SIZEWELL C PROJECT The National Planning Inspectorate Examination

Written Submission for Deadline 8 providing commentary on Coastal Geomorphology

Response from the Alde and Ore Association (Registered Charity number 1154583)

IP REF:20026276

The Alde and Ore Association exists to protect for the public benefit the Alde, Ore and Butley rivers and their banks from Shingle Street to their tidal limits together with features of public interest. It has some 2000 members.

This written submission confirms the Association comments made during ISH 11 on each of the agenda items and provides additional commentary on matters raised during ISH 11.

Modelling for SDCF through decommissioning to2140

Longshore drift: The modelling still only relates to the Greater Sizewell Bay. Despite numerous references in the Applicant's papers to the long shore drift, for example,
Footnote 21 on page 30 of REP7-101 says' Although the present net longshore sediment transport is slowly south….'
There is still no recognition of the fact that there is a net long term transport south of the Greater Sizewell Bay.

Whether or not the drift is slow, and this is a dynamic coast with many changes in rates of erosion and deposition over time, the existence of the drift is a fact. It has contributed to the evolution of the coast further south including the Orfordness shingle shoreline that forms and protects the eastern bank of the Alde and Ore Estuary. (Recognition of the origin of much of the Ness from the coastline north of the Greater Sizewell Bay is contained in Shoreline Management Plan's description of the coast (SMP 7 2010 Royal Haskoning). If that drift is cut off, the shingle will not be renewed but what there is on the Ness will continue to drift south thinning the shoreline of the unique Ness and protection for the estuary.

Data: Data for the modelling is inadequate to deal with the impact on coastal development of the protrusion of SZC into the sea, as the Applicant recognises will happen after 50 or so years which is also long before the end of the life of the construction because the coast naturally is eroding westwards. An example of incomplete data is the 2600 gravel transport survey (APP 312, pages 31-41): the extent of the survey, shown clearly on the Applicant's map, was only between Minsmere Sluice in the North and just south of Sizewell Hall in the south (not even as far south as Thorpeness). That survey cannot conform categorically that no transport of any significance happens past Thorpeness. Nor importantly can it provide a benchmark for the monitoring of the impact on the coast which is an essential part of the CPMMP. It is questioned how the modelling can be relied upon when the basic data on which it is built is not complete.

The timeline of modelling is not long enough. It emerged in the hearing, again, that 2140 is not a definite end date, the constructions could still be in place in 2190. Given the long evolution of this coastline, the construction is not a short term obstacle, but could become a substantial barrier to the natural evolution of the coast, causing unnecessary problems further south. In APP-312 the Applicant points out that a modest construction including a coffer dam for SZB between 1989-92 caused recession of the coastline by 1997 but once removed the shore took a further 5 years to recover. (but note Paul Collins' ISH 11 contribution with evidence that those changes in topography of the shoreline and under the sea are more long lasting than had been thought.) In the case of SZC the construction will be in place some 150 years or more: it is reasonable to assume that any coastal impact will not be a transitory one within a decade and so will have far reaching not localised effects along the coast.

What is being modelled: The Association notes that the possible proposed change to the SCDF to have a cobbled berm, which essentially introduces a third, near hard layer to protect the HCDF, which will be different from the original intention of the SDCF using shingle as a natural protection. This will affect the modelling. However, as the Applicant's plans for the SCDF are still being developed, e.g. the announcement at ISH 11 that using shingle closer to the sizes of the existing beach was becoming the preferred option, conclusive comments cannot be made, nor the modelling completed. The Association notes the Environment Agency's comment in para 6.2 of REP2-135 *'The*

significance of this change (that is requiring the continued ongoing replenishment of the SCDF) lies in the fact that although previously the SCDF was designed as mitigation for the environmental impacts which would result from the exposure of the HCDF, it now seems to be an integral element of the functioning of the sea defences. We are therefore now seeking greater certainty over the long term viability of the SCDF throughout the full lifetime of the development.' This request cannot be met until the design of the SCDF is clearer.

Coastal changes- natural and due to constructions: Page 56 of REP7-101 shows losses in 2099 (receded shoreline sediment losses) and how they will increase over the years. The Applicant said the figures did not include natural recovery but the fact remains that this coast normally experiences huge variation over the years, e.g. this last winter parts of the coast lost over a metre in depth of shingle in a few storms and while some of it may return, the more the interference by new construction on the coastline the harder for natural processes to return to their natural course.

Climate change: The Applicant maintains that climate change may not give rise to more frequent and ferocious storms but sea-level rise is a known fact, and the current violent storms and surges will therefore have a greater impact on the coastline even if ferocity does not increase. Also Section 2.4 of APP-312 states *that sea level rise may increase the rate of longshore transport …. and there could be an altered sediment supply regime in and out of the Greater Sizewell Bay*. This statement is a recognition of long shore sediment transport. It confirms that longshore sediment needs monitoring.

Timeline: Sea level rise will be continuing after 2070, the cut-off date given to the EGA for their modelling: there is not enough understanding as to what might happen on the coastline in the many decades following 2070 up to decommissioning and then dismantlement.

REP7- 059, Applicant's response to written submissions. The paper implies use of recharging- does that mean earlier mention of recycling and bypassing in the earlier documents has been abandoned or is recharging a shorthand for bringing more shingle to a point regardless of source?

REP7-101 The Association welcomes the recognition on page 57 for regular monitoring and data collection and notes this is because there are so many unknowns. The Association reiterates that data collection needs to be adequate to provide a benchmark for changes including along the coastline beyond the Greater Sizewell Bay.

Modelling relation to the detailed design of the adapted HCDF

There is no recognition of the long shore drift south of GSB. Noted the modelling and the design are still work in progress.

In recent public announcements, SZC said that the concerns about the eroding coast were groundless because SZA and SZB had never been inundated. But the design required for the HCDF and SCDF is necessary as the new project cannot be built on higher ground, of which there is none left north of SZB, instead the project has to be on land at or close to sea level which needs to be dug out and replaced with firmer foundation material. The need for an extensive HDCF and SCDF is recognition that the basis for building SZC is very different. It also remains a fact the HCDF will protrude out into the sea because the shoreline is eroding, and this protrusion will have with potential negative effects on the longshore transport of material.

The provision of additional modelling, plans, sections and information sought by IPs

Little was added on this issue in ISH 11. Comments were made at D7 on factors to be monitored in the CPMMP. Also, a clear benchmark for all possible areas that might be affected remains to be provided. There is no indication of how any impact to the north and south of SZC is going to be identified. It is not clear how data collection on shingle movement along the SCDF will reveal changes in where the shingle is going nor, if it is appears to be static or is being recycled the impact that stoppage on longshore drift is having on other parts of the coastline

The Minsmere Sluice Operation Technical Note - No comment

The monitoring, triggers, mitigation, and controls incorporated within the revision of the draft DCO requirements, the DML and CPMMP

In ISH 11 there were indications mentioned of some changes in relation to the Marine Technical Forum and CPMMP, but it seemed as if talks were continuing so no comment can be made yet.

There is nothing in the new papers on monitoring. The original Applicant's statement that any monitoring of the central SZC area will throw up if anything is happening elsewhere is repeated, but not explained. There needs to be baseline data of shingle shore/volumes to both the north and south of SZC.

The only mitigation proposed is recharging or recycling shingle along the SCDF. This is inadequate as other parts of the coast are likely to be affected.

There is still little on financing or framework for decisions for the CPMMP- so no new comment possible – the issue has not been addressed yet.

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