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## **GUIDANCE DOCUMENT ON FIELD TRAINING REPORT PREPARATION FOR CERTIFIED ENVIRONMENTAL PROFESSIONAL IN SCRUBBER OPERATION (CePSO)**

### **1. INTRODUCTION**

Preparation of Field Training Report (FTR) is the last step that candidates need to complete the certification process. The FTR provided will show that the candidate is willing to carry out his responsibilities as a competent person as required under Section 49A, Environmental Quality Act 1974.

In general, the FTR report prepared by the candidate should have been able to explain the candidate's involvement in the following processes/activities task:

- Carry out performance monitoring data measurement for scrubber system using equipment and instrumentation that has been provided for air pollution control system operating on-premises.
- Prepare performance monitoring analysis reports and present them to the performance monitoring committee established on the premises.
- Implement schedule maintenance activities and take corrective action on the operation of scrubber system
- Initiate efforts to introduce/improve work procedures and performance monitoring for scrubber systems that have been operating on the premises.

The successful preparation of the FTR demonstrates the fruitful collaborative efforts between the candidate and the management in his organization in implementing the environmental mainstream at the work premises.

Therefore, the FTR report provided must show that the management of the industry/organization/company has accepted the Guided Self-Regulation (GSR) approach in conducting its business by implementing environmental mainstreaming tools (EMTs) in the premises/company/industry organization.

The evaluation of the FTR report prepared by the candidate will look at the candidate's contribution to the overall improvement efforts that have been made in the operation of scrubbers and performance monitoring activities in accordance with relevant laws and guidelines in ensuring the success and compliance of the premises in air pollution control operations.

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## **2. GENERAL SPECIFICATION AND FORMAT**

The field training report should follow the general specification and format as below:

### **2.1 Specification**

#### **Covers and Binding**

The report should be bound preferably in hard cover (**BLACK Color with GOLD LETTERING**)

- Typeface to be used is Arial
- Front Cover of the report is attached for reference.

#### **Language of Report**

Report may be written in English or Bahasa Malaysia

#### **Typeface and Font Size of the Main Text**

Typeface to be used is Arial. Font size of 12 point should be used for the main body of the text.

#### **Margins and Spacing**

The margin on the document must comply with the specifications below:

- Top – 20 mm
- Bottom – 40 mm
- Left – 40 mm
- Right – 25 mm

#### **Text**

**Text** should be: **typed one side** of the paper only, **one and a half-spaced, left-right justified**. For captions of figures and tables, single spaces can be used.

#### **Pagination**

**Every page** except the title page must be **numbered**; **PRELIMINARY PAGES** are to be numbered in **lower case Roman numerals** (i, ii, iii etc.); and **MAIN TEXT** pages are to be numbered at the center of the page (1, 2, 3...) and all pages must be numbered **consecutively** and **continuously**.

### **2.2 Format**

The structure of the report is based on standard format which contains the following sections:

- A. Preliminary Pages
- B. Main Text
- C. Appendices

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The report should contain a minimum of 15 pages (excluding executive summary, illustrations, photographs, appendices, or figures).

**Photographs** should be printed in **COLOR**.

### **3.0 FIELD TRAINING PERIOD**

The candidates are required to undergo field training on operating and maintaining a scrubber system at their work place for a **minimum of six (6) months**.

### **4.0 SUBMISSION OF FIELD TRAINING REPORT**

The FTR report shall be submitted to EiMAS **within one (1) year from the date** the Temporary Competent Certificate is issued

The FTR report must be submitted to EiMAS at the following address:

The Director  
 Environment Institute of Malaysia (EiMAS)  
 Department of Environment  
 Universiti Kebangsaan Malaysia  
**43600 BANGI, SELANGOR**  
 (Attn: Industry Certification and Competency Centre)

Report must be submitted in **in one (1) hardcopy report and one (1) in softcopy report (CD or USB drive)**

If you have any technical questions regarding the field training report preparation, please email your questions to [pkpi@doe.gov.my](mailto:pkpi@doe.gov.my)

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**The structure of the report is based on standard format which contains the following sections:**

**A. PRELIMINARY PAGES**

(The preliminary pages shall include at least the following)

**a) GENERAL INFORMATION ON THE CANDIDATE**

1. Name of trainee:  
.....
  
- 2(i). Contact Address:.....  
.....
  
- 2(ii) Email: .....
  
- 2(iii) Handphone No: .....
  
3. Designation:  
.....
  
4. Nature of Business:  
*Indicate the type of your organization, whether a consulting company or a manufacturing industry. If your company is a manufacturing industry, you should provide the following information:*  
  
 Type of manufacturing:  
 .....  
  
 Others please specify:  
 .....
  
5. Date of attending the course on Certified Environmental Professional in Scrubber Operation conducted by the Environment Institute of Malaysia (EiMAS):  
 .....

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6. Name and address of the premise where you underwent the field training on operating and maintaining a Scrubber System.

i) Name:.....

ii) Address:.....

7. Period of Field Training:

.....

8. Contact officer in the above organization who could verify your training experience:

Name: .....

Designation: .....

Phone number: .....

Fax number: .....

E-mail address: .....

**b. List of Duties:**

9. i).....

ii).....

iii).....

**c. Continuing Professional Development (CPD)**

10. List of seminars, workshops, training courses, etc attended in the past 3 year, if any;

.....  
 .....  
 .....  
 .....

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**Verification and Declaration must be type written using the OFFICIAL LETTERHEAD of the company the candidate is attached to.**

**d. Verification (to be filled out by the candidate’s supervisor)**

“I hereby declare that (Mr/Ms).....has completed the six months field training as required and the information provided in the report is true to my best knowledge”

Name of Supervisor:..... NRIC number: .....

Designation :.....

Signature: ..... Date: .....

Company’s stamp:

**e. Declaration (to be filled out by the trainee)**

“I declare that the entire report is the product of my own work and all the facts stated in it and the accompanying information is true and correct and that I have not withheld or distorted any material facts”

Name of Candidate:..... NRIC number: .....

Designation :.....

Signature: ..... Date: .....

Company’s stamp:

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***The Main Text shall contain SEVEN (7) CHAPTERS and sub-CHAPTERs as below***

## **B. MAIN TEXT**

### **CHAPTER 1: INTRODUCTION**

#### **1.1 Background of Company or Industry**

In this subchapter, you should describe the background of the company (name of the company/premises, location of the premises, establishment information, operating hours of the premises, employee strength, manufacturing carried out, etc.)

Describe the type of manufacturing carried out in your factory and the products produced/carried out in this premises.

Brief the whole process/activity - attach process flow chart - raw material - product produced - waste generated - which process/activity generates air pollution control through scrubber

#### **1.2 Situation before course attendance**

In this subchapter, you should describe how the APCS - scrubber was being monitored before you attended the CePSO course and improvement/changes were made.

Attach photos and caption of changes made before attending the course as evidences).

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## **CHAPTER 2: ORGANIZATION'S ENVIRONMENTAL COMMITMENT**

### **2.1 Environmental Policy (EP)**

In this subchapter, at the minimum you should reproduce an extract of your company's/industry's Environmental Policy. Mention the date the policy was made and identify whether the policy is an existing policy or a new policy which has been developed. If it is a new policy, explain how and where you were involved in its development.

Attach a copy of the official EP with the CEO's/president's/manager's signature or retype it and have it formally endorsed

*Note:*

The environmental policy (EP) of successful organizations uses strong and unequivocal statements to convey their environmental commitment to their employees, clients, stakeholders and the public. The EP is disseminated to all relevant parties and translated into action in the organization's work procedures, materials purchasing policy, business decision making process and cascades down to the supply chain.

### **2.2 Environmental Budgeting (EB)**

In this subchapter, briefly describe budget allocated for proper operation and maintenance of pollution control systems. EB includes setting up facilities, provision of personnel and purchase of performance monitoring equipment and etc

List the environmental budget for operation and maintenance of pollution control system that have been approved and signed by the management

*Note:*

Sufficient budget must be set aside solely for the purpose of taking measures to comply with the **environmental regulatory requirements** and other **environmental-related efforts**. At the design stage, budget must be available for the design and installation of the pollution control facilities, while at the operational stage, budget must be allocated for proper operation and maintenance of pollution control systems and management of waste generated by the industry. The environmental budget also includes the cost for setting up of laboratory facilities, provision of personnel, and purchase of performance monitoring equipment.

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### 2.3 Environmental Competency (EC)

In this subchapter, you should show an organizational structure where you as a CePSO are placed.

Provide a certified copy of your list of duties / job description (JD) where it shows the conduct a scrubber performance monitoring function is one of your core duties.

List all other competent person personnel in your industry/company.

Attach

- Overall organization chart. Label your position as Competent Person (CP) in the organization chart; and
- Certified copy of Job Description (JD). JD must include his duty as a competent person
- Certificate of attendance CePSO course
- Certificate of Competence (1 year)

*Note:*

The relevant personnel involved in discharging various environmental responsibilities within an organization need to possess the required competencies. The personnel include those who have been assigned the task to perform DOE-regulated functions: to conduct performance monitoring of air pollution control system. The organizations must draw up a comprehensive training program to produce competent persons and trained support staff to ensure full compliance with the DOE requirements in the regulated activities.

### 2.4 Environmental Monitoring Committee (EMC)

In this subchapter you should show an organizational management committee structure where you as a CePSO would report regularly

Attach:

- **Environmental Performance Monitoring Committee (EPMC)** - chaired by a senior official of your company's/industry's organization – which would monitor on a monthly basis on the scrubber performance.
- **Environmental Regulatory Compliance Monitoring Committee (ERC MC)**, which chaired by chief executive officer or chairman of the company's/industry's organization – which would monitor on overall environmental compliance.

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Describe your roles in this EMC and provide sample of minutes of meeting.

*Note:*

The success of an organization to comply with the environmental requirements is contingent upon the relevant personnel in different departments in the organization playing their role in an effective manner. To promote collective responsibility to be environmentally compliant, two monitoring committees are set up: one at the working level, the other at the policy level. At the working level, the committee known as the environmental performance monitoring committee (EPMC) is chaired by a senior official of the organization and it meets on a monthly basis. At the policy level, the committee is known as the environmental regulatory compliance monitoring committee (ERCMC), which meets once a year. The chief executive officer or chairman of the organization chairs the ERCMC.

## **CHAPTER 3: OPERATIONAL ENVIRONMENTAL COMMITMENT**

### **3.1 Environmental Facility (EF)**

In this chapter you should describe about all air pollution control system (APCS) that be installed at premise.

Provide building layout showing location of all APCS in the premise.

Identify the regulation applicable under the Environmental Quality (Clean Air) Regulations, 2014 and the compliance status of this installed pollution control system against the regulation. Explain on compliance status of:

- Notification
- Installation of performance monitoring equipment
- Emission monitoring; Periodic or CEMS?
- Emission limit to comply

Highlight the scrubber system which will be describe detail on this FTR.

#### **3.1.1 Description of Scrubber**

In this subchapter you should briefly describe and focus on one (1) unit of scrubber systems on your premise. Explain why this scrubber are selected.

Provide scrubber technical data which at least includes;

- Component of scrubber system
- Dimension of scrubber
- Type of scrubber
- Capacity of scrubber

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- Type of packing, mist eliminator, scrubbing liquid, type nozzle, fan type etc.

Provide **scrubber typical range of operational data (max-min)**- pressure drop across scrubber/packing/demister, inlet gas temperature, gas flowrate, liquid flowrate, pH, motor running amp, fan speed, etc.)

Attach relevant document (Written approval, notification form, manufacture catalog, schematic diagram, drawing layout scrubber system etc.) and photo to support your explanations.

### **3.1.2 Conduct of Performance Monitoring**

In this chapter, you should describe how and what changes were made through your efforts or intervention to the way how performance monitoring of the scrubber system is conducted in your premise to be in line with the procedure taught in the CePSO course at EiMAS and the Guidance Document on Performance Monitoring of Scrubber publish by EiMAS.

Explain performance monitoring parameter monitor for selected scrubber system – what type of equipment/instrument use

Provide diagram show location of performance monitoring of scrubber system

Describe in detail how preventive maintenance and performance monitoring of the scrubber system is being conducted after the changes you proposed, were accepted and implemented in your premise.

Describe routine procedure to conduct performance monitoring of scrubber system – responsibility of staff in conduction performance monitoring

Provide list of performance monitoring equipment (photos, model/brands, scale and actual photo) - must be attached in **Appendix 1**

Provide a copy of 6 months data performance monitoring record – must be attached as **Appendix 2**

Provide a copy of preventive maintenance record - must be attached in **Appendix 3**

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### 3.2 Environmental Reporting and Communication (ERC)

Briefly describe and show, how scrubber performance monitoring report is made to **Environmental Performance Monitoring Committee (EPMC)** and how environmental compliance report is made to **Environmental Regulatory Compliance Monitoring Committee (ERCMC)**.

Describe on management response when report is made.

Provide sample of reporting to EPMC & ERCMC. Example of **performance monitoring reports** prepared by you as competent person must be attached in **Appendix 4**

*Note:*

A formal communication channel must be established for reporting environmental concerns and system upsets which warrant prompt actions to be instituted. Internal reporting can be initiated to report on a regular basis the regulatory compliance status of the organization to the chief executive officer (CEO) and various heads of the department within the organization. Updates of new environmental requirements and their implications can be disseminated to the relevant company personnel. ERC requires systematic data, which must be summarized in appropriate format for easy understanding and communication and maintained for management review purposes.

### 3.3 Environmental Transparency (ET)

Briefly describe how your industry's/company's transparent in their **environmental compliance** and achievement.

Provide information such as photos of billboard/website, copy of flyers/brochure, noticeboard - showing the environmental compliance to public.

Provide related environment corporate social responsibility (CSR) involving with community.

*Note:*

To foster rapport with the immediate neighbors, promote green image, and improve public confidence, companies are encouraged to be more transparent in their environmental compliance and achievement. Compliance status can be displayed on company website or billboard located at the boundary or entrance to the company's premise. An environmental sustainability report can be prepared for the company to

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showcase its success in managing the environmental concerns of the company and minimizing the environmental footprint of its business. The corporate image of the organization is markedly enhanced through environmental transparency.

#### **CHAPTER 4: DISCUSSION OF PERFORMANCE MONITORING RESULTS**

In this subchapter, you should discuss the performance monitoring and preventive maintenance results obtained within the 6 month training period.

Provide **monthly analysis graph of performance monitoring data (all numeric parameter) and compare with the operating range** or recommended design range. (control chart)

Discuss the performance monitoring trends for each parameter. Explain the possible cause, if trends shown upset (higher or lower than operating range)

It is highly recommended that you also use the techniques in statistical data analysis.

#### **CHAPTER 5: CORRECTIVE ACTIONS ON UPSET CONDITIONS**

This chapter should contain information and description of the following:

- Details of upset conditions encountered during operation of scrubber system; which should include the date of occurrences, nature of upset conditions. The upset condition must be related with the control chart in previous chapter.
- Corrective actions taken such as maintenance report, work order, photos and etc., to serve as evidence that you have been involved in taking corrective actions to address the upset conditions and the condition have returned normally. The sample of corrective action record must be endorsed by CP.

If there is no major upset condition encountered, you should discuss any preventive maintenance related activities that have been carried out during field training

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## **CHAPTER 6: FURTHER IMPROVEMENT**

In this chapter, you should describe future efforts to be initiated by you to further ensure smooth running of the scrubber system on a sustained basis.

Describe any planning of corrective action to be taken that cannot be accomplished during period of FTR

Attach evidence of documentation: quotes, gantt charts, proposals, minutes of meetings showing further improvement work being planned

## **CHAPTER 7: CONCLUSIONS**

In this chapter, you should make some conclusions on the overall performance of your scrubber system and discuss how performance monitoring procedure has benefited your company or industry.

- Advantages gained
- Limitations encountered
- Suggestions for future improvements

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**The appendices should comprise all the evidences your write. The evidences should be any documents, layout plan, policy, chart, photos or video, record keeping data or any with the following;**

## **C. APPENDICES**

Produce in the appendix:

Appendix I

A list of measuring equipment used for performance monitoring

Appendix II

Daily performance monitoring record of the scrubber system

Appendix III

Preventive maintenance record (daily, weekly, monthly, annually) of the scrubber system

Appendix IV

Scrubber Performance Monitoring Report submitted by you to the Environmental Performance Monitoring Committee (EPMC)

Appendix V and more

Any evidence to support your write-up Chapter 1-Chapter 7

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**EXAMPLE OF FRONT COVER FIELD TRAINING  
REPORT**

**CERTIFIED ENVIRONMENTAL PROFESSIONAL IN  
SCRUBBER OPERATION  
(CePSO)**

*Arial 18 font,*

FIELD TRAINING REPORT

*Arial 12 font*

Submitted to

*Arial 12 font*

**The Director  
Environment Institute of Malaysia (EiMAS)  
Department of Environment  
Universiti Kebangsaan Malaysia Campus  
Bangi, Selangor**

*Arial 12 font, Bold*

By

*Arial 12 font*

Name of candidate  
I/C number  
Month/year

*Arial 12 font*

In Partial Fulfillment of the Requirement for the Certificate of Certified  
Environmental Professional in Scrubber Operation (CePSO)

*Arial 12 font*

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**EXAMPLE OF REPORT CONTENT OF  
FIELD TRAINING REPORT**

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## **C APPENDICES**

### Appendix I

A list of measuring equipment used for performance monitoring

### Appendix II

Daily performance monitoring record of the scrubber system

### Appendix III

Preventive maintenance record (daily, weekly, monthly, annualy) of the scrubber system

### Appendix IV

Scrubber Performance Monitoring Report submitted by you to the Environmental Performance Monitoring Committee (EPMC)

### Appendix V and more

Any evidence to support your write-up Chapter 1-Chapter 7

References