

Appendix B3

Reporting

The following reporting requirements are based upon a paper documented approach. However, the same information can be provided in an electronic medium upon agreeing the format with the ER and EPD. All the monitoring data (baseline and impact) shall also be submitted in diskettes in an agreed format.

Baseline Monitoring Report

The ET Leader shall prepare and submit a Baseline Environmental Monitoring Report within 10 working days of completion of the baseline monitoring. Copies of the Baseline Environmental Monitoring Report shall be submitted to each of the four parties: the Contractor, the IC(E), the ER and the EPD. The ET Leader shall liaise with the relevant parties on the exact number of copies they want. The form and content of the report, and the representation of baseline monitoring data shall be in a format to the satisfaction of EPD and include, but not be limited to the following:

- (a) up to half a page executive summary;
- (b) brief project background information;
- (c) drawings showing locations of the baseline monitoring stations;
- (d) an updated construction programme with milestones of environmental protection/mitigation activities annotated;
- (e) monitoring results (in both hard and diskette copies) together with the following information:
 - monitoring methodology;
 - name of laboratory and types of equipment used and calibration details;
 - parameters monitored;
 - monitoring locations (and depth);
 - monitoring date, time, frequency and duration;
 - QA/QC results and detection limits.
- (f) details on influencing factors, including:
 - major activities, if any, being carried out on the Site during the period;
 - weather conditions during the period;
 - other factors which might affect the results;
- (g) determination of the Action and Limit Levels (AL levels) for each monitoring parameter and statistical analysis of the baseline data, the analysis shall conclude if there is any significant difference between control and impact stations for the parameters monitored;
- (h) revisions for inclusion in the EM&A Manual; and
- (i) comments and conclusions.

EM&A Reports

The results and findings of all EM&A work required in the

Manual shall be recorded in the monthly EM&A reports prepared by the ET Leader. The EM&A report shall be prepared by A/ER and endorsed by IC(E) and submitted within 10 working days of the end of each reporting month, with the first report due in the month after construction commences. A maximum of 4 copies of each monthly EM&A report shall be submitted to each of the four parties: the Contractor, the IC(E), the ER and the EPD.

Before submission of the first EM&A report, the ET Leader shall liaise with the parties on the exact number of copies and format of the monthly reports in both hard copy and electronic medium requirement. The ET Leader shall review the number and location of monitoring stations and parameters to monitor every 6 months or on an as needed basis in order to cater for the changes in surrounding environment and nature of works in progress.

i. First Monthly EM&A Report

The first monthly EM&A report shall include at least but not be limited to the following :

- (a) Executive Summary (1-2 pages)
 - Breaches of AL levels;
 - Complaint Log;
 - Notifications of any summons and successful prosecutions;
 - Reporting Changes;
 - Future key issues.
- (b) Basic Project Information
 - Project organisation including key personnel contact names and telephone numbers;
 - Construction Programme with fine tuning of construction activities showing the inter-relationship with environmental protection/mitigation measures for the month;
 - Management structure; and
 - Works undertaken during the month;
- (c) Environmental Status
 - Works undertaken during the month with illustrations (such as location of works, daily dredging/filling rates, percentage fines in the fill material used); and
 - Drawing showing the project area, any environmental sensitive receivers and the locations of the monitoring and control stations.
- (d) Summary of EM&A requirements
 - All monitoring parameters;
 - Environmental quality performance limits (Action and Limit levels);
 - Event-Action Plans;
 - Environmental mitigation measures, as recommended in the project EIA study final report;
 - Environmental requirements in contract documents;
- (e) Implementation Status

Advice on the implementation status of environmental protection and pollution control/mitigation measures including measures for ecological and visual impacts, as recommended in the project EIA study report,

summarised in the updated implementation schedule.

To provide monitoring results (in both hard and diskette copies) together with the following information:

- Monitoring methodology
- Name of laboratory and types of equipment used and calibration details
- Parameters monitored
- Monitoring locations (and depth);
- Monitoring date, time, frequency, and duration;
- Weather conditions during the period;
- graphical plots of the monitored parameters in the month annotated against:
- the major activities being carried out on site during the period;
- weather conditions that may affect the results; and
- any other factors which might affect the monitoring results;
- Any other factors which might affect the monitoring results; and
- QA/QC results and detection limits.

(g) Report on Non-compliance, Complaints, Notifications of Summons and Successful Prosecutions

- Record of all noncompliance (exceedances) of the environmental quality performance limits (Action and Limit levels);
- Record of all complaints received (written or verbal) for each media, including locations and nature of complaints investigation, liaison and consultation undertaken, actions and follow-up procedures taken, results and summary;
- Record of all notifications of summons and successful prosecutions for breaches of the current environmental protection/pollution control legislations, including locations and nature of the breaches, investigation, follow-up actions taken, results and summary;
- Review of the reasons for and the implications of non-compliance, complaints, summons and prosecutions including review of pollution sources and working procedures; and
- Description of the actions taken in the event of noncompliance and deficiency reporting and any follow-up procedures related to earlier noncompliance;

(h) Others

- An account of the future key issues as reviewed from the works programme and work method statements;
- Advice on the solid and liquid waste management status; and
- submission of implementation status proforma, proactive environmental protection proforma, regulatory compliance proforma, site inspection proforma, data recovery schedule and complaint log summarizing the EM&A of the period.

ii. Subsequent Monthly EM&A Reports

The subsequent monthly EM&A reports shall include the following :

(a) Executive Summary (1-2 pages)

(f) Monitoring Results

- Breaches of AL levels;
- Complaint Log;
- Notifications of any summons and successful prosecutions;
- Reporting Changes;
- Future key issues.

(b) Environmental Status

- Construction Programme with fine tuning of construction activities showing the inter-relationship with environmental protection/mitigation measures for the month;
- Works undertaken during the month with illustrations including key personnel contact names and telephone numbers; and
- Drawing showing the project area, any environmental sensitive receivers and the locations of the monitoring and control stations

(c) Implementation Status

Advice on the implementation status of environmental protection and pollution control/mitigation measures including measures for ecological and visual impacts, as recommended in the project EIA study report, summarised in the updated implementation schedule.

(d) Monitoring Results

To provide monitoring results (in both hard and diskette copies) together with the following information:

- Monitoring methodology
- Name of laboratory and types of equipment used and calibration details
- Parameters monitored
- Monitoring locations (and depth);
- Monitoring date, time, frequency, and duration;
- Weather conditions during the period;
- graphical plots of the monitored parameters in the month annotated against:
- the major activities being carried out on site during the period;
- weather conditions that may affect the results; and
- any other factors which might affect the monitoring results;
- Any other factors which might affect the monitoring results; and
- QA/QC results and detection limits.

(e) Report on Non-compliance, Complaints, Notifications of Summons and Successful Prosecutions

- Record of all noncompliance (exceedances) of the environmental quality performance limits (Action and Limit levels);
- Record of all complaints received (written or verbal) for each media, including locations and nature of complaints investigation, liaison and consultation undertaken, actions and follow-up procedures taken, results and summary;
- Record of all notifications of summons and

- successful prosecutions for breaches of the current environmental protection/pollution control legislations, including locations and nature of the breaches, investigation, follow-up actions taken, results and summary;
 - a description of the actions taken in the event of noncompliance and deficiency reporting and any follow-up procedures related to earlier noncompliance;
- (f) Others
- An account of the future key issues as reviewed from the works programme and work method statements; and
 - Advice on the solid and liquid waste management status.
- (g) Appendix
- AL levels
 - Graphical plots of trends of monitored parameters at key stations over the past four reporting periods for representative monitoring stations annotated against the following:
 - I) major activities being carried out on Site during the period;
 - ii) weather conditions during the period; and
 - iii) any other factors which might affect the monitoring results
 - Monitoring schedule for the present and next reporting period
 - Cumulative statistics on complaints, notifications of summons and successful prosecutions
 - Outstanding issues and deficiencies

iii. Quarterly EM&A Summary Reports

The quarterly EM&A summary report which should generally be around 5 pages (including about 3 of text and tables and 2 of figures) should contain at least the following listed information. Apart from these, the first quarterly summary report should also confirm that the monitoring work is proving effective and that it is generating data with the necessary statistical power to categorically identify or confirm the absence of impact attributable to the works.

- (a) up to half a page executive summary;
- (b) basic project information including a synopsis of the project organisation, programme, contacts of key management, and a synopsis of work undertaken during the quarter;
- (c) a brief summary of EM&A requirements including:
 - monitoring parameters;
 - environmental quality performance limits (Action and Limit levels); and
 - environmental mitigation measures, as recommended in the project EIA study final report;
- (d) advice on the implementation status of environmental protection and pollution control/mitigation measures, as recommended in the project EIA study report, summarised in the updated implementation schedule;
- (e) drawings showing the project area, any environmental

- Review of the reasons for and the implications of non-compliance, complaints, summons and prosecutions including review of pollution sources and working procedures; and
- sensitive receivers and the locations of the monitoring and control stations;
- (f) graphical plots of the trends of monitored parameters over the past 4 months (the last month of the previous quarter and the present quarter) for representative monitoring stations annotated against:
 - the major activities being carried out on Site during the period;
 - weather conditions during the period; and
 - any other factors which might affect the monitoring results;
 - (g) advice on the solid and liquid waste management status;
 - (h) a summary of noncompliance (exceedances) of the environmental quality performance limits (Action and Limit levels);
 - (i) a brief review of the reasons for and the implications of non-compliance including review of pollution sources and working procedures;
 - (j) for project where measurement of suspended solids is required, a quarterly assessment of construction impacts on suspended solids at the project site, including, but not limited to, a comparison of the difference between the quarterly mean and 1.3 times of the ambient mean, which is defined as 30% increase of the baseline data or EPD data, of the related parameters by using appropriate statistical procedures. Suggestion of appropriate mitigation measures if the quarterly assessment analytical results demonstrate that the quarterly mean is significantly higher than the 1.3 on water quality times of the ambient mean ($p < 0.05$);
 - (k) a summary description of the actions taken in the event of non-compliance and any follow-up procedures related to earlier non-compliance;
 - (l) a summary record of all complaints received (written or verbal) for each media, liaison and consultation undertaken, actions and follow-up procedures taken;
 - (m) a summary record of notifications of summons and successful prosecutions for breaches of the current environmental protection/pollution control legislations, locations and nature of the breaches, investigation, follow-up actions taken and results;
 - (n) comments (e.g. effectiveness and efficiency of the mitigation measures), recommendations (e.g. any improvement in the EM&A programme) and conclusions for the quarter; and
 - (o) proponents' contacts and any hotline telephone number for the public to make enquiries.

iv. Final EM&A Summary Report

The termination of EM&A programme shall be determined on the following basis:

- (a) completion of construction activities and insignificant environmental impacts of the remaining outstanding construction works;
- (b) trends analysis to demonstrate the narrow down of monitoring exceedances due to construction activities and the return of ambient environmental conditions in comparison with baseline data; and
- (c) no environmental complaint and prosecution

The final EM&A summary report shall include, inter alia, the following:

- (a) an executive summary;
- (b) basic project information including a synopsis of the project organisation, programme, contacts of key management, and a synopsis of work undertaken during the entire construction period;
- (c) a brief summary of EM&A requirements including:
 - monitoring parameters;
 - environmental quality performance limits (Action and Limit levels); and
 - environmental mitigation measures, as recommended in the project EIA study final report;
- (d) advice on the implementation status of environmental protection and pollution control/mitigation measures, as recommended in the project EIA study report, summarised in the updated implementation status proformas;
- (e) drawings showing the project area, any environmental sensitive receivers and the locations of the monitoring and control stations;
- (f) graphical plots of the trends of monitored parameters over the construction period for representative monitoring stations annotated against:
 - the major activities being carried out on Site during the period;
 - weather conditions during the period;
 - any other factors which might affect the monitoring results; and
 - the return of ambient environmental conditions in comparison with baseline data;
- (g) compare and contrast the EM&A data with the EIA predictions and annotate with explanation for any discrepancies;
- (h) provide clear-cut decisions on the environmental acceptability of the project with reference to the specific impact hypothesis;
- (i) advice on the solid and liquid waste management status;
- (j) a summary of noncompliance (exceedances) of the environmental quality performance limits (Action and Limit levels);
- (k) a brief review of the reasons for and the implications of non-compliance including review of pollution sources and working procedures;
- (l) a summary description of the actions taken in the event of non-compliance and any follow-up

involved.

The proposed termination may be required to consult related local community such as village representative/committee and/or District Board and the proposal should be endorsed by the IC(E), A/ER and the project proponent prior to final approval from the Director of Environmental Protection

procedures related to earlier non-compliance;

- (m) a summary record of all complaints received (written or verbal) for each media, liaison and consultation undertaken, actions and follow-up procedures taken;
- (n) review the monitoring methodology adopted and with the benefit of hindsight, comment on its effectiveness (including cost effectiveness);
- (o) a summary record of notifications of summons and successful prosecutions for breaches of the current environmental protection/pollution control legislations, locations and nature of the breaches, investigation, follow-up actions taken and results;
- (p) review the practicality and effectiveness of the EIA process and EM&A programme (e.g. effectiveness and efficiency of the mitigation measures), recommend any improvement in the EM&A programme ; and
- (q) a conclusion to state the return of ambient and/or the predicted scenario as per EIA findings.