



# **Bangladesh Power Development Board**

**INTEGRATED MANAGEMENT SYSTEM  
(BASED ON ISO 9001:2015, ISO 14001:2015 & ISO  
45001:2018 STANDARDS)**

**MONITORING, MEASUREMENT, ANALYSIS AND  
IMPROVEMENT POLICY**



## INTEGRATED MANAGEMENT SYSTEM

### MONITORING, MEASUREMENT, ANALYSIS AND IMPROVEMENT PROCEDURE

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#### 1.0 Purpose

The purpose of this procedure is to ensure that all personnel of BPDB are aware of the mechanism for monitoring, measurement, analysis and improvement of the activities undertaken for measuring customer satisfaction and eliminate hazards, risks, and striving to reduce injury, incident/accident to zero at the organization.

#### 2.0 Scope

This procedure applies to IMS requirements adopted by BPDB.

#### 3.0 Terms and Definition

None

#### Abbreviations

**DB** - Decibels

**BPDB** – Bangladesh Power Development Board

**DoE** - Department of Environment

**CPI** - Corrugated Plate Interceptors

**PPE** - Personal Protective Equipment

**QMS** - Quality Management System

**EMS** - Environmental Management System

**OH&S** - Occupational Health and Safety

**ISO** - International Standards Organization

**HSE** - Health Safety and Environment

**ACGIH** - American Conference of Governmental Industrial Hygienists

**IMS** - Integrated Management System

**IC&E** - Instrumentation, Controls and Electrical

#### 4.0 Roles and Responsibilities

- **Chairman**

- Oversees the whole procedure.
- Arrange/sit on meetings with departments regarding control of monitoring and measurement mechanism, if required.

- **MR**

- Ensuring communication with/between all departments regarding requirements of the procedure
- Update and maintain the records of any changes in the procedure
- Ensuring that this procedure, and any revision, is maintained, approved, and communicated
- The implementation of this procedure
- Distribution of documents

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- Reporting on the status of recommendations
- Provides the necessary information in the meetings
- Prepare necessary supporting reports/data etc. that may be required while attending the meetings

#### • Head of the Departments

- Provide assistance to MR as and when required.
- Provides the necessary information in the meetings
- Prepare necessary supporting reports/data etc. that may be required in any case
- Ensuring implementation of any requirements within their own department, with the assistance of MR

## 5.0 Procedures

### 5.1 MONITORING AND MEASUREMENT OF ACTIVITIES

- The organization shall monitor and measure IMS performance on a regular basis. The monitoring and measurement shall be done on integrated management programs, measuring customer satisfaction, the extent to which the IMS objectives and targets are met, operational criteria and applicable legislation and regulatory requirements.
- A list of Quality, Environmental, Health and Safety key characteristics shall be compiled by the MR
- MR shall monitor incidents and other historical evidence of deficiency in Quality, Environmental, Health and Safety performance.
- As indicated in applicable integrated management programs, procedures, work practices, or visual aids, operational controls will be monitored and measured. The methods, frequencies and responsible persons for completing the monitoring and measuring activities will be specified in these documents.
- Management team will perform weekly inspections in site to monitor any unsafe conditions exist

### 5.2 MEASURING CUSTOMER SATISFACTION

- BPDB will conduct a survey of customer satisfaction every six months as well as upon completion of any project.
- A pre-defined checklist will be used to capture perception of the customer.
- The satisfaction will be captured for IMS performance.

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- The form used for conducting the survey covers all aspects of services as per the contract and is quantified out of 100 points.
- An average point of 80 and above will be considered as acceptable.
- The MR of BPDB will communicate to the customer if there is a score showing low satisfaction of the customer (<80)
- The customer satisfaction data will be summarized annually and analysis will be made thereof to identify continual improvement opportunities and success/failure of previously reached improved decision.
- There will be distinct communications made to the customer after receiving feedback information (thanks, explanations, clarifications, etc.) to ensure that customer understands the importance that BPDB gives to the feedback information of its customers.

### 5.3 CALIBRATION AND MAINTENANCE OF IMS MONITORING EQUIPMENT

- Maintenance Manager, with manufacturer's recommendation, shall ensure that all monitoring and measuring equipment are calibrated and maintained at a frequency consistent. To prove conformance with this procedure, relevant areas and departments shall maintain calibration procedures and calibration and maintenance records necessary.
- Where applicable, calibration and maintenance of monitoring equipment shall be addressed in departmental preventive maintenance programs, or in work instructions and through the company maintenance management system.

### 5.4 MONITORING AND CONTROL STANDARD

#### 5.4.1 EFFLUENT

- To ensure that effluent quality does not pollute the environment when released to river, water run-off and discharges from the effluent treatment plant will be analyzed as per requirement of DoE (Department of environment) and World Bank.
- Weekly analysis of effluent is carried out and recorded.
- Daily monitoring of pH and Conductivity of effluent is done once per shift.

#### 5.4.2 NOISE

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- Noise levels above 85 decibels A – weighted [85 dB (A)] are excessive noise levels.
- The plant management must implement following actions as and when required in order to prevent excessive noise level:
  - New devices will be required to operate at or below this level - lower is preferable;
  - To maintain equipment at optimum working conditions, preventive maintenance will be undertaken.
  - Where hearing protection aid is mandatory, safety signage will be posted on high noise areas.
- Where noise levels exceed 85 dB (A), hearing protectors will be supplied to all personnel.
- The plant management must ensure that no uncontrolled noise levels can result as it might lead to permanent hearing impairment and possible workplace incidents.

#### 5.4.3 SLUDGE CAKE

- For analysis of required parameters, sludge cake sample will be sent to third party laboratory/ in house laboratory. Tests will be performed as per requirement of DoE (Department of environment) and World Bank.

#### 5.4.4 STACK EMISSION

- Total emission for any month is available in DoE report.
- Preventive maintenance on emission monitoring is performed by IC&E Maintenance.
- MR will calculate the total emission quantity every month and will include in the Monthly Report to DoE.
- Through online stack emission monitoring system, stack emission will be monitored.
- As per manufacturer's recommendation by plant IC&E maintenance personnel, the monitoring system will be calibration periodically.
- On line monitoring values are recorded in Shift Engineers' Log once per shift.

#### 5.4.5 COMMUNITY PROTECTION

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- Noise levels originating from any sources related to the operations of the power plant will be maintained below 60 dB (A) from the power plant property line outwards at all times.
- Preventative maintenance programs will ensure all devices are operated within this level to minimize potential adverse noise effects in neighboring communities.
- Vehicles will operate at speeds that do not create noise levels above normal vehicle operating standards or create unnecessary noise disturbances to the community they travel through.

#### 5.4.6 OILY WASTE

- Oily waste will be collected through the corrugated plate Interceptor (CPI) oil separator installed in the oily waste water pond of the ETP.
- The oil collected by the CPI will be collected in a container.
- MR will collect the total oil quantity disposed-off for the month

#### 5.5 MEASUREMENT

- Noise levels will be measured to ensure compliance with this standard. Testing will be completed during daytime operation hours and night time operating hours.

#### 5.6 TRAINING

- The MR will ensure that training is conducted as required. He will also caution the PPE users the dangers of not using them where using earplug is mandatory.

#### 5.7 DOCUMENTATION AND RECORDS

- Testing on grab samples will primarily be carried out in-house at site. The test, which cannot be done in-house, will be carried out at outside laboratories. All testing will be recorded, reviewed and maintained by the MR:
  - The yearly report will also be provided to the World Bank representatives.
  - MR shall maintain the records of the results of the reports
  - Emission releases in excess of established standards will be reported immediately to the Operations Manager
  - In January of each year a full, annual report of stack releases will be compiled.

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- The MR shall also ensure that training is given as per Annual Training Plan regarding Health, Safety, Environment and IMS Programmes.

### 6.0 Reference

ISO 9001:2015, ISO 14001:2015 and ISO 45001:2018 Standards

### 7.0 Appendix

None

### 8.0 Revision History

SI No.	Revision Number	Section	Change Made	Date of Creation

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