

## 9 REPORTING

### General

- 9.1 The following reporting requirements 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 and complying with the requirements stipulated in Sections 4.1 and 4.2 of the EP. All monitoring data (baseline and impact) will also be submitted in diskettes in a format agreed by ER and EPD.

### Baseline Monitoring Report

- 9.2 The ET Leader will prepare and submit a Baseline Environmental Monitoring Report. The report will be verified and certified by IEC prior to submission to EPD at least two weeks before the commencement of construction of the Project. Copies of the Baseline Environmental Monitoring Report will be submitted to each of the four parties: the Contractor, the IEC, the ER and the EPD. The ET Leader will liaise with the relevant parties on the exact number of copies they want. The format and content of the report, and the representation of the baseline monitoring data will 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) monitoring results (in both hard and diskette copies) together with the following information:
    - monitoring methodology;
    - equipment used and calibration details;
    - parameters monitored;
    - monitoring locations (and depth); and
    - monitoring date, time, frequency and duration;
  - (e) details on influencing factors, including:
    - major activities, if any, being carried out on the site during the period;
    - weather conditions during the period; and
    - other factors which might affect the results.
  - (f) determination of the A/L levels for each monitoring parameter and statistical analysis of the baseline data, the analysis will conclude if there is any significant different between control and impact stations for the parameters monitored;
  - (g) revisions for inclusion in the EM&A Manual, and
  - (h) comments and conclusions.

## **EM&A Reports**

- 9.3 The results and findings of all EM&A work required in the Manual will be recorded in the monthly EM&A reports prepared by the ET Leader. The EM&A report will be prepared and submitted within two weeks after the end of each reporting month, with the first report due in the month after construction commences. For the operational phase EM&A programme, the EM&A reports will be submitted monthly for the first 6 months and subsequent EM&A reports will be commissioned at 12 monthly intervals if the initial EM&A indicates no potential problems. The EM&A reports will be certified by ET Leader and verified by the IEC prior to submission to DEP. A maximum of 4 copies of each monthly EM&A report will be submitted to each of the four parties: the Contractor, the ER, the IEC and EPD. Before submission of the first EM&A report, the ET Leader will liaise with the parties on the exact number of copies and format of the monthly reports in both hard copy and electronic medium requirement.
- 9.4 The ET Leader will review the number and location of monitoring stations and parameters to monitor every 6 months or on as needed basis in order to cater for the changes in surrounding environment and nature of works in progress.

### **First Monthly EM&A Report**

- 9.5 The first monthly EM&A report will consider the findings of results and data obtained during the establishment of baseline conditions of the environmental parameters and will include at least the following:
- (a) executive summary 1-2 pages;
    - breaches of Action/Limit levels;
    - Complaint Log;
    - Notifications of any summons and successful prosecutions;
    - Reporting Changes;
    - Future key issues.
  - (b) Basic project information;
    - Project organization 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)
    - Drawing showing the project area, any environmental sensitive receivers and the locations of the monitoring and control stations.
  - (d) a brief summary of EM&A requirements including:
    - all monitoring parameters;
    - environmental quality performance limits (A/L levels);
    - Event-Action Plans;

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- environmental mitigation measures, as recommended in the project EIA study final report and
  - environmental requirements in contract documents;
- (e) Implementation Status
- advice on the implementation status of environmental protection and pollution control/mitigation measures, as recommended in the project EIA study report, summarized in the updated implementation schedule; and
  - advice on the status of submissions required under the EP and the status of compliance with EP's conditions.
- (f) Monitoring results (in both hard and diskette copies)
- 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;
  - any other factors which might affect the monitoring results;
  - QA/QC results and detection limits;
  - all monitoring results will be tabulated with exceedances highlighted for ease of referencing; and
  - graphical plots of trends of monitored parameters over the past reporting periods.
- (g) Report on non-compliance, complaints, notifications of summons and successful prosecutions
- record of all non-compliance (exceedances) of the environmental quality performance limits (A/L levels);
  - record of all complaints received (written or verbal) for each media, including locations and nature of complaints, 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 action 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 non-compliance and deficiency reporting and any follow-up procedures related to earlier non-compliance
- (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.

## **Subsequent Monthly EM&A Reports**

9.6 The subsequent monthly EM&A reports will include the following:

- (a) Executive Summary (1-2 pages)
  - Breaches of A/L levels
  - Complaint Log
  - Notifications of any summons and successful prosecution
  - Reporting Changes
  - Future key issues
- (b) Basic project information
  - Project organization 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
  - 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 illustration 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
- (d) a brief summary of EM&A requirements including:
  - all monitoring parameters;
  - environmental quality performance limits (A/L levels);
  - Event-Action Plans;
  - environmental mitigation measures, as recommended in the project EIA study final report and
  - environmental requirements in contract documents;
- (e) Implementation Status
  - 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.
  - advice on the status of submissions required under the EP and the status of compliance with EP's conditions.
- (f) Monitoring Results (in both hard and diskette copies)
  - Monitoring methodology
  - Name of laboratory and types of equipment used and calibration details
  - Parameters monitored

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- Monitoring locations (and depth)
  - Monitoring date, time, frequency, and duration;
  - Weather conditions during the period;
  - Any other factors which might affect the monitoring results;
  - QA/QC results and detection limits
  - all monitoring results will be tabulated with exceedances highlighted for ease of referencing.
- (g) Report on non-compliance, complaints, notifications of summons and successful prosecutions
- Record of all non-compliance (exceedances) of the environmental quality performance limits (A/L levels);
  - Record of all complaints received (written or verbal) for each media, including locations and nature of complaints, liaison and consultation undertaken, actions and follow-up procedures taken, results and summary of complaints;
  - 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 action 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
  - A description of the actions taken in the event of non-compliance and deficiency reporting and any follow-up procedures related to earlier non-compliance
- (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.
- (i) Appendix
- A/L 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; and
  - Outstanding issues and deficiencies

## Quarterly EM&A Summary Reports

9.7 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 information:

- (a) up to half a page executive summary;
- (b) basic project information including a synopsis of the project organization, 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 (A/L levels); and
  - environmental mitigation measures, as recommended in the Stage 1 EISA;
- (d) advice on the implementation status of environmental protection and pollution control/mitigation measures, as recommended in the Stage 1 EISA, summarized in the updated implementation schedule;
- (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 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 non-compliance (exceedances) of the environmental quality performance limits (A/L levels);
- (i) a brief review of the reasons for and the implications of non-compliance including review of pollution sources and working procedures;
- (j) a summary description of the actions taken in the event of non-compliance and any follow-up procedures related to earlier non-compliance;
- (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) comments, recommendations and conclusions for the quarter; and
- (m) proponents = contact and any hotline telephone number for the public to make enquiries.

### **Final EM&A Summary Report**

9.8 The termination of EM&A programme will 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 involved.

9.9 The final EM&A report will contain at least the following information:

- (a) an executive summary;
- (b) basic project information including a synopsis of the project organization, 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:
- (d) advice on the implementation status of environmental protection and pollution control/mitigation measures, summarized 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 and the statistical analysis of the trends of monitored parameters over the construction project for representative monitoring stations annotated against;
- (g) provide clear-cut decisions on the environmental acceptability of the project with reference to the specific impact hypothesis;
- (h) advice on the solid and liquid waste management status;
- (i) a summary of noncompliance (exceedances) of the environmental quality performance limits (A/L levels);
- (j) a brief review of the reasons for and the implications of non-compliance including review of pollution sources and working procedures;
- (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) review the monitoring methodology adopted and with the benefit of hindsight, comment on its effectiveness (including cost effectiveness);
- (n) 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;
- (o) review the monitoring methodology adopted and with the benefit of hindsight; comment on its effectiveness (including cost effectiveness)
- (p) 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-action taken and results; reviews the practicality and effectiveness of the EM&A programme (e.g. effectiveness and efficiency of the mitigation measures), recommend any improvement in the EM&A programme; and a conclusion to state the return of ambient and/or the predicted scenario as per EIA findings.

### **Data Keeping**

- 9.10 The site document such as the monitoring field records, laboratory analysis records, site inspection forms, etc. are not required to be included in the monthly EM&A reports for submission. However, the document will be well kept by the ET Leader and be ready for inspection upon request. All relevant information will be clearly and systematically recorded in the document. The monitoring data will also be recorded in magnetic media form, and the software copy can be available upon request. All the documents and data will be kept for at least one year after completion of the Contract.
- 9.11 A software copy of the monitoring data (including baseline data) will be submitted to EPD along with the EM&A reports.

### **Interim Notifications of Environmental Quality Limit Exceedances**

- 9.12 With reference to Event/Action Plans in **Table 4.6**, when the environmental quality limits are exceeded, the ET will immediately notify the ER, the IEC, and EPD, as appropriate. The notification will be followed up with advice to IEC and EPD on the results of the investigation, proposed action and success of the action taken, with any necessary follow-up proposals. An interim notifications form is shown in **Appendix E** for reference.