CERTIFIED ENVIRONMENTAL PROFESSIONAL IN THE OPERATION OF SEWAGE TREATMENT SYSTEMS (CePSTPO)

GUIDANCE DOCUMENT ON THE PREPARATION OF THE FIELD TRAINING REPORT (CePSTPO)

1. GENERAL INFORMATION

1.1 Introduction

The preparation of Field Training Report (FTR) is the final step the candidate needs to go through to complete the certification process. The FTR is a document that provides evidence that the CePSTPO candidate has:

(i) Undergone "behavioral change" in the manner the environmental regulatory requirements and STS issues are viewed and managed. (Note: Behavioural change is synonymous with Kirk Patrick's level 3 training assessment process)
(ii) Succeeded in implementing performance monitoring as a routine procedure in the operation and maintenance of STS

Additionally, the FTR also demonstrates that the management of the industry/organization/company has embraced the Guided Self Regulation (GSR) approach in the course of conducting its business by implementing the environmental mainstreaming (EM) tools in his industrial premise/company/organization.

1.2 The FTR: A collaborative effort

Successful preparation of the FTR demonstrates fruitful collaborative efforts between the CePSTPO candidate and the management at his organization in the implementation of environmental mainstreaming at the work premise. The mainstreaming success cannot be achieved and the FTR successfully prepared without major contributions from both parties: the CePSTPO candidate and the management of the industrial premise/company/organization. Without the candidate's persistent efforts to explore for ideas for change, no practical improvement projects can be formulated. On the other hand, without strong support from the management, the candidate's ideas and improvement initiatives cannot be realized. The FTR embodies both the management improvement initiatives (MIIs) as well as the technical improvement initiatives (TIIs).

The FTR examiners are looking for the implementation of the MIIs and TIIs which results in the successful operation of the STS and overall improvement in the environmental regulatory compliance of the industrial premise/company/organization.

1.3 Minimum training period

As a minimum training requirement, the candidates are required to undergo field training on operating and maintaining, or supervising the operation of an STS at an industrial premise/company/organization for a period of six (6) months.

1.4 Where to send the FTR

The completed FTR must be sent to the following address:

The Director
Environment Institute of Malaysia (E*i*MAS)
Department of Environment
Universiti Kebangsaan Malaysia
Locked Bag No. 24
43600 BANGI, SELANGOR
(Attn: Certification Center)

1.5 Clarifications on FTR

For any general clarifications on FTR, please contact the following officers at the Competency & Industry Certification Center, E*i*MAS:

Mr. Ahmad Saifful Salihin; saifful@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. Muhammad Hizam Mohd Ibrahim; mhizam@doe.gov.my

1.6 Extension of FTR submission period

Extensions for FTR submission period may be granted only for the following situations:

1. Health reasons, where the candidate is sick or unable to work for a period of more than 3 months within the FTR preparation period. Evidence in the form of a letter from a medical doctor is required.
2. Pregnancy and related reasons, where the candidate is pregnant or has given birth.
3. STS non operational issues, where the STS that the candidate is in charge of is still under construction, or is being commissioned, or is taken out of operation for maintenance. The latter covers a period of more than 3 months.

The request for extension must be made before the expiry of the FTR preparation period. If an extension is granted, only one extension, up to a maximum of one year may be given.

1.7 Purpose of this Guidance Document

This Guidance Document describes the documentation requirements for FTR preparation and provides detailed advice, direction, instruction, and suggestion on what to write in each of the FTR chapters. This step-by-step guide if adhered to closely, should produce quality FTR that can comfortably be approved by E*i*MAS.

2. FTR SPECIFICATIONS AND FORMAT

The FTR must follow the general specifications and format as follows:

2.1 FTR specifications

2.1.1 Covers and binding
The FTR must be bound preferably in hard cover (BLUE or BLACK WITH GOLD LETTERING). The front cover of the FTR shall follow the example given in Appendix A.

2.1.2 Language of FTR
The FTR may be written in English or Bahasa Malaysia

2.1.3 Typeface and font size
Typeface to be used is Arial. Font size of 12 point shall be used for the main body of the text and 14 for the cover

2.1.4 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

2.1.5 Text
Text must be: typed on 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.

2.1.6 Pagination
Every page except the title page must be numbered; PRELIMINARY PAGES are to be numbered in lower case Roman numerals (i, ii, iii, …); 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.

2.1.7 Number of pages
The FTR must contain a minimum of 20 pages (excluding executive summary, illustrations, photographs, appendices, or figures).

2.1.8 Photographs
Photographs must be clear and printed in COLOR and appropriately captioned.

2.1.9 Table, figures, and drawings
All tables, figures, and drawings must be clear, legible, appropriately labelled and numbered.

2.1.10 Number of copies
One hard copy of the FTR and one soft copy burnt on a compact disc must be submitted.

2.2 FTR format

2.2.1 FTR structure
The structure of the FTR is based on a standard format which contains the following sections:
A. Preliminary pages
B. Main text

C. Appendices

3. DETAILS OF WHAT EACH SECTION CONTAINS
A. PRELIMINARY PAGES

The preliminary pages shall include at least the following:

a. General information on the candidate

A1. Name of CePSTPO candidate:
……
A2. Contact address:
……
……
……
A3. Designation:
……
A4. Date of attending the CePSTPO course:
……
A5. Name and address of the industry where you underwent the field training on STS operation and maintenance:
i) Name:……
ii) Address:……
……
……
A6. Period of field training:
……
A7. Contact officer in your industry/company/organization (e.g. Human Resource Manager at the headquarters) who could verify your training experience:

Name:……
Designation:……...
Phone number:……..……
Fax number:……..
E-mail address:……..

b. Verification (to be filled out by the CePSTPO candidate's supervisor)

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

Name of industry/company/organization official or supervisor at the Headquarters: …….
NRIC number: ……
Designation :……..
Signature: ……. Date: ……
Industry's/ company's/ organization's official stamp:

c. Declaration (to be filled out by the CePSTPO candidate)
"I declare that the entire FTR is the product of my own work and all the facts stated in it and the accompanying information are true and correct and that I have not withheld or distorted any material facts or included any materials plagiarized from other FTRs"

Name of candidate:……. NRIC number: ……
Designation :……..
Signature: ……. Date: ……
industry's/ company's/ organization's stamp:

(Note:
The verification and declaration must be type written using the official letterhead of the industry/company/organization where the candidate is attached to)

B. MAIN TEXT
The main text or body of the FTR shall include at least the following chapters.

CHAPTER 1: INTRODUCTION
1.1 Background of Organization/company
In this subchapter you are required to briefly introduce your industry/organization/company, its industry type/business focus, products produced/services offered, its location, employee strength, etc.

1.2 Organization's/company's environmental commitment
This subchapter summarizes the implementation of environmental mainstreaming (EM) tools of the Guided Self Regulation (GSR) approach. The reporting of the EM tools is explained below.

1.2.1 Environmental policy (EP)
In this subchapter, you are required to reproduce an extract of your industry's/ company's/organization's Environmental Policy (EP). The policy must stand on its own and focus only on environmental aspects and must not be combined with other aspects such as safety, etc. Mention the date the policy was made and identify whether the EP is an existing policy or a new policy which has been developed during your FTR preparation period. If your industry's/company's/organization's existing EP is weak on the environmental aspects, or outdated, or the environmental aspects are only incorporated in other policies, you must grab the opportunity now while preparing your FTR, to initiate the review of the policy or preparation of a new one. Explain how and where you were involved in the EP review or its preparation.

EXAMPLE

Fig 1.?? Environmental policy of ABC Sdn Bhd
(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)

1.2.2 Environmental facilities (EFs)
In this subchapter you are required to describe the Environmental facilities (EFs) provided, installed, and maintained at your industrial premise/company/organization. Although the focus of the FTR is on the STS, you may also include in this chapter, wherever relevant, a brief discussion of air pollution control systems (APCS), noise abatement system, performance monitoring equipment, on-line instrumentation system, and associated support facilities such as STS laboratory facilities provided at your premise.

1.2.3 Environmental budgeting (EB)
In this subchapter you are required to explain in general, the budget allocation provided by your industry/organization/company for the purpose of taking measures to comply with the environmental regulatory requirements, for providing the EFs as described in 1.2.2, for STS operation, and for implementing other environmental-related efforts. If relevant and appropriate, you can provide a table to summarize the budget information.

1.2.4 Environmental competency (EC)
1.2.4.1 Training of environmental personnel
In this subchapter you are required to provide an organizational structure (up to unit manager/departmental manager or similar designation) and identify on it all the relevant staff (including yourself as the CePSTPO candidate) who are involved directly or indirectly with the operation, maintenance, and monitoring of the STS. Training plan to improve environmental competency of the relevant staff must be discussed.

EXAMPLES

Note: The box colored in red is the placement of the Candidate CePSTPO

Fig 1.??? Organizational structure showing staff involved in STS operation and supervision

Table 1.???STS staff training plan

Staff name	Main STS responsibilities	Relevant course	Planned course date

(note: courses can be held in-house or staff can be sent to attend external courses)

1.2.4.2 Functions of CePSTPO

In this subchapter you are required to discuss and provide a certified copy of your list of duties (e.g. job description-JD) where it shows the STS performance monitoring functions or other functions related to STS operation and supervision are one of your core duties. The JD can be placed in this subchapter or may also be placed in the Appendix, if it occupies several pages.

EXAMPLE

Fig 1.??? Job description of the CePSTPO candidate

1.2.5 Environmental committees

1.2.5.1 Environmental performance monitoring committee (EPMC)

In this subchapter you are required to provide an organizational structure of the environmental performance monitoring committee (EPMC) and its terms of reference (TOR) or functions. The EPMC, which is at the working level must meet at a minimum, once in a quarter. Provide the date when the EPMC was established, designations/posts of its committee members and its meeting dates within the FTR preparation period. The EPMC members must be officially appointed by the chief operating officer (CEO) or president of your industry/organization/company or official of similar rank. A certified copy the minutes of one of the EPMC meetings must be provided in the Appendix as evidence.

EXAMPLES

Fig 1.??? Organizational structure of the EPMC

Table 1.??? Terms of reference of EPMC

Terms of reference of EPMC
1……... 2…… 3……

Table 1.??? Record of EPMC meetings

Date of meeting	EPMC members present
Prepared by:……. (CePSTPO) Signature……Date…….	

1.2.5.2 Environmental regulatory compliance monitoring committee (ERCMC)
In this subchapter you are required to provide information/organization chart of the policy level committee which must meet at a minimum, once a year. The information includes the post/designation of the chairperson of the ERCMC and the posts of the committee members. The ERCMC is typically chaired by the CEO of the industry/organization/company or official of similar rank.

EXAMPLE

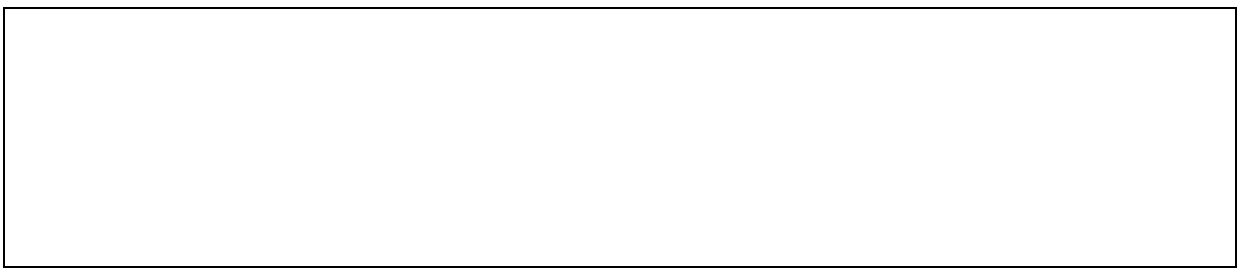

Fig 1.??? Organizational structure of the ERCMC

1.2.6 Environmental reporting and communication (ERC)
In this subchapter you are required to describe the communication channel established for reporting STS issues (and other environmental concerns) which require prompt actions to be taken. You must also describe scheduled internal reporting requirements on regulatory compliance status of your industry/company/organization to the top management of your industry/organization/company.

1.2.7 Environmental transparency (ET)
If your industry/organization/company issues any kind of report (such as an annual report or sustainable report) that includes an environmental section or discussion on environmental regulatory compliance or the like, you may describe the proactive efforts undertaken in this subchapter. Other efforts may include installation of environmental compliance billboard located in your premise and corporate social responsibility (CSR) activities.

CHAPTER 2: PERFORMANCE MONITORING OF SEWAGE TREATMENT SYSTEM

2.1 Sewage flowrate and characteristics
In this subchapter, provide a table as shown below to show the quantity and characteristics of your sewage. The table must provide a summary of the characteristics of the raw sewage (quality and quantity) (example given below) covering the FTR preparation period. Briefly discuss the biodegradability of your sewage and nutrient requirements (or nutrient deficiency).

EXAMPLES

Table 2.1:Raw sewage characteristics

Parameter	Range	Average	Remarks
Q, m^3/d			
pH, value			
BOD, mg/L			
COD, mg/L			
SS, mg/L			
NH_3-N, mg/L			
O&G, mg/L			
Others…			

2.2 Description of STS
In this subchapter you are required to describe and discuss the components of the STS (unit processes and unit operations) installed in your premise to treat the sewage you described in 2.1. It is recommended that you present a block diagram and pictures of the STS components. Additionally, a table (example given below) should be used to present information on the relevant design details, hydraulic retention time (HRT), the control range, and other relevant details of the STS components.

EXAMPLES

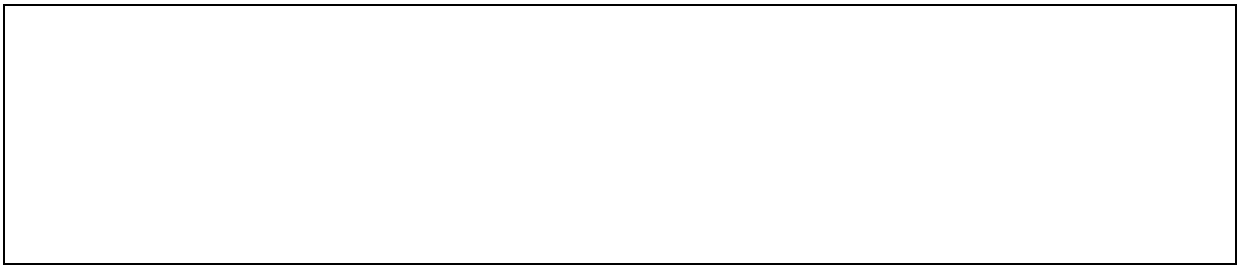

Fig 2.1: STS block diagram/flowchart

Table 2.2: STS design and operating details

Component	Design details	Remarks
Stablization pond	HRT:	
Activated sludge	HRT: F/M: Sludge age: DO:	E.g: Designed as EAAS
Biological solids clarifier (secondary clarifier)	SOR: WOR: SLR: HRT:	
Coagulation tank	HRT:	
Flocculation tank	HRT:	
Activated carbon column	HRT:	
Chlorination	HRT:	
Others…		

2.3 Conduct of STS performance monitoring

2.3.1 Situation before course attendance

In this subchapter, you are required to describe how the STS performance and environmental regulatory compliance issues were being monitored before you attended the CePSTPO course.

2.3.2 Changes instituted

In this subchapter, you are required to describe how and what changes were made through your efforts or intervention to the way STS is operated and monitored in your premise, to be in line with the procedure taught in the CePSTPO course. The changes cover both the “software aspects” and “hardware aspects” which may include the following:

- New or revised PM field checklists/log sheets (additional parameters, revised sampling frequency)
- New or revised internal reporting format

- New communication/reporting channel for STS emergency situations (equipment breakdown, upsets, etc.)
- STS hardware improvements (small modifications or upgrading)
- Purchase of PM instruments
- New or revised procedure for PM data analysis
- Use of performance monitoring reports (PMR)

Any of the above items when mentioned and discussed in the FTR must be provided with evidence placed in the Appendices. For example, provide a photocopy of the handwritten PM field log sheets containing two signatures used by your STS technicians.

CHAPTER 3: DISCUSSION OF PERFORMANCE MONITORING ACTIVITIES AND RESULTS

In this chapter you must provide a thorough discussion of the performance monitoring activities and data obtained within the FTR preparation period. From the information on the unit processes and unit operations of your STS as described in 2.2. the relevant performance monitoring parameters must be identified. You must then compare the PM data obtained with the recommended ranges. Based on the comparison you must make a brief statement whether the processes that were supposed to occur in the treatment components actually occurred in an optimal fashion. Any abnormality observed or data falling out of the recommended ranges must be explained. The discussion in this chapter is made primarily through the use of graphical plots of all the PM parameters.

As a guide, the table below gives a summary of typical STS components and graphs of PM parameters commonly associated with the monitoring of the physical chemical processes (PCP) components.

Component	Graphs "X vs Y" to be plotted	Other relevant activities	Control range, if applicable
Equalization	Q, pH, BOD, COD, SS, others		
Primary clarifier	SS, turbidity	Calculation of SOR, SLR, WOR	
pH adjustment	pH	Maintenance of acid/alkali dosing system	
Coagulation and flocculation	pH	Conducting Jar test; dosing calculations, maintenance of coagulant dosing system	
Dissolved air flotation	A/S ratio; pH, P	Observation of skimmer speed; coagulation/flocculation aspects if carried out.	
Carbon adsorption	COD, P	Pressure; Breakthrough	

		monitoring	
Chemical oxidation (chlorination)	ORP, pH	Maintenance of chemical dosing systems	
Membrane filtration	TMP, pH, SS, turbidity		
Media filtration	P, SS, turbidity		

Note: List not exhaustive; T = temperature; TMP = trans membrane pressure; Graphs to be plotted depend on a case to case basis.

Summary of typical STS components and graphs of PM parameters commonly associated with the monitoring of the biological processes (BP components) is given in the table below.

Component	Graphs to be plotted	Other relevant activities	Control range, if applicable
Ponding system (aerobic or anaerobic)	pH, DO (for aerobic system), SS, ORP,	Calculation of OLR, HRT	
Anaerobic system			
UASB	COD, T, pH, ORP, VFA, Alk,	Nutrients analysis; gas analysis	
AD	COD, T, pH, ORP, VFA, VFA/Alk,	Nutrients analysis; gas analysis	
Activated sludge	pH, DO, ORP, MLSS, MLVSS, SV_{30}, OUR	Nutrients analysis; calculation of sludge age, F/M ratio, SVI, and SOUR	
MBR	pH, DO, ORP, MLSS, MLVSS, SVI, OUR, scouring air flowrate	Nutrients analysis, calculation of sludge age, age, F/M ratio and SOUR; membrane chemical cleaning	
Trickling filter	pH, DO, SS	Nutrients analysis, filter observations	
RBC	pH, DO, SS	Nutrients analysis, media observations	

Note: UASB = upflow anaerobic sludge blanket; AD: = Anaerobic digester; MBR = Membrane bioreactor; List not exhaustive; Graphs to be plotted depend on a case to case basis.

For activated sludge systems, you need to clearly identify the method of process control adopted at your plant (constant MLSS, constant F/M ratio, constant sludge age or constant SVI) and explain how the control is done on a daily basis.

It is recommended that you use several subparagraphs to present your discussion of the PM procedure implemented at your premise, graphical plots and PM activities data. Examples of such subparagraphs may include the following:

EXAMPLES

3.1. PM procedure, sampling stations and frequency

You must explain the PM procedure implemented at your premise and present a table of sampling stations, parameters/equipment readings and sampling frequency. (Example is shown below).

Table 3…..: Performance monitoring activities: sampling stations, parameters and frequency

Sampling station	Sampling parameters	Sampling frequency/activity	Control range	Remarks
EQ outlet	Q, BOD, COD, pH, SS, ……	Daily (Q, pH,……); Weekly (….,….,….)		
Stabilization pond	pH, BOD, COD,	Daily (pH, ……) Weekly (……..) Annually (Sludge depth measurement,…)		
Activated sludge Aeration tank	pH, DO, MLSS, MLVSS, F/M, OUR, SOUR, SVI	Daily (pH, DO,…); Weekly (F/M,….)		
Others..				

3.1.1 Determination of control ranges

In this subchapter you are required to explain how the control ranges stated in Table 3… above are obtained. For example, the flowrate (Q), BOD, and COD used as the control were obtained from the maximum flowrate used by the consultant in the design, or F/M and sludge age ranges were obtained from Guidance Document or authorized reference (quote the reference) , etc.

3.2 Discussion of PM data

(NOTE: At a minimum, six months data is required for graph plotting and reporting PM activities)

Examples

3.2.1 Monitoring of EQ

In this subparagraph you must present and discuss graphical plots of the monitored parameters (e.g. pH, BOD, etc.) versus time.

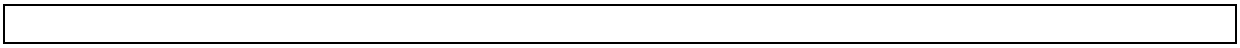

Fig 3.1: BOD or COD concentration versus day (Jan 1 to Jan 30 2017) of EQ effluent

3.2.2 Monitoring of activated sludge system

3.2.3.1 Activated sludge system process control
In this subparagraph you must discuss the method of process control adopted for your AS system. The method may either be the constant sludge age method, the constant MLS method, or the constant F/M ratio method or a combination of methods. Explain how the control is done on a daily basis.

3.2.3.2 Discussion of performance monitoring data
In this subparagraph you must present graphical plots of the monitored parameters (e.g. DO, MLSS, MLVSS, F/M ratio, OUR, SOUR, SVI, etc.) versus time and discuss them by comparing the values obtained with the control/recommended ranges. Any data falling out of the recommended ranges needs to be explained.

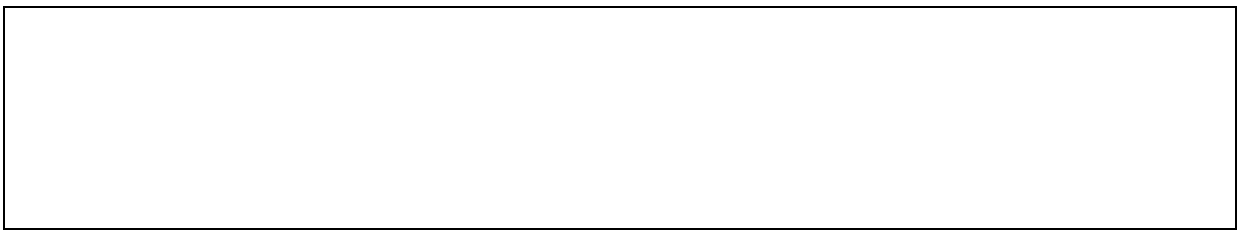

Fig 3.?? DO versus day in aeration tank ((Jan 1 to Jan 30, 2017)

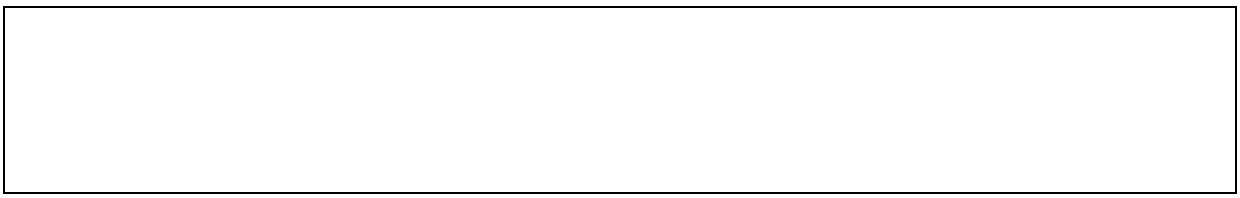

Fig 3.?? MLSS versus day in aeration tank ((Jan 1 to Jan 30, 2017)

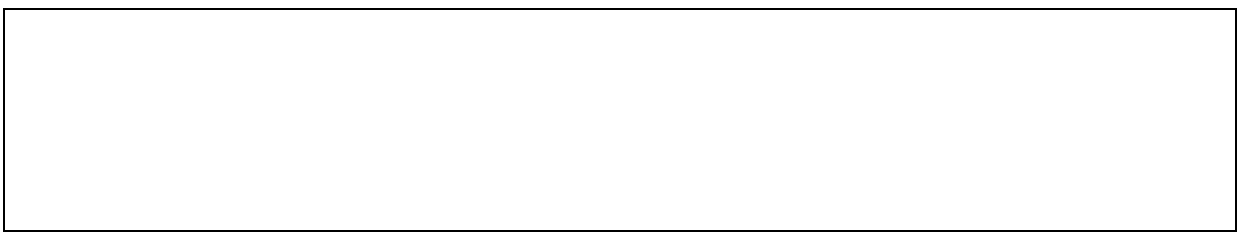

Fig 3.?? F/M ratio versus day ((Jan 1 to Jan 30 2017)

Fig 3..?? Others…

3.2.3. Monitoring of adsorption process in activated carbon column

In this subparagraph you must present and discuss graphical plots of the monitored parameters (e.g. COD, etc.) versus time. You must also identify clearly the method used for monitoring the column breakthrough time.

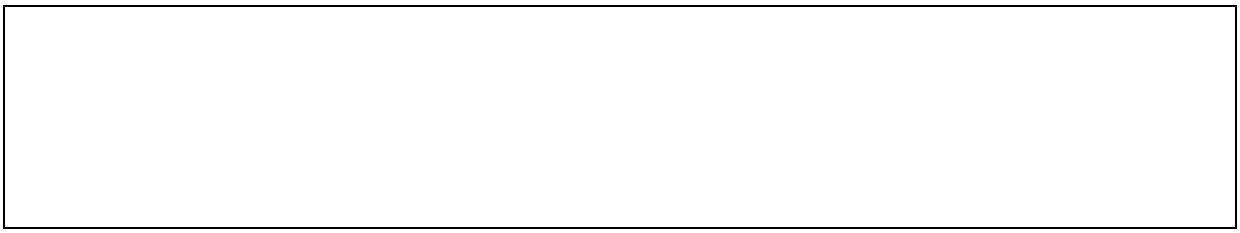

Fig 3…?..: COD concentration versus day (Jan 1 to Jan 30 2017) of EQ effluent

3.2…. Monitoring of……etc.
Note: Continue the discussion on all the monitored parameters using the graphical plots

3.3 Other PM activities
3.3.1 Jar testing
3.3.2 Instrument calibration
3.3.3 Equipment and instrument maintenance

Any of the above items when mentioned and discussed in the FTR must be provided with evidence, placed in the Appendices. For example jar test results can be presented in the form of graphical plots and coagulant dosage calculations. The evidence for instrument calibration and maintenance activities would be the photocopies of calibration records and maintenance schedules.

3.4 Compliance monitoring
In this subchapter you must present and discuss graphical plots of the significant parameters (plus the discharge standards as the control limits) monitored at the final discharge point or points. Make a conclusion on the status of compliance based on the graphs presented. It is recommended that you present your discussion in subparagraphs as follows (depending on the parameters):

EXAMPLES

3.4.1 Ammoniacal nitrogen at FDP

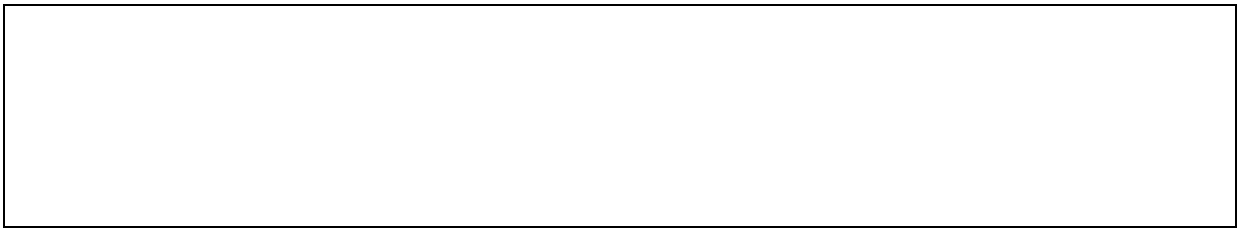

Fig 3… Ammoniacal nitrogen at the FDP versus day (January 1-30, 201..)

3.4.2 BOD at FDP

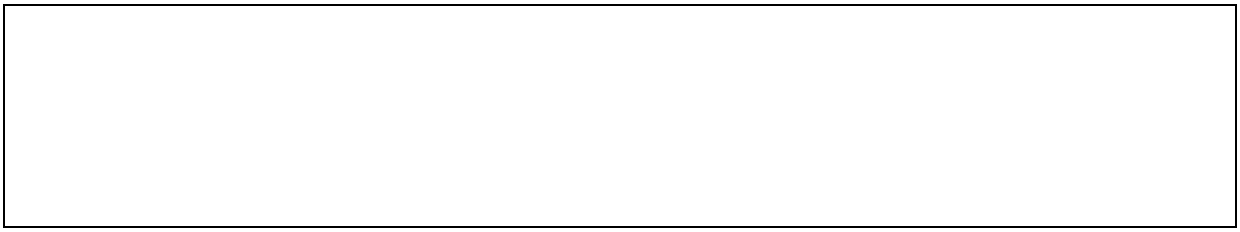

Fig 3… BOD at the FDP versus day (January 1-30, 201..)

3.4.3 SS at FDP

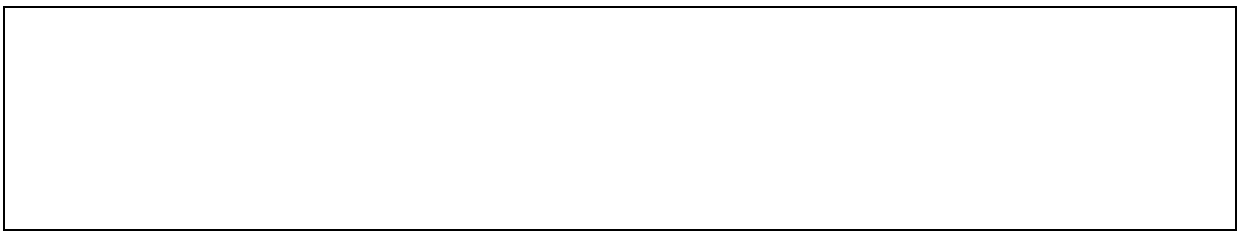

Fig 3… SS at the FDP versus day (January 1-30, 201..)

3.4.4 etc…

CHAPTER 4: UPSET CONDITIONS AND CORRECTIVE ACTIONS

In this chapter you are required to describe the details of upset conditions encountered, if any, during the operation of STS for the duration of the FTR preparation. You must provide information on the nature of upset conditions, when they happened, why they happened, who discovered them, what corrective actions were taken, and how long it took to fix the problems. The upset conditions may be "minor" which may last only for a short duration and simple corrective action may promptly fix the problem. The minor upset should not result in a discharge noncompliance. On the other hand, an upset condition may be classified as "major" which may last for several hours or longer and results in serious implications such as discharge noncompliance. In such a situation substantial corrective actions may be necessary to restore conditions to normalcy. Both for the minor and major upsets, you must also discuss what preventive measures (hardware, procedure, etc.) have been put in place by you and the management of your industry/organization/company to prevent the problems from recurring.

You may want to present your discussion in subparagraphs as follow:

4.1 Minor upsets

4.2 Major upsets

4.3 Preventive measures

Evidence in the form of photographs, internal memos, purchase requests, bills paid for corrective actions and preventive measures, etc. must be provided for the items mentioned or discussed in this chapter.

CHAPTER 5: FURTHER IMPROVEMENTS

In this chapter, you are required to describe what future efforts, beyond the FTR preparation period, if any, have been initiated by you to further improve environmental regulatory compliance and ensure smooth running of the STS on a sustained basis. The proposed initiatives/projects must have been discussed at the EPMC meetings and some form of endorsement or commitment has been obtained from the management. The improvement initiatives may be “hardware” in nature or “software or nonhardware” in character. Evidence in the form of EPMC meeting minutes, equipment purchase requisition, or implementation schedule must be provided in the Appendix. Potential areas for improvement may include STS upgrading, environmental staffing and training, STS data management, communication, reporting, etc. Present your discussion in subparagraphs wherever appropriate, such as:

5.1 Hardware improvements
5.2 “Nonhadrware” improvements

CHAPTER 6: CONCLUSIONS

In this chapter, you are required to make some conclusions on the overall performance of your STS and to discuss how performance monitoring and the CePSTPO certification program have benefited you and your industry/organization/ company. The aspects to discuss should cover such areas as knowledge and skill, image, PM data management, STS maintenance, regulatory compliance, etc.

C APPENDICES

Appendices serve as evidence of the items or subjects or improvements mentioned in the main text.
Among others, the appendices may include the following:
Appendix I
List and photographs of performance monitoring equipment/instruments (Model number, Manufacturer) used for conducting performance monitoring activities
Appendix II
An example of Minutes of the EPMC meetings
Appendix III
An example of the STS Performance Monitoring Report submitted to the EPMC or management at the headquarters
Appendix IV
Revised or new field log sheet for monitoring…….. with two signatures
Appendix V
Example of jar test results and coagulant dose calculations (if coagulant is used)
Appendix VI
PM instruments calibration records
Appendix VII
Proofs of corrective actions
Appendix VIII

PM instruments maintenance schedule
Appendix IX
Further improvements: Implementation schedule (if relevant)
Appendix X
Further improvements: Equipment purchase requisition (if relevant)
Etc….

(Note: Modify the list of Appendices to suit your needs. Ensure to provide evidence for whatever is discussed in the text of your FTR)

References

(NOTE: REFER TO YOUR GUIDANCE DOCUMENT/COURSE RESOURCE MATERIALS ON STS PERFORMANCE MONITORING FOR DETAILS ON PERFORMANCE MONITORING REQUIREMENTS FOR THE VARIOUS COMPONENTS OF YOUR STS)

APPENDIX A

EXAMPLE OF THE SEQUENCE OF THE "CONTENTS" OF THE FTR
(From cover to appendices)

CERTIFIED ENVIRONMENTAL PROFESSIONAL IN THE OPERATION OF SEWAGE TREATMENT SYSTEMS
(CePSTPO)

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

Abdul Rahim bin Abdul Rahman
Identity Card number: …….
September 30, 201…..

In Partial Fulfilment of the Requirement for the Certificate of Certified Environmental Professional in the Operation of Sewage Treatment Systems (CePSTPO)

A. **General information on the candidate**

A1. Name of CePSTPO candidate:
……
A2. Contact address:
……
……
……
A3. Designation:
……
A4. Date of attending the CePSTPO course:
……
A5. Name and address of the premise where you underwent the field training on STS operation and maintenance or supervision:
i) Name:……
ii) Address:……
……
……
A6. Period of field training:
……
A7. Contact officer in your industry/organization/company (e.g. Human Resource Manager at the headquarters) 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 minimum six months field training as required and the information provided in the FTR is true to my best knowledge"

Name of official or supervisor at the Headquarters: …….
NRIC number: ……
Designation :……..
Signature: …… Date: ……
Industry/organization's/company's official stamp:

c. Declaration (to be filled out by the CePSTPO candidate)

"I declare that the entire FTR is the product of my own work and all the facts stated in it and the accompanying information are true and correct and that I have not withheld or distorted any material facts or included any materials plagiarized from other FTRs"

Name of candidate:……. NRIC number: ……
Designation :……..

Signature: …….. Date: ……
Industry/organization's/company's stamp:

TABLE OF CONTENTS

The requirements stipulated in this Guidance Document come into force immediately

EiMAS Certification Center
August 2017

FTR READINESS SELF ASSESSMENT FORM
(For own use by the FTR preparer)

DOCUMENTATION

Item	Complied? (YES/NO)	Remarks
FTR specifications (hard cover, font, spacing, contents arrangement, etc.)		
FTR copies: hardcopy and CD		
Minimum six months training period		
FTR submission within stipulated period		
Verification and declaration with company stamp on company's letterhead		

MAIN TEXT
CHAPTER 1: INTRODUCTION

Items	YES/NO?	Remarks
1.1 Background (sufficient details given?)		
1.2 Environmental commitment		
EP (stand alone and strongly worded?)		
EF (all facilities described?)		
EB (figures provided?)		
EC (organizational structure and training plan provided?)		
CePSTPO's job description provided?		
EPMC (organizational structure, TOR, meeting dates records provided)		
ERCMC (information on committee members and meeting date provided)		
ERC (information on internal reporting requirements provided?)		
ET (information on environmental report, or CSR activities, if any,provided?)		

CHAPTER 2: PERFORMANCE MONITORING OF STS

Items	YES/NO?	Remarks
2.1 Sewage flowrate and characteristics generation (raw sewage table provided?) (biodegradability discussed?) (nutrient deficiency discussed?)		
2.2 Description of STS (STS flowchart and explanation, table of STS design and operating details		

provided?)		
2.3 Conduct of STS performance monitoring (situation before course attendance discussed)? (changes instituted discussed, evidence provided?)?		

CHAPTER 3: DISCUSSION OF PERFORMANCE MONITORING RESULTS

Items	YES/NO?	Remarks
3.1. PM procedure, sampling stations and frequency (PM procedure explained?) (table on performance monitoring: sampling stations, etc.. provided?) (if activated sludge: process control used explained?)		
3.2 Discussion of PM data (graphs of all relevant data plotted with control ranges and satisfactorily discussed?)		
3.3 Other PM activities (discussed satisfactorily with evidence?)		
3.4 Compliance monitoring (graphs of all significant parameters plotted and discussed?)		

CHAPTER 4: : UPSET CONDITIONS AND CORRECTIVE ACTIONS

Items	YES/NO?	Remarks
4.1 Minor upsets (adequately discussed with evidence?)		
4.2 Major upsets (discussed with adequate details with evidence?)		
4.3 Preventive measures (adequately discussed with evidence?)		

CHAPTER 5: FURTHER IMPROVEMENTS

Items	YES/NO?	Remarks
5.1 Hardware improvements (adequately discussed with evidence?)		
5.2 Nonhardware improvements		
(adequately discussed with evidence?)		

CHAPTER 6: CONCLUSIONS

Items	YES/NO?	Remarks
Conclusions adequately discussed?		

APPENDICES

Items	YES/NO?	Remarks
1. Photographs of analytical equipment (photos plus details on model number, manufacturer- All provided?)		
2. Minutes of the EPMC meetings (formally endorsed?)		
3. STS Performance Monitoring Report (formally endorsed?)		
4. Revised or new PM field log sheets (Used with handwritten entries provided?)		
5. Jar test results (if coagulants used) (graphs and coagulant dosing calculations provided?)		
6. Further improvements: Implementation schedule (if relevant) provided?		
7. Further improvements: EPMC meeting minutes discussing further improvement projects provided? Equipment purchase requisition (if relevant) provided?		
8. Proofs related to minor upset conditions provided?		
9. Proofs related to major upset conditions Provided		
10. Equipment and instrument maintenance records provided?		
11. PM instruments calibration records provided?		
12. Others….		

REMINDERS

Submit only the complete FTRs

If you have answered YES to all those items in the above table, then you are ready to submit your FTR to EiMAS. DO NOT submit INCOMPLETE FTR (i.e. any items in the FTR READINESS SELF ASSESSMENT FORM answered NO). It will be REJECTED WITHOUT the FTR BEING REVIEWED.

Policy on plagiarism

EiMAS places great importance to technical integrity especially in written submissions for approval and certification purposes. Plagiarism will not be tolerated. Plagiarism is to use another person's work and pretend that it is one's own. A FTR containing any plagiarized material especially plagiarized from other FTRs will AUTOMATICALLY BE REJECTED AND BE GIVEN A "FAIL" GRADE. The FTR will be returned to the submitter and a letter of rejection sent to the manager of the company the submitter is attached to.

EiMAS Certification Center
August 2017