

**CERTIFIED ENVIRONMENTAL PROFESSIONAL IN SCRUBBER OPERATION (CePSO)
FIELD TRAINING REPORT PREPARATION**

IMPORTANT REMINDER

Throughout the field work/training report you must clearly identify where you were involved in the following processes/activities

- Conducting measurements of performance monitoring data and conduct measurement using portable equipment.
- Preparing performance monitoring report and presenting it to the scrubber performance monitoring committee or management
- Making decision on scrubber operation matters
- Initiating efforts to introduce new/improved work or monitoring procedure in scrubber operation

Please bear in mind that the report examiner is looking for your contribution to the overall improvement efforts that have been made in the aspect of scrubber performance monitoring and the overall successful operation of the scrubber in your premise.

The field training report can be written in Bahasa Malaysia or in English.

If you have any technical questions regarding the field training report preparation, please email your questions to the following:

Mr. Nor A'zman Rosli; na@doe.gov.my atau
Mr. Noor Suffianhadi Ramly; nsr@doe.gov.my

For any general questions about CePSO, please contact Competency & Industry Certification Centre, EiMAS:

Ms. Noor Baizura Azizan; nba@doe.gov.my
Mr. Mohd Aizuddin Ab Razak; aizuddin@doe.gov.my
Mr. M Yazir Mohd Rashid; ziera@doe.gov.my
Ms. Noor Huda Mohd Yusof; huda@doe.gov.my
Mr. Wan Khairuldin Wan Ismail; khairuldin@doe.gov.my

CERTIFIED ENVIRONMENTAL PROFESSIONAL IN SCRUBBER OPERATION (CePSO)

EXPLANATORY NOTES ON THE PREPARATION OF FIELD TRAINING REPORT

1. Introduction

In partial fulfillment of the requirements for the Certificate of Certified Environmental Professional in Scrubber Operation (CePSO), 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 and submit one (1) hardcopy and one (1) softcopy report (in a CD form) on field training to the following:

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

2. Report Specification and Format

A substantial component of the field training should comprise hands on experience in operating and maintaining a scrubber system where the theory and understanding that the candidate has acquired in the CePSO course organized by EiMAS are translated into practice at the work place. 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 should follow the example given in Appendix A.

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

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

Photographs should be printed in **COLOR**.

A. PRELIMINARY PAGES

The preliminary pages shall include at least the following:

a. General information on the candidate

1. Name of Candidate:

.....

2. Contact Address:

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

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):

.....

6. Name and address of the premise where you underwent the field training on operating and maintaining a Filter Bag 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. 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:

c. 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:

(Note:

The verification and declaration must be type written using the official letterhead of the company where the candidate is attached to)

B. MAIN TEXT

The main text or body of your report shall include at least the following chapters.

CHAPTER 1: INTRODUCTION

1.1 Background of Company or Industry

In this subchapter you should explain the nature of manufacturing carried out in your factory and the products manufactured or the nature activity carried out in your company.

Brief overall process/activities– attach process flowchart – raw material - what product produced – waste generated – which process/activates generate air pollution control by 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.

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. (Note: Take a photo of the official EP with the CEO's/president's/manager's signature or retype it and have it formally endorsed)

2.2 Environmental Budgeting (EB)

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

2.3 Environmental Competency (EC)

In this subchapter, you should show an organizational structure where you as a CePSO are placed. List all other competent person personnel in your industry/company. Provide a certified copy of your list of duties where it shows the filter bag performance monitoring function is one of your core duties.

2.4 Environmental Monitoring Committee (EMC)

In this subchapter you should show an organizational management structure where you as a CePSO would report regularly to **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. You should also show an organizational management structure of **Environmental Regulatory Compliance Monitoring Committee (ERCMC)**, which chaired by chief executive officer or chairman of the company's/industry's organization – which would monitor on overall environmental compliance.

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. Briefly explain on compliance to install and operates performance monitoring equipment and air emission monitoring program.

Provide building layout showing location of all APCS in the premise. Highlight the scrubber system which will be more 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;

- Dimension of scrubber
- Type of scrubber
- Capacity of scrubber
- Type of packing, 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, 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 Air Pollution Control Systems – DOE – APCS – 5, 2006.

You should 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.

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

Provide a copy of preventive maintenance and daily records of scrubber performance monitoring – must be attached in **Appendix 2 & Appendix 3**

3.2 Environmental Reporting and Communication (ERC)

Briefly describe and show, how scrubber performance 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.

Example of reports must be attached in **Appendix 4**

3.4 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 - showing the environmental compliance to public. Provide related environment corporate social responsibility (CSR) involving with community.

CHAPTER 4: DISCUSSION OF PERFORMANCE MONITORING RESULTS

In this subchapter, you should discuss the performance monitoring results obtained within the training period. You should provide/plot a monthly graph of performance monitoring data (parameter) and compare with the operating range or recommended design range. (control chart)

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

CHAPTER 5: CORRECTIVE ACTIONS ON UPSET CONDITIONS

In this chapter you should describe the details of major upset conditions encountered, if any, during the operation of scrubber system for the duration of this training report. You should include the date of the occurrence, nature of upset conditions and the corrective actions taken by you.

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 documents, photos or video 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.

CHAPTER 6: FURTHER IMPROVEMENT

In this chapter, you should describe future efforts, if any, to be initiated by you to further ensure smooth running of the scrubber system on a sustained basis. Also state any improvements that cannot be made during field training period but are in the planning of the industry

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.

Describe advantage, any limitation and also suggestion by doing performance monitoring of scrubber

C. APPENDICES

Produce in the appendix:

Appendix I

A list of measuring equipment used for performance monitoring

Appendix II

Maintenance record of the scrubber system

Appendix III

Daily, weekly and monthly filter bag performance monitoring record

Appendix IV

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

References

EXAMPLE

FIELD TRAINING REPORT

CERTIFIED ENVIRONMENTAL PROFESSIONAL IN SCRUBBER OPERATION

FIELD TRAINING REPORT

Submitted to

The Director
Environment Institute of Malaysia (EiMAS)
Department of Environment
Universiti Kebangsaan Malaysia Campus
Locked Bag No 24
43600 BANGI, Selangor

By

(Name of Candidate)
(Identity Card number)
(Date Submit FTR)

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

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