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(ACE 36/94)
for information

Quarterly Report (October - December 1993) on Environmental Monitoring
Environmental Project Office (ENPO) - West Kowloon Project Area

A. Project Title: Environmental Project Office (ENPO) - West Kowloon Project Area.

1. Project Data and Project Organisation:

The ENPO is a joint venture between the firms: Consultants in Environmental Sciences (Asia) Ltd (CES) and Binnie Consultants Ltd (BCL). The project office is managed by the Environmental Protection Department. ENPO conducts the environmental monitoring and audit of the WKPA and reports on a monthly basis to a steering group formed by EPD, NAPCO, PM/K, HyD and CED. Issues which cannot be resolved at this level will be referred to the Secretaries for Works and Planning, Environment and Lands for resolution. The ENPO commenced on 27 August 1992 and the current consultancy will run initially for two years under the present arrangements. The ENPO will be needed throughout the period of major ACP construction work in the area.

2. Monitoring Requirement:

Air, noise and water quality are monitored together with related meteorological and tidal information. Ten permanent air monitoring stations are programmed to collect 24 hour dust samples. These are sampled on a weekly basis with ad hoc hourly sampling being implemented when it is necessary to focus on specific works operations. Two wind speed and direction monitoring stations have been commissioned to determine prevailing wind direction to determine the areas most likely to be impacted by fugitive dust from the site.

Seven noise monitoring stations provide three consecutive 5 minute readings on a weekly basis. Initially, baseline monitoring frequencies were higher in order to establish background conditions. Five permanent water stations and two control stations, to determine background water quality in the harbour, were initially established. A further eight supplementary stations have been added to provide data for specific operations so as to ensure that their consequences adequately dissipate within the confines of the site limits. Daily monitoring during the baseline has since reduced to 3 days per week and parameters include: dissolved oxygen (DO % and mg/l), suspended solids (SS), turbidity and temperature.

Flexible monitoring arrangements are built into the agreement to cope with unforeseen incidents. Additional stations can be added and frequency increased to closely monitor changing situations, such as sudden water quality deterioration.

3. Monitoring Results: Compliance with Action/Target levels

Monitoring results in the form of exceedances for the period October to December 1993 are included in Table A1.

Air: During the reporting period, 2 target level and 7 action level exceedances were recorded. It is worth noting that with the deployment of two additional water bowsers on West Kowloon Reclamation (North) contract site and the effective barriers to illegal traffic in front of Mei Foo, the dust level in Mei Foo has been generally satisfactory. This can be seen from the exceedances recorded in December which show that none of the action and target levels exceedances were in the Mei Foo area. ENPO has requested the RSS of all projects to ensure the contractors carry out regular dust suppression measures such as watering of haul roads. Two bowsers are in operation in the southern half of the site, one on the West Kowloon Expressway (South) contract and the other on the Western Harbour

Crossing project.

It is believed that some of the dust problems in other parts of the West Kowloon Project Area were attributable to factors such as the raising of dust plumes by constant heavy non-site traffic. This was particularly noticeable on Po Lun Street and Man Cheong Street. ENPO is pressing USD to increase the frequency of cleaning of the new public access roads.

Trigger, action and target levels had been set at 220, 240 & 260 $\mu\text{g}/\text{m}^3/\text{day}$, the target level equating to Hong Kong's Air Quality Objective for total suspended particulates (TSP). However, as a result of a review of ENPO's first year of operation, it has been agreed to reduce the trigger and action levels to 180 and 220 $\mu\text{g}/\text{m}^3/\text{day}$ in order to increase sensitivity.

Noise: Night-time noise levels have exceeded the ANL on eight occasions, but these are again mainly attributable to high background levels associated with traffic. Some marginal contraventions of EPD construction permits have occurred at night but there has been no evidence of widespread violations in this quarter.

Water: Again a number of dissolved oxygen and suspended solid action and target levels have been exceeded. The exceedances were mainly recorded in the old Yau Ma Tei typhoon shelter due to filling activities and illegal connections to storm drains which discharge into the shelter.

Thus far, there have been no indications of problems associated with the on-site generation of either sewage or waste oil.

Table A1 - Exceedances of the ENPO Action and Target Levels

Environmental Parameters	October 93			November 93			December 93		
	Total*	A	T	Total*	A	T	Total*	A	T
Air	57	1	1	58	1	1	50	7	2
Noise	28	10	4	21	0	4	14	0	0
Water DO Surface	91	13	12	63	6	3	56	3	2
Water DO Bottom	91	10	7	63	3	2	56	2	1
Water SS	91	5	3	63	8	2	56	14	7
Water Turbidity	91	4	3	63	5	3	56	11	3

* Total no. of monitoring events undertaken

A No. of monitoring events with results exceeding the Action Level

T No. of monitoring events with results exceeding the Target Level

Action levels are defined as the levels beyond which appropriate remedial actions may be necessary to prevent the environmental quality from going beyond the Target limits, which would be unacceptable.

Target levels are defined as the levels stipulated in relevant pollution control ordinances, or Hong Kong Planning Standards and Guidelines, or established by EPD for a particular project, beyond which the works should not proceed without appropriate remedial action, including a critical review of plant and work methods).

4. Audit Results: Implications of Non-compliance

Air: Most exceedances during this period were recorded in December when the wind direction shifted from the predominant NE to prevailing N to NW and also SW for a short duration. The target level exceedances were noted under the NNW-SSW wind direction and the effects were felt throughout the majority of the WKR area. It is considered likely that vehicular raised dust would have contributed to the exceedances. It is worth noting that with the deployment of additional water bowsers and the effective physical barriers to stop vehicles using the temporary road in front of Mei Foo, the dust level in Mei Foo has been satisfactorily controlled. Continued vigilance by all concerned is required to minimise/avoid any potential dust problem, particularly as the nature of the works change from reclamation to infrastructure development.

Noise: As in the previous quarter, most of the exceedances were not caused by site activities but by nighttime background-noise associated with traffic. RSS have been asked to remind contractors that any continued non-compliance with permits will result in complaints and legal action against the contractors involved.

Water: Continued non-compliance resulting from factors originating outside the site and its control may result in deteriorating water quality and the possibility of foul odour and public health implications. This is of particular concern at the Ferry Point area and has been actively pursued by ENPO. A feasibility study by the ENPO consultant is currently underway with an aim to recommend an effective, practical and timely solution to the problem.

5. Proposals for Remedial Measures: Solutions to Problems

ENPO has made a number of proposals; these include:-

- ◆ dust suppression and good site housekeeping to minimize fugitive dust emissions. These include: reducing sand surcharge piles, demarcating and watering of site haul-roads and site area, provision of wheel washing facilities; creating of wind-rows on exposed areas of sand, and erection of barriers to prevent abuse of site access roads;
- ◆ modifications to the method of sand placement from dredgers to reduce SS in local waters;
- ◆ an increase in the cleaning of the public access roads by USD;
- < an investigation into water quality problems at the WSD intake at Ferry Point; and
- ◆ increased overnight presence as works move towards foreshore;

6. Follow-up Actions: By Contractors and Engineers etc

Some of the above suggested remedial or proactive solutions have been taken up by the Engineers and implemented by their contractors. ENPO has also advised all concerned groups on dust suppression measures as more vigilance is required by all with respect to effective dust suppression measures.

Regarding the water quality problem associated with the Man Cheong Street outfall, the ENPO consultant has been given an instruction to investigate and recommend an effective, practical and timely solution. A recommendation is required to be furnished before Chinese New Year.

7. Complaints: From the Public

Four complaints have been received during this period through the EPD Pollution Complaints Hotline and passed on to ENPO for investigation and these are as shown in Table A2. Complainants were generally contacted by letter and some also by telephone. The Engineers were contacted in all complaint cases and various remedial actions were taken.

Table A2: Monthly Distribution of Complaints Received

Environmental Parameters	Cumulated No. Brought Forward	No. of Complaints this month			Cumulated No.
		October 93	November 93	December 93	
Air	28	0	3	0	31
Noise	16	1	0	0	17
Water	0	0	0	0	0
Waste	0	0	0	0	0
Total	44	1	3	0	48

8. Liaison: Meetings and Representations to the Public

ENPO has attended the Lai Wan Area Committee Meeting in November 1993.