

**Section 10**  
**REPORTING**

## 10 REPORTING

### 10.1 General

10.1.1 The reporting guidelines referred to this Section are based upon a paper based system. However, the same information can be provided by an electronic medium upon agreeing the format with the ER and EPD. All the monitoring data shall be submitted to diskettes to a format shown to *Annex A*.

### 10.2 Baseline Monitoring Report

10.2.1 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 all parties; the Contractor, the IC(E), the ER and the EPD. Baseline water quality monitoring data shall also be provided to WSD as applicable for monitoring of the water quality near WSD seawater intakes. The format and content of the report and the representation of the baseline monitoring data shall be provided 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) A brief project background information;
- (c) Drawings showing locations of the baseline monitoring stations;
- (d) Monitoring results (to 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; and
  - QA/QC results and detection limits.
- (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 Action and Limit 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, and the following information should be recorded:
  - graphical plots of monitored parameters to the month annotated against; and
  - the major activities being carried out on site during the period.
- (g) Revisions for inclusion to the EM&A Manual; and
- (h) Comments and conclusions, including: submission of implementation status proforma, proactive environmental protection proforma, regulatory compliance proforma, site inspection proforma, data recovery schedule and complaint log summarising the EM&A period (see *Annex A*).

### 10.3 EM&A Reports

- 10.3.1 The results and findings of all EM&A work required shall be recorded in the monthly EM&A reports prepared by the ET Leader. The EM&A report shall be prepared, endorsed by IC(E) and submitted within 10 working days of the end of each reporting month, with the first report due to the month after construction commences. 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 to both hard copy and electronic medium requirement. The ET Leader shall review the number and location of monitoring stations and parameters to be monitored every 6 months or on an as needed basis to order to cater for the changes to surrounding environment and nature of works to progress.
- 10.3.2 The report shall contain an executive summary of the Project activities including daily type and locations of works, exceedance of any Action or Limit Levels, cause of exceedance and mitigation measures being taken. All monitoring data shall be included such as information indicating the sampling / measurement locations, and other factors which might affect the results, and detailed description of the findings from auditing of monitoring data.
- 10.3.3 The raw data sheets of the monitoring data shall be maintained properly and readily and easily accessible upon request by other parties. The monitoring data shall be stored floppy disk with the format agreed with EPD. The disk shall be submitted to EPD together with the monthly report.
- 10.3.4 A report shall be made to IC(E) and EPD immediately by fax following exceedance of an Action Level by any parameter giving details of raw monitoring data, mitigation measures implemented and the proposed actions to ensure that reoccurrence of future exceedances will be prevented.

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

- 10.3.5 The First Monthly EM&A Report shall include at least the following:
- (a) 1-2 pages Executive Summary:
    - breaches of Action or Limit levels;
    - complaints log;
    - notifications of any summons and successful prosecutions;
    - reporting changes; and
    - future key issues.
  - (b) Basic Project Information:
    - project organisations including key personnel contact names and telephone numbers;
    - programme;
    - management structure; and
    - works undertaken during the month.
  - (c) Environmental Status:
    - work undertaken during the month with illustrations (such as location of works daily dredging/filling rates percentage fines to 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;

- Action and Limit Levels;
  - Event-Action Plans;
  - environmental mitigation measures, as recommended to the Project EIA 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 to the project EIA Report, summarised to the updated implementation schedule (see *Annex A*);
- (f) Monitoring Results (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;
  - any other factors which might affect the monitoring results; and
  - QA/QC results and detection limits.
  - where exceedances are identified, the relevant data should be highlighted for ease of review.
- (g) Report on Non-compliance, Complaints, Notifications of Summons and Successful Prosecutions, including:
- record of all noncompliance (exceedances) of the Action or 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 to 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; and
  - advice on the solid and liquid waste management status.

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

10.3.6 The subsequent Monthly EM&A Reports shall include the following:

- (a) Executive Summary (1-2 pages):
- breaches of any Action or Limit Levels;
  - complaint log;
  - notifications of any summons and successful prosecutions;
  - reporting changes; and
  - future key issues.

(b) Environmental Status:

- construction/operational 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 number; 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, cultural heritage and visual/landscape impacts, as recommended in the EIA Report, summarised to the updated implementation schedule (see *Annex A*).

(d) Monitoring Results (both hard and diskette copies) together with the following information:

- graphical plots of the monitored parameters to the month annotated against;
- major activities being carried out on site during the period;
- monitoring methodology;
- name of laboratory and types of equipment used and calibration details
- parameters monitored;
- monitoring locations;
- monitoring date, time, frequency, and duration;
- weather conditions during the period;
- 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, including:

- record of all noncompliance (exceedances) of the Action or 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
- a description of the actions taken to 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:

- Action and Limit 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*

10.3.7

The Quarterly EM&A Summary Reports should generally be around 5 pages (including about 3 of text and tables and 2 of figures) and should contain at minimum the following information. The first quarterly summary report should also confirm that the necessary statistical power to categorically identify or confirm the absence of impact attributable to the Project 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;
  - Action and Limit Levels; and
  - environmental mitigation measures, as recommended in the EIA Report.
- (d) Advice on the implementation status of environmental protection and pollution control/mitigation measures, as recommended to the project EIA Study Report, summarised to 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) Summary of non-compliance (exceedances) of the Action and Limit Levels;
- (i) Quarterly assessment of constructional impacts on water quality at the project site including but not limited to comparison of the difference between the quarterly mean and 1.3 times of the ambient 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 liaison water quality times of the ambient mean ( $p < 0.05$ );
- (j) Brief review of the reasons for and the implications of non-compliance including review of pollution sources and working procedures;
- (k) Summary description of the actions taken to the event of non-compliance and any follow-up procedures related to earlier non-compliance;
- (l) Summary record of all complaints received (written or verbal) for each media, liaison and consultation undertaken, actions and follow-up procedures taken;
- (m) Comments (e.g. effectiveness and efficiency of the mitigation measures), recommendations (e.g. any improvement to the EM&A programme) and conclusions for the quarter; and
- (n) Proponents' contacts and any hotline telephone number for the public to make enquiries.

### *Annual/Final EM&A Review Reports*

10.3.8

The Annual/Final EM&A Reports should contain at least the following information:

- (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 Limits levels); and
  - environmental mitigation measures, as recommended in the project EIA study final report.
- (d) advice on the implementation status of environmental production and pollution control/mitigation measures, as recommended in the project EIA study report, summarised in the updated implementation status proforma;
- (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 appointed 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 hypothesis;
- (i) advice on the solid and liquid waste management status;
- (j) a summary of noncompliance (exceedances) of the environmental quality performance limits (Actions 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 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 legislation, locations and nature of the breaches, investigation, follow-up actions taken and results;
- (p) review the particularly and effectiveness of the EIA process and EM&A programme (eg. 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.

## **10.4 Data Keeping**

- 10.4.1 The site document such as the monitoring field records, laboratory analysis records, site inspection forms, etc. are not required to be included to the monthly EM&A reports for submission. However, the document shall be maintained by the ET Leader and be ready for inspection upon request. All relevant information shall be clearly and systematically recorded to the document. The monitoring data shall also be recorded to magnetic media form, and the software copy shall be available upon request. The water quality data software format shall be agreed with EPD. All the documents and data shall be kept for at least one year after completion of the construction contract.
- 10.4.2 During water quality monitoring, WSD shall be regularly notified of the water quality results applicable for WSD Seawater intakes and shall have access to routine monitoring information on request.

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

- 10.5.1 With reference to Event/Action Plans when the environmental quality limits are exceeded, the ET Leader shall immediately notify the ER, IC(E) and EPD, as appropriate. The notification shall be followed up with advice to IC(E) and EPD on the results of the investigation, proposed action and success of the action taken, with any necessary follow-up proposals. A sample template for the interim notifications is shown to *Annex A*.
- 10.5.2 For exceedance of water quality limits, WSD shall also be informed immediately when the water quality at any monitoring station near WSD seawater intakes exceed the Action and/or Limit Levels during the monitoring programme.