitoring Plans
Marine Energy Park, Killingholme Marshes, North Lincolnshire**

Thank you for providing a revised copy of the compensation site Environmental Management and Monitoring Plan (EMMP), which was received on 12 November 2012.

We have undertaken a brief review of the plan and provide the following comments on it:

It is our opinion that the marine and compensation EMMP are to some degree intrinsically linked. These links need to be clear within the document, and at present we do not think this is clear. It is also not clear from this new document that it is a plan for delivery, monitoring and remedial action. We made a similar point within our submission of 9th November (paragraphs 12.1-12.5), and we believe that at present this new submission does not address all of these points.

We welcome the inclusion in paragraph 42 of the need for the new embankments to stabilise following construction prior to breach. We request that the timeline presented at the hearing is amended to reflect this understanding.

We note in paragraph 80 the potential use of GPS mounted hovercraft as a potential manner in which to collect the necessary data. We advise you that if this is pursued, there is a need to ensure consistent repetition between surveys to ensure that replicate grids can be created between different monitoring periods. We are aware of a current trial underway to access such remote areas. It may be advisable for you to look into this matter in more detail. The relevant contacts can be found at:

<http://www.sky-futures.com/managed-service/construction.html>

<http://www.sky-futures.com/managed-service/environmental-surveys.html>

We also require clarification as to how the bed levels referred to in paragraph 84 will be linked to the Internal Drainage Boards and Stone Creek Boat Club, given that at present they are not part of the Ecological Advisory Group.

We wish to advise you that it may be necessary to undertake more recent baseline surveys prior to any work commencing, than those referred to in Paragraph 86. These are over 5 years old now, and so not necessarily representative of the current conditions.

We note that in the new submission (EX28.3, Part 7 v3), that paragraph 135 has been removed. However, it was our understanding that you thought the delivery of the Regulated Tidal Exchange (RTE)/Managed Realignment (MR) compensation would be part of your overall fish compensation package. If we have misunderstood this proposal, we would like to be notified at your earliest opportunity. In the current submission you have made no reference to this proposal, or potential obligation. In addition, we note that this version makes no reference to our suggestion of 9th November (paragraph 5.12) which was provided to you following the EMMP workshop on 2nd October, some of which related directly to the RTE/MR site. For example, we expect the inclusion of the following in the compensation site EMMP:

The survey shall be undertaken at all specified locations related to the AMEP application boundary in both Autumn and Spring, and will included data such as the type, abundance, richness, age, weight and size of the species inhabiting these intertidal areas (This includes the compensation site, we take the AMEP application boundary to be that submitted within the DCO application).

The surveys should be undertaken using methods such as beam trawling or fyke netting in order to monitor demersal fish populations; and seine netting or otter trawling in order to monitor the pelagic fish populations.

There are particular and unique challenges that these surveys may encounter in the Humber estuary, such as the high amplitude of the tides, fast currents and large amounts of debris. Survey techniques should be chosen with these constraints in mind.

Surveys undertaken should record and specify the proportional area of creeks sampled to enable the scaling up of community data.

All survey work undertaken will be in compliance with the EA's WFD fish survey methods. Fact sheets specific to WFD monitoring in estuarine environments are attached.

We note that in paragraph 70 there is a potential conflict between the requirements for fish survey time and waterbird sensitivity. We would ask for a view on the likely risk of this happening. If this site is forming part of the compensation package for fish, monitoring is a vital component of the package.

In response to Table 7, we are of the opinion that the compensation targets should be linked to the other EMMPs. If more birds remain at North Killingholme Marshes than the Environmental Statement and Supplementary Information suggests, then the total bird population in the two areas (NKM & CCS) should be considered together. At present it is not clear that that feedback loop and combined total exists.

In response to Paragraph 208, we would question whether a 5 year monitoring period referred to here is a sufficient period of time.

Should you require any additional information, or wish to discuss these matters further, please do not hesitate to contact me on the number below.

Yours sincerely

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