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The aim of this minute is to provide Defra comment on the MCS letter to Defra dated 20 December 2007 regarding Licence 31995/04/1-The confined disposal of contaminated dredge material.

Q1.

- The Souter Point disposal site has always been viewed by Cefas as a dispersive site, albeit one of the least dispersive of all the dredged material disposal sites around England and Wales. In the 40+ metres depth of water at the capping site, the site is a relatively low energy site compared to most dredged material disposal sites around England and Wales.
- While some dispersed fine silts may be transported out of the site, that is not the case with the sand material that now constitutes the bulk of the cap material.
- The whole point of capping the material was to isolate it from the forces that would tend to mobilise the sediment. Thus, the CDM is still contained within the Souter Point site close to its original deposition position and indeed will remain there provided the cap is maintained.
- The reference in the PoT October 2006 Annual Monitoring Report to the CDM spreading from its initial point of placement is believed to be primarily due to consolidation and slumping of the CDM. Since the CDM is not in contact with the seabed surface transport processes, any movement of it is unrelated to them!
- Part of Mr Latimer's query relating to material retained in the site concerned minestone. Minestone has very different characteristics to silt and sand.
- Information about sediment movement in that general area was covered in a 1979 report¹ by the MAFF Directorate of Fisheries Research (Cefas' predecessor).

Q2.

- We believe that a very high percentage of the CDM is retained within the area capped in April-May 2005. Only very small amounts that occurred in thin layers of less than 1cm in the South West corner of the target area (Figure 12 Tier 2 Annual Monitoring) were not deliberately covered by the capping material (<1% Jon Rees Risk Assessment 7/4/05) and thus exposed to the marine environment. Even some of those layers are likely to have been covered by thin layers of capping material not retained on the cap or mixed with them.
- The loss of capping material quoted by Mr Bell cannot be used to estimate the potential transport of CDM outside the site during its placement in the winter of 2004/5. The CDM had quite different characteristics to the sand and silt capping material and also was placed using different methods. Points to make include:
 - The CDM was very cohesive so that it maintained itself in a solid form rather than being easily dispersible if exposed to flowing water.

- It was dredged using a backhoe dredger that maintained its cohesive nature and carefully placed in split hopper barges for disposal, likewise to maintain its cohesive nature.
- When the split hopper barge opens its hull, the vast bulk of the CDM fell to the seabed very quickly and did not disperse into the water column. ADCP measurement of suspended sediment to the north and south of the capping site showed no transport of suspended sediment out of the Souter Point site due to the dumping operation.
- The occurrence of thin layers of CDM detected using SPI camera equipment after placement of CDM, but prior to placement of any capping material, shows the scale of movement of CDM away from its initial placement location prior to capping. It should be noted that these thin layers were all well within the boundary of the Souter Point site and represented a very small proportion of the total amount of CDM disposed of at the site.
- It would seem likely that the extent of these thin layers was at least partly due to the extended period over which CDM disposal took place due to the poor weather conditions. This may also have had a hand in spreading the thin layers of CDM to a greater extent than would otherwise have been the case.
- The silt capping material spread over a wide area in a matter of days whereas the thin layers of CDM covered a much smaller area even though the CDM had been exposed to erosion stresses for up to 3 months during the deposition of the CDM.
- The majority of the CDM was correctly placed as confirmed by the bathymetric and other surveys that took place prior to any capping material being placed. This was detailed in the relevant monitoring report produced in 2005. There was no reason for the 2006 monitoring report to address that issue again.

Q3.

- With regard to Cefas' estimate that 1 major or 3 moderate storms could remove up to 0.65 metres of cap. The Cefas risk assessment calculated that a one in ten year or single storm could remove 66cm and 3 moderate storms may be expected to remove 0.45 cm. Our thinking has moved on since that estimate was made in late 2005/early 2006. That was a worse case assessment and assumed no sediment moved onto the cap as well as off it. PoT observed that monitoring surveys done in spring 2006, showed little change in the cap thickness despite the occurrence of more than 3 moderate storms over winter 2005/6. However it should be noted that an assessment of the wave height of these observations compared to those of the risk assessment has not yet been undertaken.
- The original cap design of 1.5 metres thickness was based on 1.0 metres thickness of silt particularly to contain the contaminants plus 0.5 metres of sand particularly to provide erosion resistance. Some consolidation particularly of a silt cap following placement would be expected. Since the cap is now predominantly sand, taking into account lesser cap thickness' of just sand commonly used in the US and the experience with the cap at Souter Point, it is our assessment that a cap of less than 1.5 metres, predominantly made up of sand, will be perfectly satisfactory to contain the CDM. We do not regard this change in requirements to be counter to the Precautionary Principle.

Q4.

- We have not discussed any contingency plans other than topping up the cap. Beyond that, the only thing that could be done would be to dredge up all the CDM and dispose of it on land. This would be very risky from an environmental perspective and hugely costly to be done properly - probably at least 10 times the original cost of the project.
- I think MCS are correct that issues of liability have not been bottomed out.
- At the time the decision was made, this was the only practicable option available to deal with the CDM.

- I don't recall Mike Waldock stating at the FEPA Topic Review, "capping was not the best scientific option".
- The issue of an EIA is tied up with the Port of Tyne's concern to keep the issue confidential, i.e. out of the public domain, to prevent any potential harm to the port's commercial reputation and hence viability.

Q.5

- Annex I projects are required to be subject to EIA, however for Annex II projects EIA is discretionary.
 If it was thought that the capital dredging in this project was covered by; 'Annex II 2,c) Extraction of minerals by marine or fluvial dredging', which is unlikely, then only the dredge and not the placement would be considered if it was determined that EIA was required.
 Although there was not a formal EIA process for this application, environmental consideration of the project was undertaken by the POT consultants and assessed by Cefas. This included but is not limited to physical and chemical characterisation of the material, sediment transport process and detailed monitoring and mitigation plans of the dredging and the placement of the dredge material.
 I assume that Defra MED would agree with MCS that they would not consider an application for a licence for such a capping project in the future without a formal full EIA being carried out first.
 Cefas have available a summary of the trial capping of contaminated dredged material from the estuary of the River Tyne in open water offshore at the Souter Point disposal site that was presented to OSPAR on a CD that the MCS may wish to view.

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Reference

1. Fisheries Research Technical Report No. 51 ISSN 0308-5589
 The field assessment of effects of dumping wastes at sea: 5 The disposal of solid wastes off the north-east coast of England.

Lowestoft 1979. R.A. Eagle, P.A. Hardiman, M.G. Norton, R.S. Nunny, and M.S. Rolfe