

*Present:*

Richard Cram (RC)	-	Able UK Ltd
Jonathan Monk (JM)	-	Able UK Ltd
Andy Coates (AC)	-	ERM
Emma Hawthorne (EH)	-	Natural England
Mike Quigley (MQ)	-	Natural England
Harriet Billanie (HB)	-	RSPB
Darren Clarke (DC)	-	HINCA
David Keiller (DK)	-	Black & Veatch (part, by phone)

*Date & Time:* Tuesday 9<sup>th</sup> August 2011 @ 10:30h – 16:00

*Location:* NE Offices, Leeds

*Subject:* Able Marine Energy Park – Ecology Consultation 12

		<u>ACTION</u>
1.	<b><u>MEETING OBJECTIVES</u></b>	
2.	<b><u>ACTIONS ARISING FROM THE LAST MEETING</u></b>	
2.1	RC went through the actions arising from the Minutes of the last Ecology Meeting and the Multi-Agency Consultation Meeting which identified the following residual actions.	
2.2	AT has not yet provided NLC's advice on the costs of designating the 0.8ha field as local nature reserve. Able will pursue AT's advice on this matter.	AT/Able
2.3	ERM has reviewed Natural England's comments on sub-tidal sand banks and is happy that all those in the Estuary are too remote from the AMEP site to be subject to a likely significant effect. ERM will amend the Habitats Regulations Screening Assessment to reflect this.	ERM
2.4	Subsequent to Natural England's comments regarding lampreys, Able has commissioned a specialist report from IECS on the recommendation of Martin Lucas (University of Durham) which will address the impact of AMEP on lampreys to the extent of best available scientific knowledge and data.	Able
2.5	Following comments raised by both Natural England and the Environment Agency at the Multi-Agency Consultation Meeting, Able has received the Subacoustech report on underwater noise forwarded by MQ. Since the principal impacts from underwater noise are on salmonid fish, the regulatory interest in the problem lies mainly with the Environment Agency. The Environment Agency has undertaken to provide Able with guidance on how it wishes impacts of noise on the behaviour and ecology of salmonid fish in the estuary to be assessed, and Able will commission a specialist report on this basis. This guidance has not yet been received. NE noted that this was not an HRA issue as salmon were not an interest feature of the estuary.	EA/Able
2.6	Various mitigation and compensation options are under discussion but piling restrictions are not really available to Able because of the very substantial impacts such restrictions would have on the feasibility of the piling project. For clarity, compensation with regard to salmonid fish does not constitute compensation as defined in the Habitat's	

Regulations because salmonid fish are not a designated feature of the Natura 2000 site. RC will clarify in the ES that although marine works are programmed to take 2 years the piling project will only occur during a 6 month period.

RC

2.7 EH noted that Natural England has made comments on noise impacts on cetaceans and marine mammals, and is interested in particular in the designated feature, i.e. grey seals. RC noted a comparison with the piling impacts on seals undertaken on the Tees Estuary during the TERRC project, explaining that the works had no impact on seals though in this case they were much closer to the works than the seals on the Humber would be to AMEP. EH requested consideration of this in the ES and also NE would wish to see soft start technology for the piling as mitigation.

2.8 MQ raised the possibility of using silt screens manufactured from materials of high density differential from the water, which could operate as a possible underwater noise barrier. RC agreed to consider this but felt, based on previous experience, this may not be feasible due to the currents in the Humber estuary.

2.9 Following Natural England's request for a combined bird map, RC tabled a draft of this and agreed to forward it electronically.

RC

2.10 ERM has also incorporated the additional data received from HEDC into the ES. ERM has revised the phrasing of 'like for like' in the ES following suggestions received from EH. AC stated that he will be addressing Natural England's remaining comments from the Multi-Agency Consultation Meeting during the course of the meeting.

2.11 HB and EH agreed to provide their formal comments on the HRA report. EH also noted that Natural England had further comments on the Environmental Statement to send, as set out in the minutes of the Multi-Agency meeting.

HB/EH

### 3. **FINAL MITIGATION STRATEGY**

3.1 ERM has received the 2010/11 bird data from HEDC and incorporated it into the ES and the HRA report. AC noted that the broad findings of these reports had not been substantially altered by the incorporation of this material, which has supported the trends already shown by the previous data. RC tabled plans setting out the bird usage of the fields on the AMEP site noting that the birds preferred to use permanent pasture. AC noted more extensive use of the estuary side fields in the early part of the winter and more extensive use of the inland fields later in the winter. He noted further the congruence between the older and new data.

3.2 AC noted HB's concern over using mean bird numbers for the calculations but considered that for a period of time as extensive as that used in his assessment, mean numbers are more appropriate than peak numbers. AC set out his calculation methodology which he agreed to circulate in written format to the team.

AC

3.3 Based on feeding requirements from Steve Percival's report and the Stillman paper, ERM has arrived at feeding potentials for different categories of fields (e.g. flooded grassland and unflooded arable land) which it has used to derive the areas of different categories of fields

which would be appropriate to provide suitable mitigation. This assessment found that if the mitigation comprised exclusively flooded grassland, 38ha would be required, but that if unflooded permanent pasture were used instead, 3.1ha would be sufficient. These figures showed that the method of field management used would effectively determine the area of land required to mitigate for AMEP's impacts on birds.

- 3.4 ERM recommends the provision of fields managed for high invertebrate density, aiming for 90-95% of the area to have an invertebrate population at unflooded permanent pasture levels. This would be a 5.5ha core area with a 150m buffer on the south, west and east sides, a 60m buffer on the north side and a 90m operational buffer within AMEP.
- 3.5 AC noted the current operational conditions in the MOD tank farm, and explained that these were unlikely to change. He suggested that the buffer on the eastern side of the mitigation area where it fronts with the MOD tank farm could be reduced to zero without increased risk of disturbance, leaving a core area of 10ha. NE agreed to consider this.
- 3.6 MQ noted that for the north bank a 75% assimilation rate of invertebrates by the birds had been applied, and asked where this figure came from. AC explained that it had been derived from the Stillman paper and had been assumed on the south bank too. He explained that the figure was based on annelids and was applicable to all bird species.
- 3.7 HB re-iterated her previous concern over the application of wader days calculations to a wide variety of species and questioned why the revised calculations had arrived at the same area as the previous draft i.e. 28ha. AC clarified that the calculations had shown that the total area of mitigation would be determined by management techniques and that a workable, achievable and realistic solution can be developed within a 28 hectare plot.
- 3.8 MQ requested assurance that seasonal peaks had been accommodated within the calculations, stating that Natural England needed to be sure that the site could cope with periods of focused activity. AC confirmed that this was the case, stating that the data used had included unusually bad winters. He stated that the fields to be used would also be better draining than at present, so would be unlikely to become completely frozen over and thus unavailable for the birds. DC stated that in periods of very bad weather, the birds moved elsewhere in any event.
- 3.9 RC noted that Able has proposed a 90m/60m split in the 150m buffer suggested by Natural England with some noise restrictions, and requested feedback from Natural England on this approach. EH replied that Natural England would ask for some screening between the operational AMEP site and the mitigation area in addition to the split buffer. RC explained that a 2m bund was proposed and that the existing over-ground pipelines would screen moving vehicles and people from the mitigation site.
- 3.10 MQ stated that if Natural England is to accept this proposal it would require monitoring in order to be sure that the mitigation was

EH/MQ

functioning correctly. If the mitigation did not work it would require that the mitigation land would push back into the AMEP site. He underlined the general principle that where there is doubt Natural England would require an opportunity for redress should the mitigation proposals fail to meet their objectives.

- 3.11 MQ explained that the conditions he was engaged in drafting with Angus Walker were being prepared on this basis, and were attempting to consolidate various monitoring regimes into one unified strategy. This would set out monitoring requirements, triggers and remediation activity.
- 3.12 EH and MQ undertook to consider the mitigation strategy proposed by Able while noting that they may still have some concerns over its scale.
- 3.13 RC noted that while the core area is available 100% of the time, the buffer area is not unavailable 100% of the time, and therefore it has some value. HB and EH agreed with this proposition. RC asked them whether the different parts of the buffer with differing availabilities and differing values could be taken into account when calculating the food potential.
- 3.14 MQ stated that this would need to be evidence-based and that calculations could become extremely complex. He noted that the effect of buffers having value is already implicit in Natural England's buffer argument. He noted that Natural England is unwilling to give up the eastern buffer to reach a compromise, since NE is already seeking concessions from Able.
- 3.15 EH suggested that Able is fitting its data to suit the field boundaries and that it appeared to her that land purchase is driving the desire of the mitigation strategy. RC rebutted this, replying that the question is whether the methodology used to derive the mitigation strategy is auditable, and whether the calculations indicate that it provides an adequate core area. Able is putting forward an argument that the core area can be managed in an appropriate way to provide a feeding resource sufficient for the lower end of the area spectrum to constitute adequate and appropriate mitigation.
- 3.16 MQ stated that some colleagues of Natural England had raised doubt about the bio-energetics approach. He agreed to explore this within Natural England to obtain a clear statement. He indicated that he considers Natural England is already compromising significantly but does not see compromise in return from Able.
- 3.17 RC replied that the methodology that Able will provide, as advised by Steve Percival and ERM, will determine an area within a manageable range. If Able desires to approach the lower end of this area spectrum it needs to manage the grass land to reflect the conditions of higher feeding potential.
- 3.18 DC noted that the buffering argument was based on disturbance and not bio-energetics and that because buffer areas were not always unavailable, buffers would have a bio-energetic value which is not being allowed for in the present calculations.

NE

MQ

3.19 MQ noted that Able were promulgating an attractive logical argument provided it has some basis in reality. He noted that NE has sufficient information from what Able have proposed to take it away from the meeting and seek a view. However he asked what the strategy for the team would be if the proposal was found not to be acceptable.

3.20 Natural England's concern is that if the mitigation area does not function as proposed, how can conditions be enforced so that conservation can be secured? He suggested that Natural England may wish to use recourse to a mitigation and monitoring group along the lines of TEAG so that Natural England would be involved in the enforcement of the conditions.

3.21 Natural England's suggestion for the mitigation strategy was that the buffer along the side of the tank farm be retained and the 60m/90m ratio of the split buffer along the AMEP side be adjusted to result in a core area closer to 10ha than currently proposed. Natural England considers this to be reasonable.

3.22 HB pointed out that it would be difficult to spread the mitigation area northwards because of the over ground pipeline. EH asked why CPO of Conoco Philips lands appeared to be constraining the expansion of the mitigation area southwards. Natural England seeks assurance that the CPO process is fail-safe so that the entire mitigation strategy land can be acquired.

3.23 RC clarified the CPO process noting that under the grant of the DCO including CPO, Able will be required simply to issue notice to the landowners in advance of taking occupation of the land and managing it as it wished. He agreed to clarify this in writing for Natural England to provide assurance that the mitigation and compensation land can be deliverable at the point of consent.

3.24 AC will circulate the finalised mitigation plan on Thursday 11<sup>th</sup> August. Comments are sought from Natural England and RSPB as soon as possible, but ideally the following week.

RC

AC

#### 4. **APPROPRIATE ASSESSMENT**

##### 4.1 **Screening/LSE**

##### 4.1.1 **River/Sea Lamprey**

4.1.1.1 AC noted that river and sea lamprey had previously been screened out of the LSE test but subsequent to further discussions with Natural England and Environment Agency it may be necessary to screen the lamprey back in, subject to the report by IECS. It may be impossible to reach a firm conclusion, as there may be no evidence that the works are likely to cause harm or conversely unlikely to cause harm.

4.1.1.2 EH agreed to forward papers from Natural England's fisheries department which could provide additional information on lampreys. She noted that these may contain an audiogram for the lamprey since it had been recently published that lamprey could be sensitive to low frequency noise. EH



4.1.1.3 MQ raised the subject of whether AMEP could constitute a barrier to lamprey migration in the estuary. RC explained that there was anecdotal evidence that lamprey migrated in the shallows of the estuary to avoid predation, although nothing prevented them from using deeper waters. RC set out the context of other obstructions to the north and south of AMEP including the significant reclamation at Immingham Port immediately south of the AMEP quay, explaining that lamprey are caught in significant numbers at the Stallingborough intake outfall 400-500m out into the estuary. All this information will be included in IECS' report.

#### 4.1.2 Seals

4.1.2.1 AC noted that the report undertaken for piling on the Tees Estuary for the TERRC project indicated that seals were subjected to very little impact from piling and dredging noise and indeed during that year the colony on the Tees had experienced a higher pupping rate than ever before. This colony was substantially closer to the piling works than any other colonies on the Humber would be to AMEP (c. 400m as compared to 10km). The opinion of the AMEP team therefore is that seals would be subject to very little impact arising from AMEP.

4.1.2.2 EH noted that the seals did occasionally travel up the Humber and would pass close to the site. She noted that the type of mitigation which Natural England would require to limit impacts on wide-ranging seals would be soft-start piling procedures and perhaps the use of an MMO marine mammal observer. She noted that JNCC guidance existed for both of these mitigation approaches.

4.1.2.3 MQ stated that soft start mitigation was understood by Natural England to comprise an approximate 20 minute period of activity at below maximum noise production. RC and AC agreed to define in the ES what is meant by soft start for the AMEP project.

RC/AC

#### 4.1.3 Salmon

4.1.3.1 RC explained that Able was in detailed discussions with the Environment Agency over noise impacts on salmon. The Environment Agency is in the process of producing a guidance document for the assessment of these impacts. He noted that the type of compensation proposed by the Environment Agency might include a financial contribution to the Rivers Trust for the installation of the fish migration facilitation technologies e.g. fish ladders.

4.1.3.2 NE noted that they would have no opinion on this as salmonid fish are not a designated feature of the European site, and it would be inappropriate for one DEFRA agency to comment on a matter being dealt with fully by another.

4.1.3.3 It was clarified that compensation for impacts on salmonid fish would not constitute compensation as defined under the Habitats Regulations and would therefore not be subject to the derogation tests set out in that document. However, if piling noise is found to have an impact on a designated feature of a Natura 2000 site, a financial contribution cannot be used as compensation under the Habitats Regulations.

#### 4.1.4 Birds Present in Low Absolute Numbers

4.1.4.1 AC explained that the whimbrel and the ruff had not been carried forward to the Appropriate Assessment because their presence was limited to 1 or 2 individuals, and even though populations may be so low that this constitutes greater than 1% of the estuary population, individuals could be accommodated quite easily elsewhere in the estuary. AC will bring this out clearly in the HRA report.

4.1.4.2 HB noted that these species were also designated on passage. She sought assurance that the passage period was not excluded from the mitigation package. Provided this assurance is given she agreed that if the birds are present only as 1 or 2 individuals, then she considered that these could be excluded from the AA provided there is a clear explanation as to how this has been done.

4.1.4.3 AC noted that the latest breeding bird surveys had recorded 8 pairs of avocet and 1 nesting marsh harrier on the North Killingholme Haven Pits. These will need to be included in the HRA report as an update. HB agreed to forward avocet figures for the wider Humber to provide context for this assessment.

4.1.4.4 AC also agreed to update the population percentage figures for the little ringed plover.

HB

AC

#### 4.1.5 Air Quality

4.1.5.1 AC has spoken with ERM's air quality expert who confirmed that the air quality assessment has looked at salt marsh and sand dunes throughout the estuary, and confirmed that there is no likely significant effect from AMEP on the integrity of those features.

#### 4.2 Netting Off Beneficial/Adverse Effects

4.2.1 EH summarised the discussions NE had held internally to discuss the netting-off of habitat losses and gains due to AMEP, which would determine the scale of compensation required. NE's conclusions are set out in the attached report issued by NE shortly after the meeting. MQ underlined the importance of uncertainty in the calculations. NE accepts that managed realignment is not an exact science, but requires provision for what happens if the mudflat is not successfully developed, and also of the quantum and rate of conversion from mudflat to saltmarsh.

4.2.2 RC addressed the perceived mismatch between the modelling results and the figures quoted in the reports. JBA has provided sketches of habitat development informed by bed shear stress values, from which Able has attributed areas using AutoCAD; the geomorphology report needs to be clear on the derivation of areas. HR Wallingford will make a further assessment based on the mud transport modelling.

4.2.3 MQ identified the principle areas of uncertainty as being inherent in the model, the interpretation, in post-consent operational disturbance, and in the differing values for habitat areas quoted in different reports. RC agreed that these errors will be documented and where possible resolved in the final reports. It is possible to be

certain of the direct impacts, and the indirect impacts will be arrived at using the expert opinion of two sets of consultants.

#### **4.3 Appropriate Assessment & HRA Report**

- 4.3.1 HB noted that the HRA report does not consider the Ramsar site independently.
- 4.3.2 AC noted that the definition of site integrity in the EC guidance on the HRA is limited to the conservation objectives but that in the Habitats Regulations it was stated that site integrity should be considered in the light of these objectives.
- 4.3.3 It was agreed that the regulations will take precedence over the EC guidance.

#### **4.4 Compensation**

- 4.4.1 HB asked for clarification of the role of the wet grassland proposed on the North Bank and whether it would be permanent or temporary.
- 4.4.2 RC explained that it was intended to be permanent if required. There is not a great deal of sympathy from the farmers and the public on the North Bank for managed realignment schemes. Able's proposal for 30ha of temporary wet grassland was intended to show that the CPO would involve a minimum amount of land. The wet grassland was envisaged as being necessary in the short term but perhaps in the long term could be returned to farmland. MQ explained that the wet grassland would not be able to be returned to farmland if at the point of consent it was intended as an integral part of the compensation package.
- 4.4.3 AC agreed to update the HRA Report to include the current usage of the compensation site by SPA birds.
- 4.4.4 DK joined the meeting by phone, and opened a discussion on the levels of confidence attached to the different habitat types Able is seeking to create. EH underlined that Able would need to create a minimum of 57ha of habitat overall of which 46ha would need to be mudflat.
- 4.4.5 NE reiterated that if Able is confident of the scale of habitat loss and of the ability to recreate habitat the compensation ratio of 1:1 for the estuary feature is acceptable, with a ratio of 2:1 applied for the mudflat. However Natural England expressed reservations about the confidence levels attached to habitat creation. EH felt that Able's proposals currently did not contain sufficient sustainable mudflat to be considered adequate compensation.
- 4.4.6 NE requested that the breach protection measures be removed from the design, and sought to explore with Able what could be done to encourage the proposed realignment site to create more mudflat over a longer space of time.
- 4.4.7 DK explained that mudflat would form principally in the centre and around the breach of the proposed site, and that the two ends were likely to revert to saltmarsh. MQ suggested placing a second breach in the north end of the site to encourage more mudflat formation



over a wider area. DK explained that this had been rejected in the design principally to avoid generating higher water velocities outside the site thereby causing undesirable impacts on existing habitats.

- 4.4.8 RC explained that could not extend to far towards the northern end of the site in order to avoid disturbing potential contamination from historic landfill. HB queried whether this contaminated material could be subject to rising water levels without risk of mobilising the contamination. DK explained that at present this material was at some depth and capped and that crops were grown on the soil above the material without discernible ill effect. MQ noted that this subject belonged probably in the remit of the Environment Agency.
- 4.4.9 EH asked what, if anything can be amended in the design of the compensation site to encourage more mudflat to be generated for longer. DK explained that a 5 year assessment had been made of the current design, but that a substantial amount of further investigation and modelling was required in order to optimise the design for sustained mudflat creation.
- 4.4.10 RC summarised that Able proposes that Natural England adopt the current proposed site as an acceptable compensation site, but also proposes that Natural England accept that not enough work has been done to understand the optimisation properly. This work would require to be done post-application, secured by conditions or a legal agreement. MQ explained that Natural England would need confidence that this approach is acceptable in law. It was agreed that the query should be resolved by the IPC.
- 4.4.11 RC agreed that finished ground levels would need to be sorted out before the grant of a DCO. He asked for confirmation that Natural England required 2:1 mudflat compensation ratio or 1:1 as an absolute minimum for sustainable long term mudflat. NE replied that they required certainty that the ecological loss or harm would be compensated for, with 2 caveats: first that temporary compensation could make up the short fall and second that over compensation be used to address uncertainty.
- 4.4.12 MQ stated that if after 5 years 1:1 ratio of mudflat replacement had not been achieved then this would not be acceptable to NE.
- 4.4.13 HB asked what the degree of confidence was of achieving 48ha of mudflat after 5 years. DK explained that there was a temporal uncertainty of  $\pm 1-2$  years, and this was a fairly large error bar, but B&V is fairly confident of achieving approximately 48ha at approximately 5 years. Some reduction in mudflat extent could be possible over the following 5 years but this is much less certain.
- 4.4.14 MQ asked whether the current model was based on simply creating a breach or also on some removal of material from the compensation site and asked whether more cutting of material would result in the generation of more mudflats.
- 4.4.15 DK explained that more cutting would lead to faster warping up, and also that less cutting would similarly result in less mudflat. He stated that if the site were extended at the north end, the line of accretion would move north and some further mudflat would be created. As the area of contamination is outside of the area

RC

proposed for wet grassland, it would be possible to extend the proposed realignment site to the north to achieve this, but this would impinge on the proposed wet grassland.

- 4.4.16 RC asked that as a bottom line would Natural England need to see an absolute minimum of 46ha of sustainable mudflat on the compensation site. EH agreed but stated that this was an absolute minimum and would need a high level of certainty.
- 4.4.17 RC asked DK why the compensation site contained a chamfer in the sea wall. DK stated that this was to avoid visual alignment with driveway of the farmhouse on Cherry Cobb Sands Road. However if the compensation site were extended northwards beyond the farm house then this would no longer be necessary.
- 4.4.18 RC summarised that a general increase in the size of the compensation site might result in more mudflat and so might a change to contouring within the realignment area. MQ suggested the possibility of finding a second compensation site as a supplement but RC noted that this would set the whole project back up to 12 months because of the need for ecological survey, and was not feasible.
- 4.4.19 DK explained that the realignment site could be extended to 110ha within the original fields for which the baseline was fully understood but that the proposed 30ha of wet grassland would then be unachievable within the site boundary. EH considered the grassland to be of value noting that if it gave some confidence of feeding resources for the birds then it could allow some comfort when advising on ratios.
- 4.4.20 HB suggested that the wet grassland could be achieved by means of a potential temporary land management arrangement. MK and MQ agreed that if agreements like this were in place this could be hugely helpful to the proposal. RC noted that wet grassland, wherever created, could be in place, secured and controlled before the first of wintering season.
- 4.4.21 DC noted that the Yorkshire Wildlife Trust had already begun explorations of the possibility for land management agreements in this area. He also explained the concept of the environment bank which is intended to deliver on offsetting for planning applications although at a higher cost than stewardship.
- 4.4.22 EH felt that Natural England would require as much realignment site as possible, and additional wet grassland, before it was able to support the proposals.
- 4.4.23 Further options were explored: HB suggested that a tidal exchange system might result in further mudflat generation. DK explained that this would sediment up even more quickly and it was thus unlikely to help.
- 4.4.24 MK suggested that a tidal sluice could be installed at the northern end of the site only allowing water to pass at mid tide when a head of water had been developed, to encourage flushing and scouring. DK felt that this would be a very local effect but that it could be explored. He asked whether there was any scope in an IPC

application to vary the breach location. RC stated that it was possible that Rochdale Envelope could be used with the intention to refine the breach location post-application. He agreed to explore this with the IPC.

4.4.25 DC suggested the creation of a lagoon at the northern end of the site which could have a feeding function and could be kept wet and muddy which would favour conditions for the black tailed godwit. It was possible that fresh water input could be used to flush it. MQ cited the North Tees Mudflat Project which had used multiple notches to achieve a significant funnel effect area of mudflat generation. He recommended the advice of Geoff Barber of Tees INCA.

4.4.26 It was summarised that by the end of the month it was hoped to have agreed the quantum of inter-tidal habitat that Natural England is content with and that they have agreed with Able can be created, though not necessarily down to the level of detail of finished ground levels.

4.4.27 EH agreed to seek an internal view from Natural England and an external view from the IPC for their own consultation

EH