Contract HK 12/02

Central Reclamation Phase III – Engineering Works

Environmental Permit No.: FEP-01/122/2003

Certification and Verification for

Change of FEP Condition 3.2(a) – Advanced FRAW Seawall Dredging and Filling

ET Leader Certification

We refer to the proposal by Leighton – China State – Van Oord Joint Venture (hereinafter referred to as the JV), to commence overnight dredging and filling of the FRAW Seawall Trench in early October 2006 (letter to the Engineer's Representative, 22 September 2006, H2189/C1/22326/MP/EY/ GL/ST/ec), which describe the dredging works they propose to undertake in FRAW prior to the relocation of seawater intakes M4A and M3 (shown in Figure 4.2, Annex C of the Monthly Environmental Monitoring & Audit Report 35 – June 2006) and the protection measures that they intend to implement to prevent water quality impacts at these intakes.

The JV's proposal differs from the reclamation phasing works that were assessed as part of the water quality assessment in the approved Central Reclamation Phase III EIA Report (Appendix C Detailed Construction Programme). In the EIA, the assessment was based on the relocation of all seawater intakes to the outer seawall prior to any dredging / reclamation works to be undertaken within FRAW. This is clearly shown in the programme provided in Appendix C of the EIA Report and the assessment undertaken in the EIA and information on the construction activities to be undertaken in the EIA form part of the Environmental Permit, as described in the Environmental Permit (FEP-01/122/2003) Condition 1.7, Part C (Permit Conditions), General Conditions, which states:

*"1.7 **The Permit Holder shall ensure that the project(s) is / are designed and constructed in accordance with the information and recommendations described in the EIA Report** (Register No. AEIAR 040/2001); or mitigation measures described in the this Permit, or mitigation measures to be recommended in submissions that shall be deposited with or approved by the Director as a result of permit conditions contained in this Permit, or mitigation measures to be recommended under on-going surveillance and monitoring activities during the construction stage of the Project(s). **Where recommendations referred to in the documents of the Register are not expressly referred to in this Permit, such recommendations are nevertheless to be implemented unless expressly excluded or implicitly amended in this Permit**".*

As the JV is proposing to commence dredging and filling work prior to the relocation of the M4A and M3 intakes, this is considered a change in the construction sequence of works and would be subject to Condition 3.2, Part C (Permit Conditions), Submissions or Measures for the Construction Period of the Project(s), of the Environmental Permit, as follows:

"3.2 The Permit Holder shall carry out dredging and filling works in phases for the Project(s) in accordance with:

(a) the sequence shown in Figure 5 to avoid formation of embayed water bodies and prevent water pollution problems; and

(b) the specified maximum dredging and filling volumes together with the maximum hourly dredging rates for each phase of activities shown in Table 1.

***Any changes to the dredging and filling requirements in items (a) and (b) above shall be certified by the ET Leader and verified by the IEC as conforming to the recommendations contained in the EIA report.** The changes shall be immediately documented in the following monthly EM&A report and be made available to the public, following the requirements in Conditions*

5.2 and 5.3 below, via internet access in the shortest possible time and in no event later than 2 weeks after the changes have been certified ".

The advancement of dredging and filling in FRAW thus requires a certification and verification from the ET and the IEC prior to the commencement of the proposed works.

Due to water quality problems previously encountered at station M4A and the embayed nature of water within this area, the water quality at these intake stations is a major concern. Any water quality exceedance of the action / limit levels at these stations would not be acceptable as the recommendations contained in the EIA report clearly require compliance with the water quality criteria as outlined in the Baseline Monitoring Report.

The JV has proposed the advanced dredging and filling as being necessary for the project and as being required due to unforeseen delays in the relocation of these intakes. As such, additional measures to reduce the potential for water quality impacts and to monitor the water quality impacts of the proposed dredging have been proposed by the JV. The ET has accepted these measures along with additional conditions during the proposed works, which include the following that shall be undertaken during the duration of the proposed advanced dredging / filling works:

(1) The JV will provide an additional silt curtain at Station M4A and inspect the silt curtain and existing silt screen on a daily basis. Any damage to the silt curtain or silt screen will be repaired immediately, within the same day of detection.

(2) The JV will undertake dredging works within a framed (box) type silt curtain enclosing the dredging area and also provide a floating curtain (both in front and behind the dredger to enclose the gap between the dredger and hopper barge during the dredging works.

(3) The JV will undertake additional water at the monitoring stations at stations M1A, M2A, M3, M4A and two additional monitoring stations in the immediate area of the dredging / seawall filling works (one near to and between the shore and the dredging / filling works and one between the dredging / filling works and the open water to be specified by the ET). Monitoring shall be undertaken on the days specified in the JV's proposal for the duration of the dredging / filling works. Sampling shall be undertaken immediately prior to and after the dredging work. The analysis will be undertaken by a HOKLAS accredited laboratory and the results of the dissolved oxygen, suspended solids, temperature, turbidity and other *in situ* parameters listed in the JV's proposal (outlined in their letter to the Engineer's Representative, 22 September 2006, H2189/C1/22326/MP/EY/ GL/ST/ec), shall be provided to the ET, IEC and Resident Site Staff within the same day of the sampling. The suspended solids results shall be provided to all parties within 36 hours of the sampling.

(4) The dredging rates for FRAW as listed in the Environmental Permit shall not be exceeded during the dredging work. All dredging works undertaken shall only be undertaken for the dredging of the FRAW seawall trench and all filling works for the seawall shall be limited to placement of rock fill within the dredged trench to original seabed level and not in excess of this level. Further, protective measures shall be undertaken for the filling work, which shall include filling by placement (not bottom dumping) within a framed (box) type of silt curtain.

(5) Should any non-compliance of action/ limit levels for the suspended solids in the water quality occur at any of the seawater intakes (water sensitive receivers), the advanced works shall immediately stop and works shall not resume until the exceedance is investigated and notice is provided by the ET and IEC to the Engineer's Representative that the Contractor can recommence dredging / filling. If there is an exceedance, additional mitigation measures will be required before such notice is given by the ET and IEC to the Resident Engineer to recommence dredging / filling. If such further measures cannot mitigate water quality impacts

to the standards required, this verification will be void, and dredging shall proceed in accordance with the sequence that was assessed in the EIA.

With the implementation of the above measures (in full), the Environmental Team and Independent Checker have no objections to the changes proposed to FEP Condition 3.2(a) for the advanced FRAW seawall dredging / filling works.

Susana Bezy, Environmental Team Leader: Date: 29 Sept 2006

IC(E) Verification

I hereby verify the above information.

Bill Douglas, Independent Checker (Environment): Date: 29 Sept 2006