GUIDE ON REGISTRATION OF TRAINING INSTITUTION

May 2026

TABLE OF CONTENTS

1. OBJECTIVES 3
2. SCOPE 3
3. INTERPRETATION 3
4. REGISTRATION OF TRAINING INSTITUTION 4
5. USE OF RECOGNITION LOGO 14
6. ADDITION OF TRAINING COURSES 15
7. RENEWAL OF PRACTISING CERTIFICATE 17
8. CANCELLATION OF CERTIFICATE OF REGISTRATION 21
9. APPENDICES 24

1. OBJECTIVES

This Guide is developed by the Commission with the following objectives:

(a) to specify the types of Registered Training Institution;
(b) to give details on application to apply as Registered Training Institution;
(c) to specify the requirements for compliance review;
(d) to give details on the renewal of application of practising certificate for registered training institution; and
(e) to give details on the cancellation of Registered Training Institution.

2. SCOPE

This Guide applies to any training institution who applies to become a Registered Training Institution under the Energy Efficiency and Conservation Act 2024 [*Act 861*].

3. INTERPRETATION

In this Guide, the following terms shall bear the following meanings:

"Act"	means the Energy Efficiency and Conservation Act 2024 [*Act 861*];
"Commission"	has the meaning assigned to it under the Energy Efficiency and Conservation Act 2024 [*Act 861*];
"Regulations"	means the Energy Efficiency and Conservation Regulations [*P.U.(A)466/2024*];
"CDP"	means Continuous Development Programs;
"REM"	means the registered energy manager;
"REM First Type"	means the first type registered energy manager;
"REM Second Type"	means the second type registered energy manager;
"RTI"	means the registered training institution.

3.1. Subject to paragraph 3.1 and unless expressly indicated to the contrary or unless the context otherwise requires, terms adopted and used in this Guide shall bear the same meaning as they are defined in the Act.

4. REGISTRATION OF TRAINING INSTITUTION

4.1. Pursuant to section 31 of the Act, an application for registration of training institution shall be made to the Commission.

4.2. The application shall be accompanied by—

(a) a prescribed fee in accordance with subsection 33(2) of the Act and regulation 16 of the Regulations; and

(b) any information, particulars, or documents as may be required by the Commission in accordance with the Appendices.

4.3 RTI under the Act shall consists of two (2) types as follows:

(a) RTI to conduct training course to be a REM; and
(b) RTI to carry out CDP for REM.

4.4 <u>Registered training institution to conduct training course for registered energy manager</u>

The requirements to become RTI to conduct a training course to be a REM are as follows:

(a) a company, limited liability partnership, firm, society, or other body of persons incorporated or established under any written law;

(b) has at least one (1) permanent or contract staff to process training application including vetting the applicant qualification;

(c) has at least one (1) permanent or contract staff for compliance review by the Commission;

(d) own or rent a registered office address;

(e) capability to own or rent training venue and equipment for the purpose of conducting training;

(f) own a complete syllabus or training course as follows:

(i) **Appendix AA** – for the purpose of a registered training institution to conduct training course for REM First Type;

(ii) **Appendix BB** – for the purpose of registered training institution to conduct training course for REM Second Type;

(g) has a pool of certified trainer where 80% must have valid REM certificate all time during each training session;

(h) has established one (1) management procedure that comprises the following:

(i) procedure for organizing training;
(ii) procedure for organizing examination;
(iii) procedure for submitting the applicant's attendance confirmation and examination result to the Commission; and
(iv) procedure for managing failed and repeat training or asessment;

(i) has established the examination committee;

(j) has established the approval committee; and

(k) has not been convicted of an offence involving fraud, dishonesty, or corruption.

4.5 Method to apply for RTI to Conduct Training Course for REM are as follows:

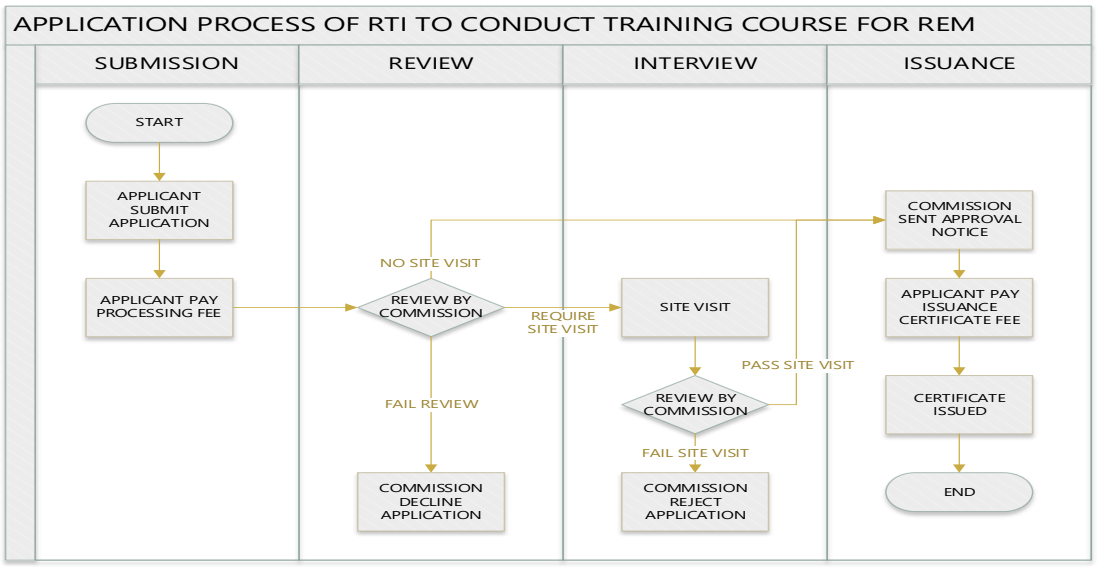

Figure 4-1 Application Process for RTI to Conduct Training Course for REM

PROCESS	DESCRIPTION
SUBMISSION	
Applicant submit application	1. Applicant to submit to the Commission the application form as per Appendix A.
Applicant pay the application fee	2. Applicant to pay the application fee for registration of training institution conducting a training course to be a REM under subsection 33(2) of the Act amounting to RM200.00.
REVIEW	
Review by Commission	3. Upon receiving the complete application together with the application fee, Commission shall start to review the application. 4. During review, the Commission may decide that the submission is complete or incomplete. 5. If the application is complete, the Commission shall send the approval notice to the applicant.

PROCESS	DESCRIPTION
	6. If the submission is incomplete, the Commission may request the applicant by way of notice to furnish additional supporting documents within fourteen (14) days from the date of the notice. Failure to do so may result in the Commission declining the application without further notice and without affecting the right of the applicant to make a fresh application. 7. If the Commission decides that the applicant does not fulfill the requirement of the Act, the application shall be declined.
SITE VISIT	
Site visit session	8. The Commission may require a site visit to ascertain qualification by giving two weeks' notice to the applicant. 9. The applicant is required to prepare the original supporting document during the site visit session with the Commission. 10. The site visit may consist presentation, interview with the Commission and site visit of facility and equipment of the training institution.
Review by Commission	11. During the site visit, the Commission may pass or fail the site visit. 12. If the Commission decides that the applicant does not fulfill the requirement of the Act, the application shall be declined.
ISSUANCE	
Commission send the approval notice	13. The Commission shall inform the applicant by way of notice on the approval of the application together with the detail of fees required to be paid by the applicant as follows: *(a)* issuance of certificate of registration of training institution conducting a training course to be REM under paragraph 33(3)*(a)* of the Act – RM2,000.00;

PROCESS	DESCRIPTION
	(b) application for practising certificate of RTI conducting a training course to be REM under subsection 34(2) of the Act – RM200.00; and *(c)* issuance of practising certificate of RTI conducting a training course to be REM under paragraph 34(3)*(a)* of the Act - RM2,000.00. 14. The applicant is given fourteen (14) days from the date of the notice to pay all the fees above. Failure to do so may result in the application being rejected. There shall be no refund on any payment made by the applicant.
Certificate issued	15. Upon receiving the payment of fees, the Commission shall register the applicant and issue— *(a)* the Certificate of Registration as Training Institution to Conduct Training Course for REM as per Appendix 1. *(b)* the Practising Certificate of RTI to Conduct Training Course for REM as per Appendix 2. *(c)* The certificate shall contain: (i) terms and conditions to comply; and (ii) limitations on types of training that can be performed under the Act. 16. The practising certificate shall be valid for a year starting from the date of issuance of the certificate.

4.6 Registered training institution to carry out CDP for REM

Requirements to become RTI to carry out CDP for the REM are as follows:

(a) a company, limited liability partnership, firm, society or other body of persons incorporated or established under any written law;

(b) has at least one (1) permanent or contract staff for compliance review by the Commission;

(c) own or rent a registered office address;

(d) capability to own or rent place and equipment to conduct training;

(e) own a complete syllabus or training course for each specific topic that intend to register, as listed in **Appendix CC** for the purpose of becoming the registered training institution to carry out CDP for REM;

(f) has established one (1) management procedure that comprises the following:

(i) procedure for organising training; and
(ii) procedure for attendance submission to the Commission;

(g) has a pool of trainer and for training related to the Act, the trainer must have valid REM certificate;

(h) special requirement for e-learning, online class and conference, the training institution are required to have the capability to track and monitor participant attendance; and

(i) has not been convicted of an offence involving fraud, dishonesty, or corruption.

4.7 Method to apply for RTI to carry out CDP for REM are as follow:

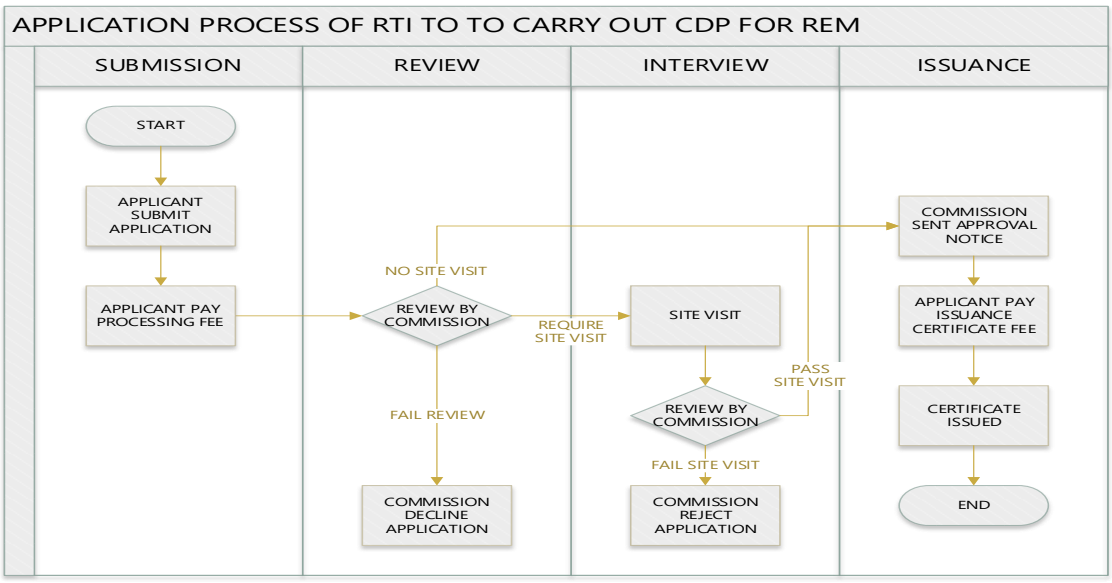

Figure 4-2 Application Process for RTI to Carry Out CDP for REM

PROCESS	DESCRIPTION
SUBMISSION	
Applicant submit application	1. Applicant to submit to the Commission the application form as per Appendix B.
Applicant pay application fee	2. Applicant to pay the application fee for registration of training institution carrying out a CDP for a REM under subsection 33(2) of the Act amounting to RM100.00.
REVIEW	
Review by Commission	3. Upon receiving the complete application together with the application fee, the Commission shall review the application. 4. During review, the Commission may decide whether the submission is complete or incomplete. 5. If the application is complete, the Commission shall send the approval notice to the applicant. 6. If the submission is incomplete, the Commission may request the applicant by way of notice to provide additional supporting documents within fourteen (14) days from the date of the notice. Failure to do so may result in the Commission declining the application without further notice and without affecting the right of the applicant to make a fresh application.

	7. If the Commission decides that the applicant does not fulfill the requirement of the Act, the application shall be declined.
SITE VISIT	
Site Visit Session	8. The Commission may require a site visit to ascertain qualification by giving two weeks' notice to the applicant. 9. The applicant is required to prepare the original supporting document during the site visit session with the Commission. 10. The site visit may consist of presentation, interview with the Commission or site visit of facility and equipment of the training institution.
Review by Commission	11. During site visit, the Commission may pass or fail the site visit. 12. If the Commission decides that the applicant does not fulfill the requirement of the Act, the application shall be declined.
ISSUANCE	
Commission send approval notice	13. The Commission shall inform the applicant by way of notice on the approval of the application together with the detail of fees required to be paid by the applicant as follows: *(a)* the issuance of certificate of registration of training institution carrying out CDP for REM under paragraph 33(3)*(a)* of the Act – RM750.00 *(b)* the application for practising certificate of RTI carrying out a CDP for REM under subsection 34(2) of the Act – RM100.00 *(c)* the issuance of practising certificate of RTI carrying out a CDP for REM under paragraph 34(3)*(a)* of the Act – RM750.00 14. The applicant is given fourteen (14) days from the date of the notice to pay all the fees above. Failure to do so may result in the application being rejected. There shall be no refund on any payment made.
Certificate Issued	15. Upon receiving the payment of fees, the Commission shall register the applicant and issue— *(a)* the Certificate of Registration as Training Institution to Carry Out Continuous Development Programme for Registered Energy Manager as per Appendix 3; *(b)* the Practising Certificate of Registration as Training Institution to Carry Out Continuous Development

	Programme for Registered Energy Manager as per Appendix 4; *(c)* The certificate shall contain: (i) terms and conditions to comply; and (ii) limitations on types of training that can be performed under the Act. 17. The practising certificate shall be valid for a year starting from the date of issuance of the certificate.

4.8 Terms and conditions for RTI to comply are as follows:

(a) The RTI—

(i) shall conduct a training course that has been approved by the Commission and as specified in the practising certificate; and

(ii) shall not promote any training course without obtaining a prior approval of the Commission;

(b) no changes to the training course once approved except receiving written approval from the Commission before conducting the training such as:

(i) change of trainer;

(ii) change of duration of training;

(iii) change of training agenda; and

(iv) change of training syllabus or training notes;

(c) ensure that the approved training course is registered in the ST Training Calendar prior to the commencement of the course;

(d) providing unrestricted access by the Commission during training sessions;

(e) to disseminate the post training survey to applicants immediately after the completion of each training session;

(f) to submit post training report to the Commission within two (2) week after the completion of each CDP course, or within two (2) months after the completion of a training course to be a REM First Type or REM Second Type;

(g) the training institution shall issue a certificate with a unique identification code to each participant and the certificates are as follows:

(i) a certificate of attendance for CDP courses; and

(ii) a certificate of attendance and a certificate of completion for training courses to become a REM First Type or REM Second Type.

(h) keeping of records and register of training up to five (5) years;

(i) providing information access related to training course approved under the Act for the Commission to conduct compliance review;

(j) to adhere and do corrective action to the finding during the review (if any);

(k) revise approved training course as required by the Commission within specified time mentioned; and

(l) other additional terms and conditions that may be inform from time to time by written notice.

4.9 Any non-compliance to the terms and conditions referred to in paragraph 4.8 could cause for the Commission to refuse any renewal of practising certificate of registered training institution under section 35 of the Act or immediate cancellation of the certificate under section 36.

5. USE OF RECOGNITION LOGO

5.1 For the purpose of indicating that a training course has been approved by the Commission, the RTI may use a recognition logo in accordance with the layouts, format and examples as specified in Appendix 5.

5.2 The use of the recognition logo by RTI is optional and may be applied in promotional, informational, or training-related materials, including but not limited to brochures, websites, and course announcements.

5.3 Where the recognition logo is used, the RTI shall ensure that:

(a) the recognition logo corresponds to the approved training category (e.g. REM First Type or CDP);

(b) the approval code as stated in the practising certificate is displayed in the recognition logo and such code is valid and corresponds to the approved course; and

(c) the recognition logo is not altered, modified, or used in a misleading manner.

5.4 The recognition logo shall only be used for training courses that have been approved by the Commission. The recognition logo shall not be used for:

(a) any training course that has not been approved by the Commission; or

(b) general corporate branding that implies that any blanket approval has been given by the Commission to the institution.

5.5 The RTI shall not use the recognition logo upon the expiry, suspension, or cancellation of training courses that have been approved by the Commission.

6. ADDITION OF TRAINING COURSES

6.1 RTI that has received certificate of registration as Training Institution to Conduct Training Course for Registered Energy Manager or Training Institution to Carry Out Continuous Development Programme for Registered Energy Manager may apply with the Commission to add additional training course with the terms and conditions as follows:

(c) RTI has been issued a certificate of registration as Training Institution to Conduct Training Course for Registered Energy Manager or certificate of registration as a Training Institution to Carry Out Continuous Development Programme for Registered Energy Manager;

(d) holds a valid practising certificate of Training Institution to Conduct Training Course for Registered Energy Manager or practising certificate of Training Institution to Carry Out Continuous Development Programme for Registered Energy Manager;

(e) additional training course can only be done within the validity of RTI Practising Certificate issued before.

6.2 Method to add for additional training course as follows:

PROCESS	DESCRIPTION
SUBMISSION	
Applicant submit application	1. Applicant to submit to the Commission the application form as per Appendix C.
REVIEW	
Review by Commission	2. The Commission shall review the application. 3. During review, the Commission may decide that the submission is complete or incomplete. 4. If the application is complete, the Commission shall send the approval notice to the applicant.

	5. If the submission is incomplete, the Commission may request the applicant by way of notice to furnish additional supporting documents within fourteen (14) days from the date of the notice. Failure to do so may result in the Commission declining the application without further notice and without affecting the right of the applicant to make a fresh application. 6. If the Commission decides that the applicant does not fulfill the requirement of the Act, the application shall be declined.
SITE VISIT	
Site visit session	7. The Commission may require a site visit to ascertain qualification by giving two weeks' notice to the applicant. 8. The applicant is required to prepare an original supporting document during the site visit session with the Commission. 9. The site visit may consist of presentation, interview with the Commission or site visit of facility and equipment of the training institution.
Review by Commission	10. During site visit, the Commission may pass or fail the site visit. 11. If the Commission decides that the applicant does not fulfill the requirement of the Act, the application shall be declined. 12. The result of the review by the Commission will be send to the applicant by way of notice.
ISSUANCE	
Certificate issue	13. The Commission shall update the register and re-issue:

	(a) Practising Certificate of Registration as Training Institution as per Appendix 2 or 4. *(b)* the certificate may contain: (i) updated terms and conditions to comply (if any); or (ii) updated limitations on types of training that can be conducted under the Act. 14. There will be no additional fee and no changes to the validity of the practising certificate.

7. RENEWAL OF PRACTISING CERTIFICATE

7.1 Subsection 31(1) of the Act required that the training institution shall hold a valid practising certificate to conduct a training course referred to in paragraph 31(1)*(a)* of the Act and carry out a continuous development programme referred to in paragraph 31(1)*(b)* of the Act.

7.2 Method to renew practising certificate for RTI are as follow:

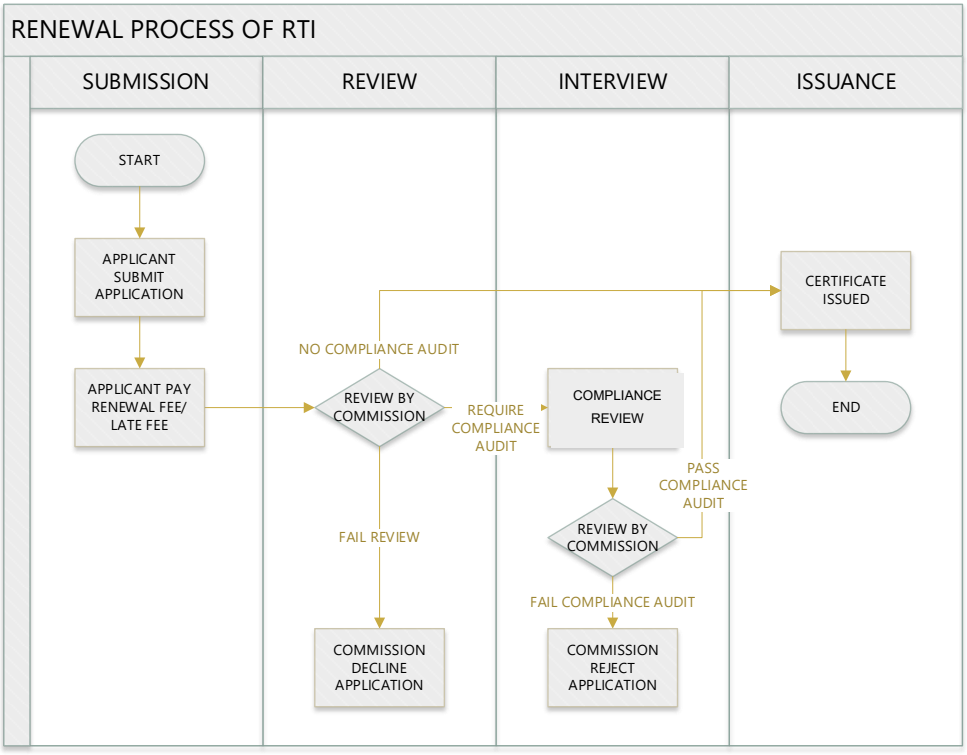

Figure 0-1 Renewal Process of RTI Practising Certificate

PROCESS	DESCRIPTION
SUBMISSION	
Applicant submit application	1. The applicant to submit to the Commission application form as per Appendix D.
Applicant pay renewal fee or late fee	2. Renewal fee for RTI to conduct training course for REM *(a)* application to renew the practising certificate of RTI conducting a training course to be REM under subsection 35(3) of the Act – RM200.00; and *(b)* the late fee for the renewal of practising certificate of registered training institution under subsection 35(2) of the Act amounting to RM2,000.00, if applicable. 3. Renewal fee for RTI to carry out CDP for REM *(a)* application for registration of training institution carrying out a CDP for REM under subsection 35(3) of the Act – RM100.00; and

PROCESS	DESCRIPTION
	(b) the late fee for the renewal of practising certificate of registered training institution under subsection 35(2) of the Act amounting to RM750.00, if applicable.
REVIEW	
Review by Commission	4. Upon receiving the complete application together with processing fee, the Commission shall review the application. 5. During review, the Commission may decide that the submission is complete or incomplete. 6. If the application is complete, the Commission shall send the approval notice to the applicant. 7. If the submission is incomplete, the Commission may request the applicant by way of notice to furnish additional supporting documents within fourteen (14) days from the date of the notice. Failure to do so may result in the Commission declining the application without further notice and without affecting the right of the applicant to make a fresh application. 8. If the Commission decides that the applicant does not fulfill the requirement of the Act, the application shall be declined.
COMPLIANCE REVIEW	
Compliance review	9. The Commission may require a compliance review to be done to ascertain compliance to the terms and conditions set out by the Commission in paragraph 4.8 and for improvement of the training course. 10. The applicant is required to prepare an original supporting document during compliance review with the Commission and provide access to the relevant document.

PROCESS	DESCRIPTION
Review by Commission	11. During site visit, the Commission may: *(a)* pass the compliance review; *(b)* issue improvement notice of the training; or *(c)* fail the compliance review. 12. If the RTI receives improvement notice from the Commission, the RTI is required to comply with the improvement notice set out by the Commission. 13. While awaiting a response from training institution for the finding in compliance review, the renewal process will be put on hold and no training can be done under the Act. 14. Upon reviewing the action taken by the RTI, the Commission may pass or fail the compliance review. 15. If the Commission decides that the applicant does not fulfill the requirement of the Act, the renewal application of practising certificate shall be declined.
ISSUANCE	
Commission send approval notice	16. The Commission shall inform the applicant on the approval together with the detail of fees required to be paid by the applicant as follows: *(a)* the renewal of practising certificate of RTI conducting a training course to be REM under paragraph 35(4)*(a)* of the Act – RM2,000.00; or *(a)* the renewal of practising certificate of RTI carrying out CDP for REM under paragraph 35(4)*(a)* of the Act – RM750.00;

PROCESS	DESCRIPTION
	17. The applicant is given fourteen (14) days from the date of the notice to pay all the fees above. Failure to do so may result in the application not being further proceeded with. There shall be no refund on any partial payment made.
Certificate issued	18. Upon approving the renewal application, the Commission shall update in the Register and re-issue: *(a)* Practising Certificate of Registration as Training Institution as per Appendix 2 or 4 as per approved duration of minimum one (1) year and maximum of three (3) years. *(b)* The certificate may contain: (i) updated terms and conditions to comply (if any). (ii) updated limitations on types of training that can be conducted under the Act.

8. CANCELLATION OF CERTIFICATE OF REGISTRATION

8.1 The Commission may cancel the certificate of registration of a RTI due to any circumstance as follows:

(a) the RTI has contravened any provision of this Act;

(b) the RTI has ceased to carry on the business in respect of which it is registered under this Act;

(c) the RTI has misused or cause to be misused the certificate of registration;

(d) the RTI has altered the certificate of registration;

(e) the RTI has obtained the certificate of registration by making or causing to be made, or by producing or causing to be produced, a false or fraudulent declaration, certificate, application, representation or information, either in writing or otherwise; or

(f) the RTI has been convicted of an offence involving fraud, dishonesty or corruption.

8.2 Method for the cancellation of the certificate of registration of RTI by the Commission are as follows:

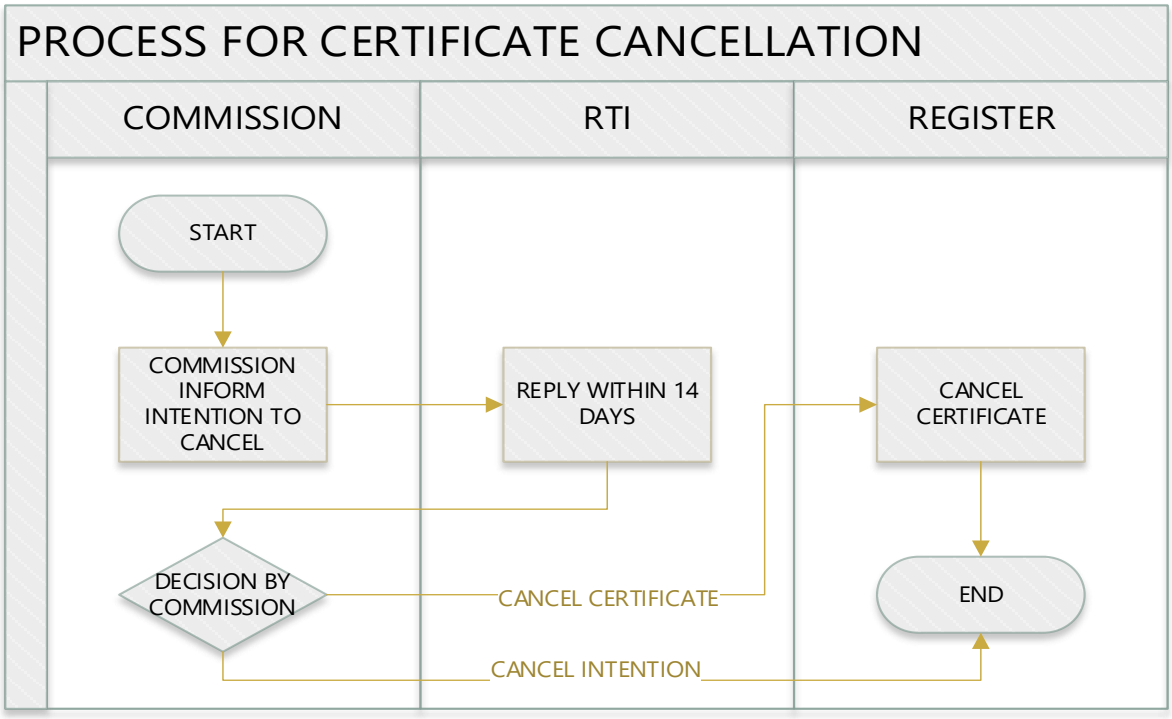

Figure 8-1 Process of Certificate Cancellation

PROCESS	DESCRIPTION
Commission inform intention to cancel certificate	1. If any circumstance specified under paragraph 7.1 occurs, the Commission may inform the RTI of the intention to cancel the certificate by way of notice.
RTI reply within 14 days	2. RTI that receives the notice are given 14 days to reply to the Commission. If no reply is received, the Commission would

	consider that the RTI has agreed with the Commission's intention.
Decision by Commission	3. The Commission shall review the reply submitted by the RTI and decide accordingly. 4. If the Commission decides to proceed with the cancellation, the Commission shall remove the RTI's name from the register and issue a cancellation notice. 5. If the Commission decides not to proceed with the cancellation, the Commission shall inform the decision to the RTI accordingly.

9. APPENDICES

APPENDICES	DESCRIPTION	LINKS
Appendix A	Application Form for Registered Training Institution to Conduct Training Course to be a Registered Energy Manager	https://rti.st.gov.my/form-6834238/new
Appendix B	Application Form for Registered Training Institution to Carry Out Continuous Development Programme for Registered Energy Manager	
Appendix C	Application for Update/ Addition of Training Course	https://rti.st.gov.my/form-6836118/update
Appendix D	Renewal of Practising Certificate for Registered Training Institution	https://rti.st.gov.my/form-6836598/renewal
Appendix E	Application for Post Training Submission Report	https://rti.st.gov.my/form-6836559/post-training
Appendix F	Application to Register Training in ST Training Calendar	https://eeca2024.short.gy/add-training-calendar
Appendix G	Application to Submit Post Training Survey	https://eeca2024.short.gy/training-survey

APPENDICES	DESCRIPTION
Appendix AA	List of Syllabus for Registered Training Institution to Conduct Training Course for Registered Energy Manager First Type
Appendix BB	List of Syllabus for Registered Training Institution to Conduct Training Course for Registered Energy Manager Second Type
Appendix CC	List of Syllabus for Registered Training Institution to Carry Out Continuous Development Programme for Registered Energy Manager
Appendix 1	Certificate of Registration for RTI to Conduct Training Course for Registered Energy Manager
Appendix 2	Practising Certificate for RTI to Conduct Training Course for Registered Energy Manager
Appendix 3	Certificate of Registration for RTI to Carry Out Continuous Development Programme for Registered Energy Manager
Appendix 4	Practising Certificate for RTI to Carry Out Continuous Development Programme for Registered Energy Manager
Appendix 5	Template of Recognition Logo for Approved Training Courses

Appendix AA – List of Syllabus for Registered Training Institution to Conduct Training Course for Registered Energy Manager First Type

Any training institution seeking a registration to conduct training courses for REM First Type must ensure full compliance which includes possessing a comprehensive syllabus, training course materials, and relevant documentation before submitting their application to the Commission.

The following list of topics is mandatory and must be included by all training institutions. Additionally, the Commission reserves the right to update the syllabus periodically. When such updates occur, both new applicants and currently registered training institutions must adhere to the revised requirements.

NO.	TOPICS	PROPOSED DURATION (HOUR)
1.	Overview of Energy Scenario and the Governance of Energy Sector in Malaysia • World Energy Scenario • Malaysia Energy Scenario • Energy Policies in Malaysia • Key Energy Efficiency Programs in Malaysia	2
2.	Legislation in Malaysia • Energy Commission Act 2001 • Energy Efficiency and Conservation Act ("Act") • Regulations • Guide and Guidelines under the Act • Electricity Supply Act 1990 (ESA) • Electricity Regulations 1994	8
3.	Fundamentals as Energy Manager (Safety) • Safety requirement under the Act • Types of competent person • Competent person vs energy manager	2

NO.	TOPICS	PROPOSED DURATION (HOUR)
4.	Fundamentals As Energy Manager (Technical) • Overview of energy • Electricity Generation, Transmission, Distribution and Classification • Energy unit conversion factors	2
5.	Fundamentals as Energy Manager (Financial) • Introduction on MESI (IBR, ICPT) • Structure of Energy Pricing • Calculation of energy saving • Common financial analysis for energy efficiency projects	2
6.	Energy Management System (EnMS) • Type of Energy Management System (EnMS) • Introduction to energy management and key definitions • Best practices and standards related to energy management • Overview of Energy Management System (EnMS) concept (PDCA cycle) and its key elements • Establishment of suitable energy performance indicators and energy baselines for energy performance measurements	6
7.	Energy Audit (as per ST Guidelines) • Definition and types of energy audit • Steps for energy audit • Energy audit measurement • Concept of Measurement & Verification	3

NO.	TOPICS	PROPOSED DURATION (HOUR)
8.	Common Energy Saving Measure I • ESM for Lighting System • ESM for Compressed Air System	4
9.	Common Energy Saving Measure II • ESM for Air Conditioning System • ESM for Motors, Pumps and Fans	3
10.	Assessment • Theoretical Test • Individual Project Presentation	8
	TOTAL	**40**

Appendix BB – List of Syllabus for Registered Training Institution to Conduct Training Course for Registered Energy Manager Second Type

Any training institution seeking a registration to conduct training courses for REM Second Type must ensure full compliance which includes possessing a comprehensive syllabus, training course materials, and relevant documentation before submitting their application to the Commission.

The following list of topics is mandatory and must be included by all training institutions. Additionally, the Commission reserves the right to update the syllabus periodically. When such updates occur, both new applicants and currently registered training institutions must adhere to the revised requirements.

NO.	TOPICS	PROPOSED DURATION (HOUR)
1.	Revision on Overview of Energy Scenario and the Governance of Energy Sector in Malaysia • World Energy Scenario • Malaysia Energy Scenario • Energy Policies in Malaysia • Key Energy Efficiency Programs in Malaysia	1
2.	Revision on Legislation in Malaysia • Energy Commission Act 2001 • Energy Efficiency and Conservation Act ("Act") • Regulations • Guide and Guidelines under the Act • Electricity Supply Act 1990 (ESA) • Electricity Regulations 1994	4
3.	Revision on Fundamentals as Energy Manager (Safety) • Safety requirement under the Act • Types of competent person • Competent person vs energy manager	1

NO.	TOPICS	PROPOSED DURATION (HOUR)
4.	Revision on Fundamentals as Energy Manager (Technical) • Overview of energy • Electricity Generation, Transmission, Distribution and Classification • Energy unit conversion factors	1
5.	Revision on Fundamentals As Energy Manager (Financial) • Introduction on MESI (IBR, ICPT) • Structure of Energy Pricing • Calculation of energy saving • Common financial analysis for energy efficiency projects	1
6.	Overview of Thermal Energy Systems	1
7.	Key Principles and Concepts in Thermal Energy System Applications • Concept of Heat & Energy • Energy Conversion	3
8.	Common Energy Saving Measure III • Fuel And Combustion (Furnace) • Boilers and Steam Distribution Systems • Thermal Oil Heaters • Insulation • Waste Heat Recovery • Co-Generation	16
9.	Thermal Energy Audit • Energy Performance Indicator and Reporting • Measurement & Verification	4

NO.	TOPICS	PROPOSED DURATION (HOUR)
10.	Assessment • Theoretical Test • Individual Project Presentation	8
	TOTAL	**40**

Appendix CC – List of Syllabus for Registered Training Institution to Carry Out Continuous Development Programme for Registered Energy Manager

Any training institution seeking a registration to conduct Continuous Development Programmes for Registered Energy Managers must ensure full compliance which includes possessing a comprehensive syllabus, training course materials, and relevant documentation for each specific topic they intend to register before submitting their application to the Commission.

Additionally, the Commission reserves the right to update the syllabus periodically. When such updates occur, both new applicants and currently registered training institutions must adhere to the revised requirements.

CODE	CATEGORY	TOPIC	MANDATORY CDP REM FIRST TYPE	MANDATORY CDP REM SECOND TYPE	OPTIONAL CDP
CDP-0001	GENERAL	Energy Efficiency Activities in Malaysia			YES
CDP-0002	GENERAL	Energy Efficiency Standards and Labelling			YES
CDP-0003	GENERAL	Energy Policy and Legislation			YES
CDP-0004	GENERAL	Energy Pricing and Electricity Bills			YES
CDP-0005	GENERAL	Energy Scenario			YES
CDP-002A	GENERAL	Green Procurement			YES
CDP-0006	GENERAL	Guides and Guidelines under the Act	YES, Min. 8 hours	YES, Min. 8 hours	YES
CDP-0007	GENERAL	Incentives for Energy Management/ Energy Efficiency			YES
CDP-0008	GENERAL	Registration of REM, REA and RTI			YES
CDP-0035	SAFETY	Electrical Safety System	YES, Min. 8 hours		YES
CDP-0036	SAFETY	Gas Safety System		YES, Min. 8 hours	YES
CDP-0038	SAFETY	Professional Ethics & Liability for Energy Managers		YES, Min. 4 hours	YES
CDP-000E	SAFETY	Safe Work Procedure	YES, Min. 4 hours		YES
CDP-0037	SAFETY	Safety in Energy Management and Audit		YES, Min. 4 hours	YES

CODE	CATEGORY	TOPIC	MANDATORY CDP REM FIRST TYPE	MANDATORY CDP REM SECOND TYPE	OPTIONAL CDP
CDP-0011	SAFETY	Stop Work Order	YES, Min. 4 hours		YES
CDP-0009	MANAGEMENT	Effective Energy Efficiency Project Proposal and Presentation		YES, Min. 8 hours	YES
CDP-000B	MANAGEMENT	Energy Performance Contracting (EPC)			YES
CDP-002C	MANAGEMENT	ESG Manual and ESG Reporting			YES
CDP-000C	MANAGEMENT	Financial Analysis for Energy Efficiency Projects	YES, Min. 8 hours		YES
CDP-0012	MANAGEMENT	GHG Reporting			YES
CDP-002D	MANAGEMENT	Internal Auditing and Training Need Analysis (TNA)			YES
CDP-002E	MANAGEMENT	Motivation and Communication Strategies			YES
CDP-002B	MANAGEMENT	Product Carbon Footprint and Carbon Management			YES
CDP-000F	MANAGEMENT	Setting up Energy Management Gold Standard (EMGS)	YES, Min. 16 hours, OR		YES
CDP-0010	MANAGEMENT	Setting up ISO 50001	YES, Min. 16 hours		YES
CDP-000A	MANAGEMENT	Thermal Energy Reporting		YES, Min. 4 hours	YES
CDP-002F	TECHNICAL ENGINEERING	Demand Side Management and Maximum Demand Controllers			YES
CDP-0014	TECHNICAL ENGINEERING	Detailed Energy Audit for Electrical and Mechanical System	YES, Min. 16 hours		YES
CDP-0015	TECHNICAL ENGINEERING	Detailed Energy Audit for Thermal System		YES, Min. 16 hours	YES
CDP-0018	TECHNICAL ENGINEERING	Energy Audit Reporting under the Act	YES, Min. 8 hours		YES
CDP-0031	TECHNICAL ENGINEERING	Energy Digitalisation, Artificial Intelligence and Internet of Things			YES
CDP-0020	TECHNICAL ENGINEERING	Establishing Energy Baseline and Regression Analysis	YES, Min. 8 hours		YES

CODE	CATEGORY	TOPIC	MANDATORY CDP REM FIRST TYPE	MANDATORY CDP REM SECOND TYPE	OPTIONAL CDP
CDP-001A	TECHNICAL ENGINEERING	Fundamentals of Architecture			YES
CDP-001B	TECHNICAL ENGINEERING	Fundamentals of Electrical System			YES
CDP-001C	TECHNICAL ENGINEERING	Fundamentals of Mechanical System			YES
CDP-001D	TECHNICAL ENGINEERING	Green/ New Technology		YES, Min. 4 hours	YES
CDP-001F	TECHNICAL ENGINEERING	Heat Recovery Optimization		YES, Min. 8 hours	YES
CDP-001E	TECHNICAL ENGINEERING	Measurement and Verification		YES, Min. 8 hours	YES
CDP-0030	TECHNICAL ENGINEERING	Software and Tools for Energy Analysis			YES
CDP-0021	ENERGY SYSTEMS AND EFFICIENCY	Air Conditioning System	YES, Min. 16 hours, Choose 1		YES
CDP-0026	ENERGY SYSTEMS AND EFFICIENCY	Boiler and Steam System		YES, Min. 8 hours, Choose 3	YES
CDP-0027	ENERGY SYSTEMS AND EFFICIENCY	Chiller System		YES, Min. 8 hours, Choose 3	YES
CDP-0029	ENERGY SYSTEMS AND EFFICIENCY	Energy Storage		YES, Min. 8 hours, Choose 3	YES
CDP-0023	ENERGY SYSTEMS AND EFFICIENCY	Fans and Blower System	YES, Min. 16 hours, Choose 1		YES
CDP-0033	ENERGY SYSTEMS AND EFFICIENCY	General Electrical System			YES
CDP-0034	ENERGY SYSTEMS AND EFFICIENCY	General Thermal System			YES
CDP-0028	ENERGY SYSTEMS AND EFFICIENCY	Heat Transfer		YES, Min. 8 hours, Choose 3	YES
CDP-0032	ENERGY SYSTEMS AND EFFICIENCY	Hydrogen and Hybrid Energy System			YES

CODE	CATEGORY	TOPIC	MANDATORY CDP REM FIRST TYPE	MANDATORY CDP REM SECOND TYPE	OPTIONAL CDP
CDP-0024	ENERGY SYSTEMS AND EFFICIENCY	Motor and Drive System	YES, Min. 16 hours, Choose 1		YES
CDP-0022	ENERGY SYSTEMS AND EFFICIENCY	Power Distribution System	YES, Min. 16 hours, Choose 1		YES
CDP-0025	ENERGY SYSTEMS AND EFFICIENCY	Pumps And Cooling Tower	YES, Min. 16 hours, Choose 1		YES

*Notes:

a) Registered Energy Managers (REM) may be exempted from submitting Continuous Development Programme (CDP) documentation for renewal of their practising certificate if they have completed the mandatory CDP syllabus as indicated above.
b) If the training course provided by a Registered Training Institution (RTI) falls below the required minimum hours specified, it will automatically be classified as an optional CDP. While REMs can use this for practising certificate renewal, it will not count towards the completion of mandatory topics.

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Appendix CC – List of Syllabus for Registered Training Institution to Carry Out Continuous Development Programme for Registered Energy Manager

Requirements and Guidance on Learning Outcomes and CDP Awarding Framework

This Appendix establishes the requirements, guidance and framework for the development of learning outcomes and the awarding of Continuous Development Programme (CDP) hours for training courses conducted by Registered Training Institutions (RTI). It outlines the expectations of the Commission on how training content shall be structured to ensure alignment with the requirements under the Act and subsidiary regulations made under it.

RTIs are required to design CDP courses based on clearly defined learning outcomes that reflect appropriate competency levels. The learning outcomes shall be structured to support the development of knowledge, application, analysis and evaluation capabilities relevant to energy management, covering both electrical and thermal energy systems where applicable. The level of depth and complexity of the learning outcomes shall correspond to the classification of the course, whether as Optional CDP, Mandatory CDP for REM First Type or Mandatory CDP REM Second Type.

This framework also provides the basis for the determination and awarding of CDP hours. The allocation of CDP hours shall be commensurate with the number, depth and complexity of the learning outcomes, as well as the expected level of competency to be achieved. As a general reference, courses with fewer and lower-level learning outcomes may be awarded lower CDP hours, while courses with more comprehensive and higher-level learning outcomes shall justify higher CDP hours.

RTIs shall ensure that all training courses are developed and delivered in accordance with this framework to support competency development, enhance the effectiveness of energy management practices, and ensure compliance with the requirements under the Act and subsidiary legislations made under it.

TOPIC	MANDATORY CDP REM FIRST TYPE	MANDATORY CDP REM SECOND TYPE	OPTIONAL CDP
Energy Efficiency Activities in Malaysia	-	-	**Learning Outcomes:** • Understand: Structure and intent of the Act and the subsidiary legislations made under it. • Understand: National energy efficiency policies, targets and key initiatives/ programmes • Understand: Roles of ST and relevant agencies in the EE ecosystem • Apply: Relate national EE initiatives to REM functions (EnMS, reporting, ESM implementation) • Analyse: Identify gaps between current facility practices and national EE direction • Evaluate: Assess opportunities to leverage national initiatives/ programmes to support compliance and energy performance improvement **Delivery:** Awareness + case-based (Proposed ≈8 hours)
Energy Efficiency Standards and Labelling	-	-	**Learning Outcomes:** • Understand: Concept and purpose of Minimum Energy Performance Standards (MEPS) and energy labelling under Malaysian regulatory framework • Understand: Applicability of standards and labelling to energy-using equipment and

TOPIC	MANDATORY CDP REM FIRST TYPE	MANDATORY CDP REM SECOND TYPE	OPTIONAL CDP
			systems • Apply: Interpret energy labels and efficiency ratings for equipment selection and comparison • Apply: Incorporate energy-efficient and compliant equipment into procurement and replacement planning aligned with EnMS • Analyse: Compare equipment options based on energy performance, lifecycle cost and compliance requirements • Evaluate: Recommend equipment selection that meets regulatory requirements and supports energy performance improvement **Delivery:** Awareness + practical application (Proposed ≈8 hours)
Energy Policy and Legislation	-	-	**Learning Outcomes:** • Understand: Structure, scope and intent of the Act and the subsidiary legislations made under it. • Understand: Roles and responsibilities of energy consumer, REM, REA and RTI under the regulatory framework • Apply: Interpret key compliance requirements including EnMS implementation, reporting obligations and audit requirements • Analyse: Identify compliance gaps and risks

TOPIC	MANDATORY CDP REM FIRST TYPE	MANDATORY CDP REM SECOND TYPE	OPTIONAL CDP
			at facility level based on regulatory requirements • Evaluate: Assess organisational readiness to comply with the obligations under the Act using practical scenarios **Delivery:** Regulatory-focused + scenario-based (Proposed ≈8 hours)
Energy Pricing and Electricity Bills	-	-	**Learning Outcomes:** • Understand: Structure of electricity tariffs in Malaysia (e.g. energy charge, demand charge, AFA, time-based components) • Understand: Key components of electricity bills and their relevance to energy consumption behaviour • Apply: Interpret electricity bills to extract energy consumption patterns, demand trends and cost drivers • Apply: Relate billing data to EnMS monitoring and EE&C reporting requirements (e.g. 12-month data, trend tracking) • Analyse: Identify anomalies, inefficiencies and opportunities for cost and energy optimisation based on billing data • Evaluate: Recommend tariff optimisation strategies and operational adjustments to improve energy cost performance

TOPIC	MANDATORY CDP REM FIRST TYPE	MANDATORY CDP REM SECOND TYPE	OPTIONAL CDP
			Delivery: Practical + data interpretation workshop (Proposed ≈8 hours)
Energy Scenario	-	-	**Learning Outcomes:** • Understand: Current and projected energy supply–demand trends globally and in Malaysia covering both electrical and thermal energy • Understand: Key drivers affecting energy scenario (fuel mix, technology, policy, climate commitments, electrification vs thermal systems) • Understand: Implications of energy scenario on energy security, cost and sustainability for both electrical and thermal energy use • Apply: Relate energy scenario trends to facility-level planning for electrical systems (e.g. electricity use) and thermal systems (e.g. steam, heat, fuel use) • Analyse: Identify risks and opportunities arising from changes in electricity pricing, fuel supply and thermal energy dependency • Evaluate: Assess how future energy trends may impact organisational energy strategy, including transition between electrical and thermal systems

TOPIC	MANDATORY CDP REM FIRST TYPE	MANDATORY CDP REM SECOND TYPE	OPTIONAL CDP
			Delivery: Awareness + strategic discussion with Malaysian context (Proposed ≈8 hours)
Green Procurement	-	-	**Learning Outcomes:** • Understand: Principles of green procurement and its role in supporting the objectives of the Act for both electrical and thermal energy systems • Understand: Relevant standards, specifications and labelling (e.g. MEPS, energy labels) in procurement decisions • Apply: Integrate energy performance criteria into procurement processes (equipment selection, specifications, tender evaluation) • Analyse: Compare procurement options based on lifecycle cost, energy performance and compliance requirements • Evaluate: Recommend procurement strategies that enhance energy efficiency and support EnMS implementation **Delivery:** Awareness + case-based procurement scenarios (Proposed ≈8 hours)
Guides and Guidelines under the Act	**Learning Outcomes:** • Understand: Structure and purpose of key ST guidelines and guides issued under the Act (e.g. EnMS, EE&C Report, Energy Consumer, REM	**Learning Outcomes:** • Understand: Detailed requirements and interlinkages across multiple guidelines and guides under the Act	**Learning Outcomes:** • Understand: Overview of key guidelines and guides issued under the Act • Apply: Navigate and reference relevant

TOPIC	MANDATORY CDP REM FIRST TYPE	MANDATORY CDP REM SECOND TYPE	OPTIONAL CDP
	duties) • Understand: Relationship between the Act, Regulations and supporting guidelines in compliance implementation • Apply: Interpret guidelines requirements for EnMS implementation, data collection and reporting • Apply: Use guidelines to perform core REM functions (EnMS development, energy monitoring, reporting preparation) • Analyse: Identify gaps between current practices and guidelines requirements at facility level **Delivery:** Regulatory + applied walkthrough (Proposed ≈8 hours)	• Apply: Integrate requirements from different guidelines (EnMS, reporting, energy consumer boundary, audit) into a coherent compliance approach • Analyse: Evaluate consistency and completeness of EnMS, data and reports against guideline requirements • Evaluate: Assess compliance readiness and identify improvement areas based on guideline expectations • Create: Develop structured compliance approach or checklist aligning multiple guidelines for organisational implementation **Delivery:** Integrated compliance + case-based workshop (Proposed ≈8 hours)	guidelines for specific REM tasks • Analyse: Relate guidelines requirements to practical implementation challenges **Delivery:** Awareness + navigation (Proposed ≈4 hours)
Incentives for Energy Management/ Energy Efficiency	-	-	**Learning Outcomes:** • Understand: Types of energy efficiency and energy management incentives in Malaysia covering both electrical and thermal energy initiatives • Understand: Eligibility criteria, application processes and key requirements of relevant incentive programmes • Apply: Identify suitable incentives to support EnMS implementation and Energy Saving Measures (ESM)

TOPIC	MANDATORY CDP REM FIRST TYPE	MANDATORY CDP REM SECOND TYPE	OPTIONAL CDP
			• Analyse: Evaluate feasibility of ESM considering incentives, cost savings and payback period • Evaluate: Recommend appropriate incentive strategies to support compliance and improve energy performance **Delivery:** Awareness + practical case examples (Proposed ≈8 hours)
Registration of REM, REA and RTI	-	-	**Learning Outcomes:** • Understand: Registration framework, roles and scope of REM, REA and RTI under the Act • Understand: Key requirements and processes for application, renewal and practising certificate validity • Apply: Interpret registration requirements in relation to compliance obligations and CDP requirements **Delivery:** Regulatory overview + process walkthrough (Proposed ≈4 hours)
Electrical Safety System	**Learning Outcomes:** • Understand: Principles and components of electrical safety systems (earthing, protection devices, isolation, lockout/ tagout) • Understand: Electrical hazards and risks	-	**Learning Outcomes:** • Understand: Overview of electrical safety principles and system components • Apply: Relate safety practices to common energy efficiency tasks

TOPIC	MANDATORY CDP REM FIRST TYPE	MANDATORY CDP REM SECOND TYPE	OPTIONAL CDP
	associated with energy management activities (inspection, measurement, system operation) • Apply: Implement safe work practices when interacting with electrical systems during REM activities • Analyse: Identify unsafe conditions and potential risks in electrical systems and energy-related operations • Evaluate: Assess adequacy of electrical safety measures and recommend improvements **Delivery:** Safety-focused + practical scenarios (Proposed ≈8 hours)		• Analyse: Identify typical electrical hazards and unsafe practices • Evaluate: Assess effectiveness of safety controls and procedures **Delivery:** Awareness + case-based discussion (Proposed ≈8 hours)
Gas Safety System	-	**Learning Outcomes:** • Understand: Principles and components of gas safety systems (supply, storage, piping, pressure regulation, detection and shutdown systems) • Understand: Hazards and risks associated with gas systems in thermal energy applications (e.g. boilers, burners) • Apply: Implement safe practices and operational controls when managing gas-based systems in energy-related activities • Analyse: Identify potential risks such as leaks, combustion issues and system failures • Evaluate: Assess adequacy of gas safety	**Learning Outcomes:** • Understand: Overview of gas safety principles and system components • Apply: Relate safety practices to thermal energy systems (e.g. boiler operations) • Analyse: Identify common hazards and unsafe conditions in gas systems • Evaluate: Assess effectiveness of safety controls and procedures

TOPIC	MANDATORY CDP REM FIRST TYPE	MANDATORY CDP REM SECOND TYPE	OPTIONAL CDP
		measures and recommend improvements aligned with safe operation and the Act-related activities **Delivery:** Safety-focused + case-based analysis (Proposed ≈8 hours)	**Delivery:** Awareness + practical examples (Proposed ≈8 hours)
Professional Ethics & Liability for Energy Managers		**Learning Outcomes:** • Understand: Ethical principles and professional responsibilities of REM under the Act and regulatory framework • Apply: Handle ethical issues in energy management (e.g. data integrity, reporting accuracy, conflict of interest) • Evaluate: Assess legal liabilities and risks arising from non-compliance, misreporting or negligence **Delivery:** Scenario-based + discussion (Proposed ≈4 hours)	**Learning Outcomes:** • Understand: Overview of professional ethics and responsibilities in energy management • Apply: Relate ethical considerations to daily REM tasks (reporting, audit coordination, ESM recommendation) • Analyse: Identify potential ethical dilemmas and risk situations • Evaluate: Assess implications of unethical practices and recommend appropriate actions **Delivery:** Awareness + case-based discussion (Proposed ≈8 hours)
Safe Work Procedure	**Learning Outcomes:** • Understand: Principles and requirements of safe work procedures (SWP) in energy-related activities covering electrical and thermal systems • Apply: Implement safe work procedures during energy management activities (e.g. measurement, inspection, data collection, basic	-	**Learning Outcomes:** • Understand: Overview of safe work procedures and regulatory expectations (including OSH practices relevant to energy activities) • Apply: Relate SWP to common energy efficiency tasks (e.g. audit support, system

TOPIC	MANDATORY CDP REM FIRST TYPE	MANDATORY CDP REM SECOND TYPE	OPTIONAL CDP
	intervention) • Analyse: Identify hazards and risks associated with electrical and thermal energy systems and apply appropriate control measures **Delivery:** Safety-focused + practical scenarios (Proposed ≈4 hours)		observation, ESM implementation) • Analyse: Identify potential safety risks in electrical and thermal systems • Evaluate: Assess adequacy of existing safe work procedures and identify improvement areas **Delivery:** Awareness + case-based safety discussion (Proposed ≈8 hours)
Safety in Energy Management and Audit	-	**Learning Outcomes:** • Understand: Key safety risks in energy management and audit activities involving electrical and thermal systems • Apply: Implement safe practices during audits, measurements and inspections (e.g. PPE, isolation, permit-to-work) • Evaluate: Assess safety risks and ensure appropriate controls are in place during energy-related activities **Delivery:** Safety-focused + scenario-based (Proposed ≈4 hours)	**Learning Outcomes:** • Understand: Overview of safety principles in energy management and audit activities • Apply: Relate safety requirements to common audit and inspection tasks • Analyse: Identify typical hazards during energy audits (electrical, thermal, confined spaces) • Evaluate: Assess adequacy of safety measures and recommend improvements **Delivery:** Awareness + case-based discussion (Proposed ≈8 hours)
Stop Work Order	**Learning Outcomes:** • Understand: Purpose and authority of Stop Work Order (SWO) in ensuring safety for electrical and thermal energy activities	-	**Learning Outcomes:** • Understand: Principles and organisational policies related to SWO and safety governance

TOPIC	MANDATORY CDP REM FIRST TYPE	MANDATORY CDP REM SECOND TYPE	OPTIONAL CDP
	• Apply: Execute SWO appropriately during unsafe conditions in energy-related tasks (e.g. inspection, measurement, ESM implementation) • Analyse: Identify situations requiring SWO and evaluate associated risks to personnel, equipment and operations **Delivery:** Safety-focused + scenario-based (Proposed ≈4 hours)		• Apply: Integrate SWO practices into energy management and project activities • Analyse: Review past incidents or case studies involving electrical and thermal systems • Evaluate: Assess effectiveness of SWO implementation and recommend improvements **Delivery:** Awareness + case-based discussion (Proposed ≈8 hours)
Effective Energy Efficiency Project Proposal and Presentation		**Learning Outcomes:** • Understand: Structure and requirements of an effective EE project proposal aligned with the Act (link to EnMS, EE&C report, ESM) • Apply: Develop project proposals incorporating electrical and thermal energy saving measures with clear scope, baseline and expected savings • Analyse: Evaluate technical feasibility, cost-benefit, payback period and risks of proposed ESM • Evaluate: Justify project proposals to management using financial, operational and compliance perspectives • Create: Prepare and deliver structured presentations to secure management approval	**Learning Outcomes:** • Understand: Key components of EE project proposals and presentation techniques • Apply: Identify suitable energy saving measures (electrical and thermal) for basic project proposals • Apply: Structure simple proposals and presentations for internal communication • Analyse: Relate proposed measures to energy performance improvement and compliance needs

TOPIC	MANDATORY CDP REM FIRST TYPE	MANDATORY CDP REM SECOND TYPE	OPTIONAL CDP
		and support implementation **Delivery:** Workshop + presentation-based (Proposed ≈8 hours)	 **Delivery:** Practical + introductory proposal development (Proposed ≈8 hours)
Energy Performance Contracting (EPC)	-	-	**Learning Outcomes:** • Understand: Concept, structure and types of EPC models (e.g. shared savings, guaranteed savings) covering both electrical and thermal energy projects • Understand: Roles and responsibilities of ESCO, client and stakeholders within EPC arrangements • Apply: Identify suitable energy saving measures (ESM) that can be implemented through EPC within facility context • Analyse: Evaluate financial viability of EPC projects including cost savings, risk allocation and payback structure • Evaluate: Assess suitability of EPC as an implementation strategy to support EnMS objectives and compliance under the Act **Delivery:** Awareness + case-based financial and contractual discussion (Proposed ≈8 hours)

TOPIC	MANDATORY CDP REM FIRST TYPE	MANDATORY CDP REM SECOND TYPE	OPTIONAL CDP
ESG Manual and ESG Reporting	-	-	**Learning Outcomes:** • Understand: ESG principles and reporting frameworks (e.g. GRI, TCFD) and linkage to energy performance (electrical and thermal) • Understand: Structure and components of ESG manual and reporting requirements relevant to energy management • Apply: Integrate EnMS, EE&C reporting and energy data into ESG reporting processes • Analyse: Identify gaps between organisational practices and ESG reporting requirements • Evaluate: Recommend improvements to ESG reporting and governance aligned with the objectives of the Act and energy performance **Delivery:** Awareness + reporting integration workshop (Proposed ≈8 hours)
Financial Analysis for Energy Efficiency Projects	**Learning Outcomes:** • Understand: Key financial concepts for EE projects (CAPEX/OPEX, discount rate, cash flow) for electrical and thermal measures • Apply: Calculate simple payback, NPV, IRR and lifecycle cost for proposed ESM • Apply: Use energy data (baseline, savings in GJ/kWh/fuel) to quantify cost savings	-	**Learning Outcomes:** • Understand: Overview of financial metrics used in EE projects • Apply: Perform basic payback and cost-savings calculations for electrical and thermal measures • Analyse: Relate financial outcomes to project feasibility and prioritisation

TOPIC	MANDATORY CDP REM FIRST TYPE	MANDATORY CDP REM SECOND TYPE	OPTIONAL CDP
	• Analyse: Compare alternative ESM options based on financial metrics and risk • Evaluate: Recommend financially viable projects aligned with EnMS targets and compliance under the Act **Delivery:** Calculation-focused workshop + case studies (Proposed ≈8 hours)		• Evaluate: Identify opportunities to enhance project viability using incentives or tariff strategies **Delivery:** Practical + simplified calculations (Proposed ≈8 hours)
GHG Reporting	-	-	**Learning Outcomes:** • Understand: Principles of GHG accounting (Scopes 1, 2 and relevant Scope 3) and linkage to electrical and thermal energy use • Understand: Common standards/frameworks for GHG reporting (e.g. GHG Protocol) and relevance to organisational reporting • Apply: Convert energy consumption data (electricity and thermal fuels) into GHG emissions using appropriate emission factors • Apply: Integrate GHG data with EnMS and EE&C reporting for performance tracking • Analyse: Identify major emission sources and trends from energy use data • Evaluate: Assess opportunities to reduce emissions through energy efficiency and optimisation of electrical and thermal systems

TOPIC	MANDATORY CDP REM FIRST TYPE	MANDATORY CDP REM SECOND TYPE	OPTIONAL CDP
			Delivery: Practical + data calculation and case-based (Proposed ≈12 hours)
Internal Auditing and Training Need Analysis (TNA)	-	-	**Learning Outcomes:** • Understand: Principles of internal auditing and TNA within EnMS and context of the Act (including electrical and thermal energy systems) • Understand: Audit process, roles and documentation requirements for energy management systems • Apply: Conduct basic internal audit and identify competency gaps related to REM functions and energy management activities • Analyse: Evaluate audit findings and training needs to improve compliance and performance • Evaluate: Recommend corrective actions and structured training plans aligned with EnMS and objectives of the Act. **Delivery:** Awareness + practical audit and TNA workshop (Proposed ≈8 hours)
Motivation and Communication Strategies	-	-	**Learning Outcomes:** • Understand: Principles of motivation and communication in driving energy management initiatives across organisation

TOPIC	MANDATORY CDP REM FIRST TYPE	MANDATORY CDP REM SECOND TYPE	OPTIONAL CDP
			• Understand: Roles of REM in influencing stakeholders to support compliance under the Act and EnMS implementation (electrical and thermal systems) • Apply: Develop communication strategies to promote energy efficiency practices and behavioural change • Analyse: Identify barriers to engagement and participation in energy management initiatives • Evaluate: Recommend approaches to improve stakeholder commitment and sustain energy performance improvement **Delivery:** Awareness + interactive workshop (Proposed ≈8 hours)
Product Carbon Footprint and Carbon Management	-	-	**Learning Outcomes:** • Understand: Concepts of product carbon footprint (PCF) and carbon management, including linkage to electrical and thermal energy use across lifecycle • Understand: Relevant standards and frameworks (e.g. ISO 14067, GHG Protocol) and their application to product-level emissions • Apply: Identify and quantify key emission sources from energy consumption in production processes

TOPIC	MANDATORY CDP REM FIRST TYPE	MANDATORY CDP REM SECOND TYPE	OPTIONAL CDP
			• Analyse: Evaluate carbon hotspots and drivers within product lifecycle and operational processes • Evaluate: Recommend carbon reduction strategies through energy efficiency, process optimisation and fuel/electricity management **Delivery:** Awareness + case-based lifecycle analysis (Proposed ≈8 hours)
Setting up Energy Management Gold Standard (EMGS)	**Learning Outcomes:** • Understand: EMGS framework and its alignment with the Act, Regulations and EnMS requirements • Understand: Roles of management, committee and REM in implementing EMGS • Apply: Establish EnMS components including policy, objectives, targets and governance structure • Apply: Identify Significant Energy Use (SEU) for both electrical and thermal systems • Apply: Develop energy baseline, EEI/SEC/BEI and data collection plan (minimum 12 months) • Analyse: Assess current facility practices against EMGS and EnMS requirements to identify gaps • Analyse: Evaluate energy performance trends and operational factors affecting energy use	-	**Learning Outcomes:** • Understand: EMGS concepts and linkage to the Act, EnMS and EE&C reporting • Apply: Map EMGS elements to facility context (electrical & thermal systems) • Analyse: Diagnose current EnMS maturity using a simple assessment matrix • Evaluate: Prioritise improvement initiatives and quick wins • Create: Draft a high-level EMGS/EnMS action plan and KPI set

TOPIC	MANDATORY CDP REM FIRST TYPE	MANDATORY CDP REM SECOND TYPE	OPTIONAL CDP
	• Evaluate: Prioritise Energy Saving Measures (ESM) based on technical, financial and compliance considerations • Create: Develop a structured EMGS implementation plan including procedures, action plan, monitoring and reporting • Create: Design monitoring, verification (M&V) and management review framework for continuous improvement **Delivery:** Intensive workshop + case studies + templates (Proposed ≈16 hours)		**Delivery:** Applied overview + mini-workshop (Proposed ≈8 hours)
Setting up ISO 50001	**Learning Outcomes:** • Understand: ISO 50001 structure and requirements, and alignment with the Act, Regulations and EnMS guidelines • Understand: Roles of top management, energy team and REM in ISO 50001 implementation • Apply: Establish EnMS elements (energy policy, objectives, targets, scope and boundary) covering electrical and thermal energy • Apply: Conduct energy review including SEU identification, baseline development and EnPI/EEI determination • Apply: Develop data collection, monitoring and measurement system (minimum 12 months data, variables, normalisation)	-	**Learning Outcomes:** • Understand: Overview of ISO 50001 framework and its linkage to the Act and EnMS requirements • Apply: Map ISO 50001 elements to facility context (electrical & thermal systems) • Analyse: Compare ISO 50001 requirements with existing EnMS practices • Evaluate: Identify readiness gaps for ISO 50001 implementation or certification • Create: Draft a high-level ISO 50001 implementation roadmap

TOPIC	MANDATORY CDP REM FIRST TYPE	MANDATORY CDP REM SECOND TYPE	OPTIONAL CDP
	• Analyse: Evaluate energy performance trends and factors affecting consumption (electrical and thermal systems) • Analyse: Identify gaps between current practices and ISO 50001/ requirements under the Act • Evaluate: Prioritise energy performance improvement actions and ESM based on technical and financial considerations • Create: Develop documented procedures, operational controls and action plans for ISO 50001 implementation • Create: Establish internal audit, M&V and management review process for continual improvement **Delivery:** Intensive workshop + case studies + documentation templates (Proposed ≈16 hours)		**Delivery:** Applied overview + readiness assessment (Proposed ≈8 hours)
Thermal Energy Reporting		**Learning Outcomes:** • Understand: Requirements for reporting thermal energy under the Act and EE&C Report (e.g. fuel use, steam, hot water, thermal systems) • Apply: Compile and organise thermal energy data (minimum 12 months) including unit conversion to GJ and integration with overall energy reporting • Analyse: Identify trends, inconsistencies and	**Learning Outcomes:** • Understand: Types of thermal energy sources and reporting parameters (fuel, steam, heat systems) • Apply: Interpret thermal energy data and basic conversion principles (e.g. to GJ) • Apply: Relate thermal energy use to EnMS monitoring and ESM identification • Analyse: Identify opportunities for improving

TOPIC	MANDATORY CDP REM FIRST TYPE	MANDATORY CDP REM SECOND TYPE	OPTIONAL CDP
		data gaps in thermal energy consumption and relate to operational factors **Delivery:** Data-focused + reporting walkthrough (Proposed ≈4 hours)	thermal energy reporting accuracy and consistency • Evaluate: Assess impact of thermal energy performance on overall energy efficiency **Delivery:** Practical + data interpretation (Proposed ≈8 hours)
Demand Side Management and Maximum Demand Controllers	-	-	**Learning Outcomes:** • Understand: Principles of Demand Side Management (DSM) and maximum demand concepts in electricity systems and tariffs • Understand: Role and operation of Maximum Demand Controllers (MDC) in managing peak demand and energy cost • Apply: Interpret load profiles and identify peak demand patterns using energy data • Analyse: Evaluate effectiveness of DSM strategies and MDC settings in reducing demand charges • Evaluate: Recommend demand management and control strategies to optimise energy cost and support EnMS objectives **Delivery:** Practical + data and system-based analysis (Proposed ≈8 hours)

TOPIC	MANDATORY CDP REM FIRST TYPE	MANDATORY CDP REM SECOND TYPE	OPTIONAL CDP
Detailed Energy Audit for Electrical and Mechanical System	**Learning Outcomes:** • Understand: Requirements and scope of detailed energy audit under the Act and relevant guidelines, covering electrical and mechanical (including thermal) systems • Understand: Audit methodology including planning, boundary definition, data requirements and instrumentation • Apply: Conduct detailed energy audit for key systems (e.g. motors, HVAC, compressed air, pumps, boilers, steam systems) • Apply: Collect and validate energy data (minimum 12 months), including electrical and thermal energy sources • Apply: Perform measurements using appropriate instruments and techniques • Analyse: Identify Significant Energy Use (SEU) and inefficiencies in electrical and mechanical systems • Analyse: Quantify energy savings potential and establish baseline and performance indicators • Evaluate: Assess feasibility of identified Energy Saving Measures (ESM) based on technical and operational considerations • Create: Develop structured audit findings and recommendations aligned with the reporting requirements under the Act	-	**Learning Outcomes:** • Understand: Overview of detailed energy audit process and system coverage (electrical and mechanical) • Apply: Interpret audit findings and recommendations for implementation • Analyse: Identify common inefficiencies and improvement opportunities across systems • Evaluate: Assess quality and completeness of audit outputs

TOPIC	MANDATORY CDP REM FIRST TYPE	MANDATORY CDP REM SECOND TYPE	OPTIONAL CDP
	• Create: Prepare audit documentation to support EE&C reporting and compliance **Delivery:** Intensive technical + field-based workshop (Proposed ≈16 hours)		**Delivery:** Applied overview + case-based discussion (Proposed ≈8 hours)
Detailed Energy Audit for Thermal System	-	**Learning Outcomes:** • Understand: Requirements and scope of detailed energy audit for thermal systems under the Act and relevant guidelines (e.g. boilers, steam, furnaces, thermal oil, heat exchangers) • Understand: Audit methodology including boundary definition, data requirements and instrumentation for thermal systems • Apply: Conduct detailed audit for thermal systems including fuel consumption, heat balance and system efficiency assessment • Apply: Perform measurements and data validation (e.g. temperature, flow, pressure, combustion parameters) • Analyse: Identify inefficiencies, heat losses and improvement opportunities across thermal systems • Analyse: Quantify energy savings potential and establish baseline and performance indicators • Evaluate: Assess feasibility of Energy Saving Measures (ESM) based on technical,	**Learning Outcomes:** • Understand: Overview of thermal energy audit process and key system components • Apply: Interpret thermal audit findings and relate to facility performance • Analyse: Identify common inefficiencies in thermal systems (e.g. steam leaks, combustion inefficiency) • Evaluate: Assess suitability of proposed ESM for thermal systems

TOPIC	MANDATORY CDP REM FIRST TYPE	MANDATORY CDP REM SECOND TYPE	OPTIONAL CDP
		operational and fuel considerations • Create: Develop comprehensive audit report and recommendations aligned with the reporting requirements under the Act • Create: Formulate optimisation strategies for thermal energy systems to support EnMS and compliance **Delivery:** Intensive technical + field-based workshop (Proposed ≈16 hours)	**Delivery:** Applied overview + case-based discussion (Proposed ≈8 hours)
Energy Audit Reporting Under the Act	**Learning Outcomes:** • Understand: Requirements and structure of energy audit reporting under the Act and relevant ST guidelines • Apply: Compile audit findings (electrical and thermal systems) into structured reports aligned with regulatory expectations • Apply: Integrate audit results with EnMS and EE&C reporting requirements • Analyse: Identify gaps, inconsistencies and data issues in audit reports • Evaluate: Assess quality and completeness of audit reports for compliance and decision-making **Delivery:** Reporting-focused + case-based review (Proposed ≈8 hours)	-	**Learning Outcomes:** • Understand: Overview of audit reporting requirements under the Act • Apply: Interpret audit report content and structure • Analyse: Relate audit findings to energy performance improvement opportunities • Evaluate: Identify strengths and weaknesses in sample audit reports **Delivery:** Awareness + case-based discussion (Proposed ≈8 hours)

TOPIC	MANDATORY CDP REM FIRST TYPE	MANDATORY CDP REM SECOND TYPE	OPTIONAL CDP
Energy Digitalisation, Artificial Intelligence and Internet of Things	-	-	**Learning Outcomes:** • Understand: Concepts of energy digitalisation, AI and IoT in energy management for electrical and thermal systems • Understand: Types of digital solutions (smart meters, sensors, BMS/EMS, analytics platforms) and their role in EnMS and reporting under the Act • Apply: Identify suitable digital solutions to support monitoring, control and optimisation of energy use • Analyse: Evaluate data generated from digital systems to identify patterns, anomalies and inefficiencies • Evaluate: Recommend digitalisation strategies to enhance energy performance, reporting accuracy and compliance **Delivery:** Awareness + practical digital solutions and case studies (Proposed ≈8 hours)
Establishing Energy Baseline and Regression Analysis	**Learning Outcomes:** • Understand: Concepts of energy baseline, EnPI/EEI (e.g. SEC/BEI) and variable factors affecting electrical and thermal energy use • Apply: Compile ≥12 months data and establish	-	**Learning Outcomes:** • Understand: Overview of baseline, EnPI/EEI and role of variables (electrical & thermal) • Apply: Prepare data and build a simple baseline using spreadsheets

TOPIC	MANDATORY CDP REM FIRST TYPE	MANDATORY CDP REM SECOND TYPE	OPTIONAL CDP
	baseline; normalise data (e.g. weather/production) and convert to GJ where required • Apply: Perform basic regression analysis to model energy consumption and identify key drivers • Analyse: Interpret results to identify trends, SEU and anomalies affecting performance • Evaluate: Validate baseline robustness and use it to set targets and track savings in line with EnMS and reporting under the Act. **Delivery:** Hands-on data workshop + regression exercises (Proposed ≈8 hours)		• Analyse: Read regression outputs and identify key drivers • Evaluate: Judge data quality and baseline reliability for decision-making **Delivery:** Practical + spreadsheet-based exercises (Proposed ≈8 hours)
Fundamentals of Architecture	-	-	**Learning Outcomes:** • Understand: Basic architectural concepts affecting energy use (building layout, orientation, envelope, materials) • Understand: Principles of passive energy conservation (e.g. shading, natural ventilation, insulation, glazing) and active energy systems (e.g. HVAC, lighting) in buildings • Apply: Relate architectural design and passive/active strategies to electrical (lighting, HVAC load) and thermal energy performance • Analyse: Identify architectural and design-related inefficiencies including poor passive

TOPIC	MANDATORY CDP REM FIRST TYPE	MANDATORY CDP REM SECOND TYPE	OPTIONAL CDP
			design and over-reliance on active systems • Evaluate: Recommend improvements combining passive and active energy conservation strategies to support energy efficiency and EnMS objectives **Delivery:** Awareness + building-focused case examples (Proposed ≈8 hours)
Fundamentals of Electrical System	-	-	**Learning Outcomes:** • Understand: Basic components and configuration of electrical systems (generation, distribution, switchgear, transformers, loads) • Understand: Key electrical parameters affecting energy use (voltage, current, power factor, demand, load profile) • Apply: Relate electrical system operation to energy consumption patterns and demand charges in electricity bills • Analyse: Identify common inefficiencies in electrical systems (e.g. low power factor, unbalanced load, peak demand issues) • Evaluate: Recommend basic improvement measures to enhance electrical energy performance and support EnMS objectives

TOPIC	MANDATORY CDP REM FIRST TYPE	MANDATORY CDP REM SECOND TYPE	OPTIONAL CDP
			Delivery: Awareness + system-based practical examples (Proposed ≈8 hours)
Fundamentals of Mechanical System	-	-	**Learning Outcomes:** • Understand: Basic components and operation of mechanical systems (HVAC, pumps, fans, compressors, boilers, steam and thermal systems) • Understand: Relationship between mechanical systems and both electrical and thermal energy consumption • Apply: Relate system operation (e.g. flow, pressure, temperature, load) to energy consumption patterns • Analyse: Identify common inefficiencies in mechanical systems (e.g. oversizing, leakage, poor control, heat loss) • Evaluate: Recommend basic improvement measures to enhance mechanical system performance and support EnMS objectives **Delivery:** Awareness + system-based practical examples (Proposed ≈8 hours)
Green/ New Technology	-	**Learning Outcomes:** • Understand: Key emerging green technologies for electrical and thermal energy systems and their relevance to the objectives	**Learning Outcomes:** • Understand: Overview of green and emerging technologies for electrical and thermal systems

TOPIC	MANDATORY CDP REM FIRST TYPE	MANDATORY CDP REM SECOND TYPE	OPTIONAL CDP
		of the Act • Apply: Identify suitable technologies for integration into facility operations based on energy profile and EnMS needs • Evaluate: Assess benefits, risks and applicability of selected technologies for energy performance improvement **Delivery:** Technology overview + focused evaluation (Proposed ≈4 hours)	• Apply: Relate technologies to potential energy savings and performance improvement • Analyse: Identify suitable applications across different facility types • Evaluate: Assess advantages and limitations of adopting new technologies **Delivery:** Awareness + technology overview (Proposed ≈8 hours)
Heat Recovery Optimization	-	**Learning Outcomes:** • Understand: Principles of heat recovery in thermal systems (e.g. waste heat recovery, heat exchangers, condensate recovery) and linkage to the objectives of the Act. • Apply: Identify opportunities for heat recovery in facility systems (boilers, steam, exhaust, process heat) • Apply: Evaluate system performance using key parameters (temperature, flow, heat balance) • Analyse: Assess efficiency of existing heat recovery systems and identify losses or inefficiencies • Evaluate: Recommend optimisation strategies to improve thermal energy efficiency and support EnMS targets	**Learning Outcomes:** • Understand: Overview of heat recovery concepts and system applications • Apply: Relate heat recovery to potential energy savings in thermal systems • Analyse: Identify common inefficiencies and missed opportunities • Evaluate: Assess suitability of heat recovery solutions for different facilities

TOPIC	MANDATORY CDP REM FIRST TYPE	MANDATORY CDP REM SECOND TYPE	OPTIONAL CDP
		Delivery: Technical + case-based analysis (Proposed ≈8 hours)	**Delivery:** Awareness + system examples (Proposed ≈8 hours)
Measurement and Verification	-	**Learning Outcomes:** • Understand: Principles and purpose of M&V in energy efficiency, aligned with EnMS and reporting under the Act (electrical and thermal systems) • Apply: Select appropriate M&V approaches (e.g. baseline, boundary, Option A/B/C concept) for different types of ESM • Apply: Develop M&V plan including data collection, measurement parameters and verification process • Analyse: Evaluate energy savings by comparing baseline and post-implementation performance • Evaluate: Validate accuracy and reliability of savings and identify sources of error or uncertainty **Delivery:** Practical + calculation and case-based (Proposed ≈8 hours)	**Learning Outcomes:** • Understand: Basic concept of M&V and its role in energy performance improvement • Apply: Interpret M&V results and relate to ESM effectiveness • Analyse: Identify factors affecting accuracy of energy savings measurement • Evaluate: Assess whether reported savings are reasonable and consistent **Delivery:** Awareness + simplified case examples (Proposed ≈8 hours)
Software and Tools for Energy Analysis	-	-	**Learning Outcomes:** • Understand: Types of software and tools used for energy analysis (e.g. spreadsheets,

TOPIC	MANDATORY CDP REM FIRST TYPE	MANDATORY CDP REM SECOND TYPE	OPTIONAL CDP
			data analytics tools, simulation tools) for electrical and thermal systems • Apply: Use selected tools to analyse energy data, develop baselines and identify trends • Apply: Perform basic modelling or calculations for energy performance and ESM evaluation • Analyse: Interpret outputs from tools to identify inefficiencies and improvement opportunities • Evaluate: Select appropriate tools based on analysis needs, accuracy and practicality for EnMS implementation **Delivery:** Hands-on workshop using tools/software (Proposed ≈8 hours)
Air Conditioning System	**Learning Outcomes:** • Understand: Fundamentals of air conditioning systems (e.g. chillers, AHU, FCU, cooling towers) and their impact on electrical and thermal energy use • Understand: Key operating parameters (temperature, flow, pressure, load, COP) and system configurations • Apply: Analyse system operation and performance using energy data and field measurements	-	**Learning Outcomes:** • Understand: Overview of air conditioning system types and operation • Apply: Relate system performance to energy consumption patterns • Analyse: Identify common inefficiencies and improvement opportunities • Evaluate: Assess suitability of ESM for air conditioning systems

TOPIC	MANDATORY CDP REM FIRST TYPE	MANDATORY CDP REM SECOND TYPE	OPTIONAL CDP
	• Apply: Identify Significant Energy Use (SEU) within air conditioning systems • Apply: Evaluate common Energy Saving Measures (ESM) (e.g. setpoint optimisation, VSD, control strategies, heat recovery) • Analyse: Diagnose inefficiencies such as overcooling, poor control, fouling and improper system design • Analyse: Assess interaction between components (chiller, distribution, air side) affecting overall system efficiency • Evaluate: Prioritise improvement measures based on technical feasibility, savings and operational impact • Create: Develop optimisation plan and operational strategies aligned with EnMS and requirements under the Act **Delivery:** Intensive technical + system-based workshop (Proposed ≈16 hours)		**Delivery:** Awareness + practical system examples (Proposed ≈8 hours)
Boiler and Steam System	-	**Learning Outcomes:** • Understand: Fundamentals of boiler and steam systems (boilers, distribution, condensate, heat exchangers) and impact on thermal energy use • Understand: Key operating parameters (combustion efficiency, excess air, steam pressure/temperature, condensate return)	**Learning Outcomes:** • Understand: Overview of boiler and steam system components and operation • Apply: Relate system operation to thermal energy consumption • Analyse: Identify common inefficiencies (e.g. steam leaks, poor insulation, blowdown

TOPIC	MANDATORY CDP REM FIRST TYPE	MANDATORY CDP REM SECOND TYPE	OPTIONAL CDP
		• Apply: Analyse system performance using measurements and operating data (fuel use, flue gas, temperature, flow) • Apply: Identify Significant Energy Use (SEU) and major losses (e.g. flue gas, blowdown, steam leaks) • Analyse: Diagnose inefficiencies in combustion, distribution and heat utilisation • Evaluate: Recommend optimisation strategies and Energy Saving Measures (e.g. combustion tuning, heat recovery, condensate recovery) **Delivery:** Technical + case-based analysis (Proposed ≈8 hours)	losses) • Evaluate: Assess suitability of improvement measures for steam systems **Delivery:** Awareness + practical system examples (Proposed ≈8 hours)
Chiller System		**Learning Outcomes:** • Understand: Fundamentals of chiller systems (vapour compression cycle, components, configurations) and impact on electrical and thermal energy use • Understand: Key performance indicators (COP, kW/RT, load factor) and operating parameters (temperature, flow, pressure) • Apply: Analyse chiller plant performance using operational and energy data (chiller, pumps, cooling tower integration) • Apply: Identify Significant Energy Use (SEU) within chiller systems	**Learning Outcomes:** • Understand: Overview of chiller system operation and components • Apply: Relate system performance to energy consumption patterns • Analyse: Identify common inefficiencies and performance issues • Evaluate: Assess suitability of ESM for chiller systems

TOPIC	MANDATORY CDP REM FIRST TYPE	MANDATORY CDP REM SECOND TYPE	OPTIONAL CDP
		• Analyse: Diagnose inefficiencies (e.g. low COP, improper setpoints, poor sequencing, fouling) • Evaluate: Recommend optimisation strategies and Energy Saving Measures (e.g. setpoint optimisation, VSD, control strategies, heat recovery) **Delivery:** Technical + system performance analysis (Proposed ≈8 hours)	**Delivery:** Awareness + practical system examples (Proposed ≈8 hours)
Energy Storage	-	**Learning Outcomes:** • Understand: Types and principles of energy storage for electrical and thermal systems (e.g. batteries, thermal storage, ice storage) and relevance to the objectives of the Act. • Apply: Identify suitable energy storage applications for load shifting, peak demand management and system optimisation • Apply: Evaluate system performance and integration with existing electrical and thermal systems • Analyse: Assess impact of energy storage on energy consumption patterns, demand charges and operational flexibility • Evaluate: Recommend energy storage solutions based on technical feasibility, cost-benefit and compliance considerations	**Learning Outcomes:** • Understand: Overview of energy storage technologies and applications • Apply: Relate energy storage to energy efficiency and demand management • Analyse: Identify suitable use cases across facility types • Evaluate: Assess benefits and limitations of energy storage implementation

TOPIC	MANDATORY CDP REM FIRST TYPE	MANDATORY CDP REM SECOND TYPE	OPTIONAL CDP
		Delivery: Technical + case-based evaluation (Proposed ≈8 hours)	**Delivery:** Awareness + practical examples (Proposed ≈8 hours)
Fans and Blower System	**Learning Outcomes:** • Understand: Fundamentals of fans and blower systems (types, characteristics, system curves) and impact on electrical energy use • Understand: Key operating parameters (flow, pressure, efficiency, fan laws) and system configurations • Apply: Analyse system performance using measurements and operating data (flow, pressure, power) • Apply: Identify Significant Energy Use (SEU) and major energy consumers within fan systems • Apply: Evaluate Energy Saving Measures (ESM) (e.g. VSD, damper optimisation, system redesign, leak reduction) • Analyse: Diagnose inefficiencies such as overdesign, throttling losses, poor control and duct leakage • Analyse: Assess interaction between fan, motor and system resistance affecting overall efficiency • Evaluate: Prioritise improvement measures based on technical feasibility, savings and operational impact • Create: Develop optimisation strategies and	-	**Learning Outcomes:** • Understand: Overview of fan and blower systems and operation • Apply: Relate system performance to energy consumption • Analyse: Identify common inefficiencies and improvement opportunities • Evaluate: Assess suitability of ESM for fan systems

TOPIC	MANDATORY CDP REM FIRST TYPE	MANDATORY CDP REM SECOND TYPE	OPTIONAL CDP
	control improvements aligned with EnMS and requirements under the Act. **Delivery:** Intensive technical + system analysis workshop (Proposed ≈16 hours)		**Delivery:** Awareness + practical system examples (Proposed ≈8 hours)
General Electrical System	-	-	**Learning Outcomes:** • Understand: Overview of general electrical systems (supply, distribution, major loads) and their role in facility energy consumption • Understand: Key parameters influencing energy use (load profile, demand, power factor, efficiency) • Apply: Relate electrical system operation to energy consumption patterns and electricity billing • Analyse: Identify common inefficiencies and losses within general electrical systems • Evaluate: Recommend basic improvement measures to enhance electrical energy performance and support EnMS objectives **Delivery:** Awareness + system-based examples (Proposed ≈8 hours)
General Thermal System	-	-	**Learning Outcomes:** • Understand: Overview of general thermal systems (boilers, steam, hot water, furnaces)

TOPIC	MANDATORY CDP REM FIRST TYPE	MANDATORY CDP REM SECOND TYPE	OPTIONAL CDP
			and their role in facility energy consumption • Understand: Key parameters influencing thermal energy use (temperature, pressure, flow, efficiency, heat losses) • Apply: Relate thermal system operation to fuel consumption and overall energy performance • Analyse: Identify common inefficiencies and losses in thermal systems (e.g. heat loss, leakage, poor insulation) • Evaluate: Recommend basic improvement measures to enhance thermal energy performance and support EnMS objectives **Delivery:** Awareness + system-based examples (Proposed ≈8 hours)
Heat Transfer	-	**Learning Outcomes:** • Understand: Fundamentals of heat transfer (conduction, convection, radiation) and relevance to thermal energy systems under scope of the Act. • Apply: Relate heat transfer principles to system performance (e.g. boilers, steam, heat exchangers, HVAC) • Apply: Perform basic heat transfer calculations (heat loss, efficiency, insulation impact)	**Learning Outcomes:** • Understand: Basic heat transfer concepts and their application in energy systems • Apply: Relate heat transfer behaviour to energy consumption in thermal processes • Analyse: Identify common inefficiencies and heat loss areas • Evaluate: Assess improvement measures such as insulation and heat recovery

TOPIC	MANDATORY CDP REM FIRST TYPE	MANDATORY CDP REM SECOND TYPE	OPTIONAL CDP
		• Analyse: Identify sources of heat loss and inefficiencies in thermal systems (e.g. poor insulation, fouling, heat leakage) • Evaluate: Recommend optimisation measures to improve heat transfer efficiency and reduce thermal energy losses **Delivery:** Technical + calculation-based workshop (Proposed ≈8 hours)	**Delivery:** Awareness + practical examples (Proposed ≈8 hours)
Hydrogen and Hybrid Energy System	-	-	**Learning Outcomes:** • Understand: Fundamentals of hydrogen energy (production, storage, utilisation) and hybrid energy systems combining electrical and thermal sources • Understand: Role of hydrogen and hybrid systems in energy transition and relevance to objectives of the Act. • Apply: Identify potential applications of hydrogen and hybrid systems in facility-level energy management • Analyse: Evaluate integration challenges, energy efficiency implications and system performance • Evaluate: Assess feasibility, benefits and limitations of adopting hydrogen and hybrid systems for energy optimisation

TOPIC	MANDATORY CDP REM FIRST TYPE	MANDATORY CDP REM SECOND TYPE	OPTIONAL CDP
			Delivery: Awareness + technology and system integration discussion (Proposed ≈8 hours)
Motor and Drive System	**Learning Outcomes:** • Understand: Fundamentals of electric motors and drive systems (types, efficiency classes, load characteristics) and impact on electrical energy use • Understand: Principles of motor control and variable speed drives (VSD) including affinity laws and control strategies • Apply: Analyse motor performance using measurements (power, load factor, efficiency) and operating data • Apply: Identify Significant Energy Use (SEU) across motor-driven systems (e.g. pumps, fans, compressors) • Apply: Evaluate Energy Saving Measures (ESM) (e.g. right-sizing, VSD application, high-efficiency motors, control optimisation) • Analyse: Diagnose inefficiencies such as oversizing, underloading, poor control and excessive losses • Analyse: Assess interaction between motor, drive and system load affecting overall efficiency • Evaluate: Prioritise improvement measures based on technical feasibility, savings and	-	**Learning Outcomes:** • Understand: Overview of motor and drive systems and their applications • Apply: Relate motor operation to energy consumption patterns • Analyse: Identify common inefficiencies and opportunities for improvement • Evaluate: Assess suitability of ESM for motor-driven systems

TOPIC	MANDATORY CDP REM FIRST TYPE	MANDATORY CDP REM SECOND TYPE	OPTIONAL CDP
	operational impact • Create: Develop optimisation and control strategies aligned with EnMS and requirements under the Act. **Delivery:** Intensive technical + system analysis workshop (Proposed ≈16 hours)		**Delivery:** Awareness + practical system examples (Proposed ≈8 hours)
Power Distribution System	**Learning Outcomes:-** • Understand: Fundamentals of power distribution systems (incoming supply, transformers, switchgear, feeders, protection) and their impact on electrical energy performance • Understand: Key parameters affecting performance (load profile, demand, power factor, harmonics, losses) • Apply: Analyse load distribution, demand patterns and power quality using measurement data • Apply: Identify Significant Energy Use (SEU) and major loss points within distribution systems • Apply: Evaluate Energy Saving Measures (ESM) (e.g. power factor correction, load balancing, demand management, transformer optimisation) • Analyse: Diagnose inefficiencies such as overloading, imbalance, excessive losses and poor power quality		**Learning Outcomes:** • Understand: Overview of power distribution system components and operation • Apply: Relate distribution system behaviour to energy consumption and cost • Analyse: Identify common inefficiencies and power quality issues • Evaluate: Assess suitability of improvement measures for distribution systems

TOPIC	MANDATORY CDP REM FIRST TYPE	MANDATORY CDP REM SECOND TYPE	OPTIONAL CDP
	• Analyse: Assess impact of system configuration and operation on energy cost (tariff, maximum demand) • Evaluate: Prioritise improvement measures based on technical feasibility, reliability and cost impact • Create: Develop optimisation and management strategies aligned with EnMS and requirements under the Act. **Delivery:** Intensive technical + system analysis workshop (Proposed ≈16 hours)		**Delivery:** Awareness + practical system examples (Proposed ≈8 hours)
Pumps And Cooling Tower	**Learning Outcomes:-** • Understand: Fundamentals of pump and cooling tower systems (types, characteristics, system curves) and their impact on electrical and thermal energy use • Understand: Key operating parameters (flow, head, efficiency, temperature, approach, cycles of concentration) and system configurations • Apply: Analyse system performance using measurements and operating data (flow, pressure, temperature, power) • Apply: Identify Significant Energy Use (SEU) within pumping and cooling systems • Apply: Evaluate Energy Saving Measures (ESM) (e.g. VSD, pump resizing, system		**Learning Outcomes:** • Understand: Overview of pump and cooling tower systems and operation • Apply: Relate system performance to energy consumption patterns • Analyse: Identify common inefficiencies and improvement opportunities • Evaluate: Assess suitability of ESM for pumping and cooling systems

TOPIC	MANDATORY CDP REM FIRST TYPE	MANDATORY CDP REM SECOND TYPE	OPTIONAL CDP
	balancing, cooling tower optimisation, water management) • Analyse: Diagnose inefficiencies such as overdesign, throttling losses, poor control, scaling and fouling • Analyse: Assess interaction between pump, cooling tower and system demand affecting overall efficiency • Evaluate: Prioritise improvement measures based on technical feasibility, savings and operational impact • Create: Develop optimisation strategies and control improvements aligned with EnMS and requirements under the Act. **Delivery:** Intensive technical + system analysis workshop (Proposed ≈16 hours)		**Delivery:** Awareness + practical system examples (Proposed ≈8 hours)

AKTA KECEKAPAN DAN KONSERVASI TENAGA 2024

[Perenggan 33(3)*(a)*]

PERAKUAN PENDAFTARAN SEBAGAI INSTITUSI LATIHAN BERDAFTAR UNTUK MENGENDALIKAN KURSUS LATIHAN UNTUK MENJADI PENGURUS TENAGA BERDAFTAR

INI ADALAH UNTUK MEMPERAKUI BAHAWA

NO. PENDAFTARAN :

NAMA :

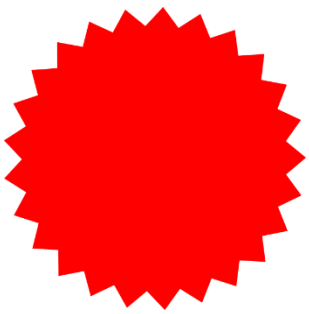
ALAMAT :

telah memenuhi kehendak dan keperluan di bawah Seksyen 32 Akta Kecekapan dan Konservasi Tenaga 2024 untuk didaftarkan sebagai Institusi Latihan Berdaftar tertakluk kepada syarat-syarat yang telah dinyatakan di bawah:

(a) tarikh mula pendaftaran: dd/mm/yyyy; dan

(b) mempunyai Perakuan Amalan Sebagai Institusi Latihan Berdaftar Untuk Mengendalikan Kursus Latihan Untuk Menjadi Pengurus Tenaga Berdaftar yang sah di bawah Akta Kecekapan dan Konservasi Tenaga 2024.

Tarikh dikeluarkan :



SURUHANJAYA TENAGA

AKTA KECEKAPAN DAN KONSERVASI TENAGA 2024

[Perenggan 34(3)*(a)* dan 35(4)*(a)*]

PERAKUAN AMALAN SEBAGAI INSTITUSI LATIHAN BERDAFTAR UNTUK MENGENDALIKAN KURSUS LATIHAN UNTUK MENJADI PENGURUS TENAGA BERDAFTAR

INI ADALAH UNTUK MEMPERAKUI BAHAWA

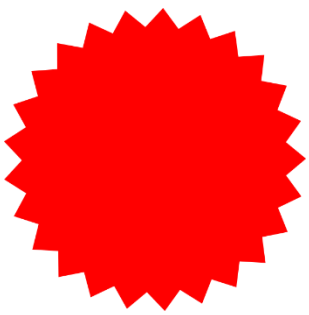
NO. PENDAFTARAN :

NO. PERAKUAN AMALAN :

NAMA :

telah memenuhi kehendak dan keperluan di bawah Seksyen 34 atau Seksyen 35 Akta Kecekapan dan Konservasi Tenaga 2024 untuk diluluskan pengeluaran Perakuan Amalan Institusi Latihan Berdaftar Untuk Mengendalikan Kursus Latihan Untuk Menjadi Pengurus Tenaga Berdaftar tertakluk kepada syarat-syarat yang telah dinyatakan di bawah:

(a) tarikh mula perakuan: dd/mm/yyyy;
(b) tarikh tamat perakuan: dd/mm/yyyy;
(c) mempunyai Perakuan Pendaftaran Sebagai Institusi Latihan Berdaftar Untuk mengendalikan Kursus Latihan Untuk Menjadi Pengurus Tenaga Berdaftar yang sah di bawah Akta Kecekapan dan Konservasi Tenaga 2024; dan
(d) bagi tujuan Pembaharuan Perakuan Amalan, mematuhi terma dan syarat dan had jenis latihan yang dibenarkan untuk dijalankan di bawah Akta Kecekapan dan Konservasi Tenaga 2024.



SURUHANJAYA TENAGA

1. **TERMA DAN SYARAT SEMASA MENJADI INSTITUSI LATIHAN BERDAFTAR UNTUK MENGENDALIKAN KURSUS LATIHAN UNTUK MENJADI PENGURUS TENAGA BERDAFTAR**

   (a) Terma dan syarat bergantung kepada kelulusan yang diberikan oleh Suruhanjaya.

2. **SENARAI KURSUS LATIHAN YANG DILULUSKAN UNTUK INSTITUSI LATIHAN BERDAFTAR MENGENDALIKAN KURSUS LATIHAN UNTUK MENJADI PENGURUS TENAGA BERDAFTAR**

   (a) Jenis Kursus: Kod Unik - Tarikh Mula Kelulusan - Tarikh Tamat Kelulusan - Nama Kursus

AKTA KECEKAPAN DAN KONSERVASI TENAGA 2024

[Perenggan 33(3)*(a)*]

PERAKUAN PENDAFTARAN SEBAGAI INSTITUSI LATIHAN BERDAFTAR UNTUK MENJALANKAN PROGRAM PEMBANGUNAN BERTERUSAN BAGI PENGURUS TENAGA BERDAFTAR

INI ADALAH UNTUK MEMPERAKUI BAHAWA

NO. PENDAFTARAN :

NAMA :

ALAMAT :

telah memenuhi kehendak dan keperluan di bawah Seksyen 32 Akta Kecekapan dan Konservasi Tenaga 2024 untuk didaftarkan sebagai Institusi Latihan Berdaftar tertakluk kepada syarat-syarat yang telah dinyatakan di bawah:

(a) tarikh mula pendaftaran: dd/mm/yyyy; dan

(b) mempunyai Perakuan Amalan Sebagai Institusi Latihan Berdaftar Untuk Menjalankan Program Pembangunan Berterusan Bagi Pengurus Tenaga Berdaftar yang sah di bawah Akta Kecekapan dan Konservasi Tenaga 2024.

Tarikh dikeluarkan :

SURUHANJAYA TENAGA

AKTA KECEKAPAN DAN KONSERVASI TENAGA 2024

[Perenggan 34(3)*(a)* dan 35(4)*(a)*]

PERAKUAN AMALAN SEBAGAI INSTITUSI LATIHAN BERDAFTAR UNTUK MENJALANKAN PROGRAM PEMBANGUNAN BERTERUSAN BAGI PENGURUS TENAGA BERDAFTAR

INI ADALAH UNTUK MEMPERAKUI BAHAWA

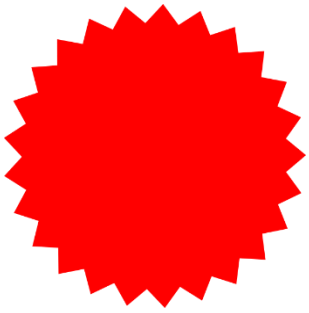
NO. PENDAFTARAN :

NO. PERAKUAN AMALAN :

NAMA :

telah memenuhi kehendak dan keperluan di bawah Seksyen 34 atau Seksyen 35 Akta Kecekapan dan Konservasi Tenaga 2024 untuk diluluskan pengeluaran Perakuan Amalan Sebagai Institusi Latihan Berdaftar Untuk Menjalankan Program Pembangunan Berterusan Bagi Pengurus Tenaga Berdaftar tertakluk kepada syarat-syarat yang telah dinyatakan di bawah:

(a) tarikh Mula Perakuan : dd/mm/yyyy;
(b) tarikh Tamat Perakuan : dd/mm/yyyy;
(c) mempunyai Perakuan Pendaftaran Sebagai Institusi Latihan Berdaftar Untuk Menjalankan Program Pembangunan Berterusan Bagi Pengurus Tenaga Berdaftar yang sah di bawah Akta Kecekapan dan Konservasi Tenaga 2024; dan
(d) bagi tujuan Pembaharuan Perakuan Amalan, mematuhi terma dan syarat dan had jenis latihan yang dibenarkan untuk dijalankan di bawah Akta Kecekapan dan Konservasi Tenaga 2024.



SURUHANJAYA TENAGA

1. **TERMA DAN SYARAT SEMASA MENJADI INSTITUSI LATIHAN BERDAFTAR UNTUK MENJALANKAN PROGRAM PEMBANGUNAN BERTERUSAN BAGI PENGURUS TENAGA BERDAFTAR**

   (a) Terma dan syarat bergantung kepada kelulusan yang diberikan oleh Suruhanjaya.

2. **SENARAI KURSUS LATIHAN YANG DILULUSKAN UNTUK INSTITUSI LATIHAN BERDAFTAR MENJALANKAN PROGRAM PEMBANGUNAN BERTERUSAN BAGI PENGURUS TENAGA BERDAFTAR**

   (a) Jenis Kursus: Kod Unik - Tarikh Mula Kelulusan - Tarikh Tamat Kelulusan - Nama Kursus

A. Purpose

This Appendix provides the template for the recognition logo that may be used by RTI to indicate that a training course has been approved by the Commission.

B. Applicable Recognition Logo Types

The following recognition logo types are available:

- RTI to conduct training course to be a REM
- RTI to carry out CDP for REM

C. Sample of Recognition Logo Format

RTI to conduct training course to be a REM	RTI to carry out CDP for REM
	

Logo can be requested by emailing to rti@st.gov.my and ensure to use the email thread which contain the approval of the training from the Commission.

D. Key Elements of the Recognition Logo

Each recognition logo shall contain:

- Training category (e.g. REM Type 1 or 2, Approved CDP hours)
- The approval code as stated in the practising certificate
- Certificate of Registration number of RTI

E. Usage Guidance

RTIs may:

- include the recognition logo in promotional materials (brochure, website, social media);
- display the recognition logo during training sessions; or
- include the recognition logo in course-related documentation.

RTIs shall not:

- modify the design, colour, or wording of the recognition logo;
- use the recognition logo for any training course that has not been approved by the Commission; or
- misrepresent the scope of any approval given by the Commission.