

[Unofficial Translation](#)

Manual of Auditing and Certification of Energy Management for Energy Auditor



Department of Alternative
Energy Development and Efficiency

MINISTRY OF ENERGY

013-50255
SEE WORLD
HOLIDAY CO., LTD.

**Manual of Auditing and Certification
of Energy Management for
Energy Auditor**

Unofficial Translation

**Department of Alternative Energy Development and Efficiency
Ministry of Energy**

June 2009

18 June 2009

Preface

According to the Energy Conservation Promotion Act B.E.2535 amended by the Energy Conservation Promotion Act (No. 2) B.E.2550, Section 47 (3) identifies that the officers are authorized to audit and certify the energy management, energy usage in machinery and equipment, and quality of materials or equipment for energy conservation in designated factories and designated buildings according to the law and Section 48 /1 identifies that the Director – General is authorized to approve the juristic person to act on behalf of the officers according to the abovementioned. The Act identifies that the qualifications of persons who request for the license, the approval and the renewal of license of individuals and juristic persons, and others relevant issues shall comply with the criteria, procedures, and conditions identified on the ministerial regulation.

Thus, Department of Alternative Energy Development and Efficiency prepares the manual of audit and certification of energy management for energy auditor so persons who obtain the license for energy management auditing and certification or “Energy Auditor” shall be applied as the guidelines for the auditing of energy management in designated factories and designated buildings and the certification of such auditing outcomes for designated factories and designated buildings in order to benefit the submission of auditing and certification outcome of the energy management to Department of Alternative Energy Development and Efficiency within March of every year.

Bureau of Energy Regulation and Conservation
Department of Alternative Energy Development and Efficiency
Ministry of Energy

Content

	Page
Chapter 1 Requirement for Energy Auditor and Definition of Energy Management Auditing and Certification	1
Chapter 2 Energy Management Auditing and Certification	4
Chapter 3 Criteria and Requirement for Energy Management Auditing and Certification	8
Chapter 4 Submission of Energy Management Auditing and Certification Report	23
Appendix	
A Ministerial Regulation Prescribing Standard, Criteria and Energy Management Procedures in Designated Factories and Designated Buildings B.E.2552	
B Energy Management Auditing Form	
C Energy Management Auditing and Certification Report	

Chapter 1
Requirement for Energy Auditor and Definition of Energy Management
Auditing and Certification

1. Requirement for Energy Auditor

The ministerial regulation identifying qualifications of persons who request for license, and criteria, procedures and conditions for requesting license, approval and renewal of license B.E.2552 identifies that the juristic person is entitled to submit the request form to be energy auditor in order to audit and certify the energy management on behalf of the officers. The qualifications and number of personnel shall be as follows.

1.1 Persons who are entitled to submit the request form to be energy auditor shall be juristic persons who have the qualifications and prohibited qualifications as follows.

- (1) Shall be juristic persons registered in Thailand with the objective to conduct businesses or provide services about energy conservation or environment problem solving from the use and production of energy or shall be the university or public agencies.
- (2) Shall have personnel identified in Clause 1.2.
- (3) Shall not be in the process of license suspension or the license issued according to the law regarding the energy conservation promotion law shall have never been withdrawn, except that the withdrawal has passed for at least 3 years from the date of license withdrawal.
- (4) The directors, managers, or individuals who are responsible for the operations of juristic persons according to (1) shall not be the directors, managers, or individuals who are responsible for the operations of juristic persons that are in the process of license suspension or shall not be persons who obtain the penalties according to the final decisions according to the offenses on the energy conservation promotion law, except that such persons are acquitted for at least 3 years before the date of the request for license.

1.2 Persons who obtain the license shall have the personnel with the following duties, number, and qualifications.

- (1) At least 1 expert responsible for controlling, auditing, and certifying energy management and preparing energy management auditing and certification report and one expert is able to audit and certify the energy management for no more than 30 designated factories or designated buildings in each cycle of energy management auditing and certification according to the ministerial regulation regarding the standards, criteria, and procedures for energy management in

designated factories and designated buildings B.E.2552. The expert shall have the following qualifications.

- (A) Shall graduate with at least Bachelor Degree in Engineering or Science or Energy
- (B) Shall have experiences in energy conservation or energy management in factories or buildings for at least 5 years and shall have energy conservation performance in at least 5 projects
- (C) Shall graduate from the energy management auditing and certification curriculum as approved by the Director – General.

(2) At least 2 assistant experts responsible for assisting the audit and certification of energy management and assisting expert (s) in preparing energy management auditing and certification report and one assistant expert shall be able to audit and certify the energy management for at least 30 designated factories or designated buildings in each cycle of energy management auditing and certification according to the ministerial regulation regarding the standards, criteria, and procedures for energy management in designated factories and designated buildings B.E.2552. The assistant expert shall have the following qualifications.

- (A) Shall graduate with at least Bachelor Degree in Engineering or Science or Energy
- (B) Shall have experiences in energy conservation or energy management in factories or buildings for at least 3 years

1.3 The expert and assistant expert shall not be an expert and assistant expert for other energy auditors at the same time and shall not be permanent staff in designated factories and designated buildings that they audit and certify the energy management.

1.4 The audit and certification of energy management in each designated factory and designated building shall consist of at least one expert and at least 2 assistant experts.

2. Definition of Energy Management Auditing and Certification

2.1 Energy Management Auditing and Certification means the auditing and certification of energy management according to the ministerial regulation identifying standards, criteria, and procedures for energy management in designated factories and designated buildings B.E.2552.

Energy Auditor means juristic persons obtaining the license to be auditor and to certify the energy management in designated factories and designated buildings.

- 2.2 Energy Auditor Team means at least one expert and at least 2 assistant experts under the supervision of energy auditor.
- 2.3 License means license to audit and certify energy management in designated factories and designated buildings.

Unofficial Translation

Chapter 2

Energy Management Auditing and Certification

The energy management auditing and certification in designated factories shall be performed by energy auditor obtaining license from Department of Alternative Energy Development and Efficiency and the designated factories and designated buildings shall employ such persons by themselves. The energy management auditing and certification in designated factories and designated buildings shall have energy auditor team consisting of at least one expert and at least 2 assistant experts and the process shall be as follows.

Step 1 : Notification of Auditing Procedures

The energy auditor team shall contact with Energy Management Steering Committee of designated factories and designated buildings in order to introduce the team and notify the objectives, steps, procedures, and criteria for auditing, etc. in order to promote mutual understanding among energy auditor team and steering committee.

Step 2 : Auditing of Energy Management Report

The energy auditor team shall request the energy management report and documents / evidences of energy management in order to audit the completeness / accuracy and compliance / non-compliance with energy management requirement.

Step 3 : Auditing of Actual Workplace

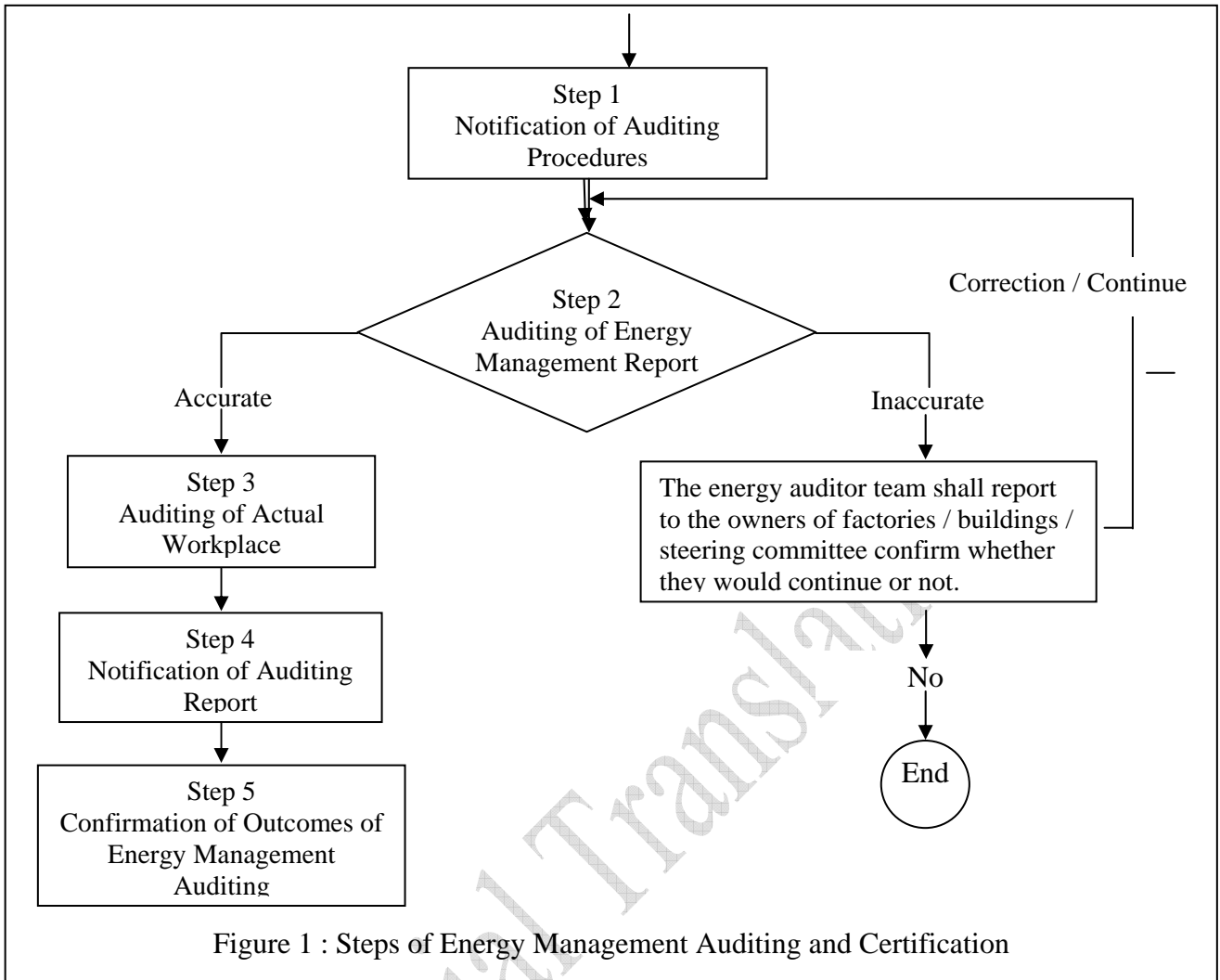
The energy auditor team shall audit the working conditions and the energy management operations in the actual workplace of the units according to the structure of designated factories and designated buildings and shall interview relevant personnel.

Step 4 : Notification of Auditing Report

The energy auditor team shall notify the auditing outcome from reviewing documents / evidences and auditing of actual workplace and shall interview relevant personnel in order to confirm the auditing report to the Energy Management Steering Committee.

Step 5 : Confirmation of Outcomes of Energy Management Auditing and Certification

The energy auditor team shall confirm the outcomes of energy management auditing and certification and shall prepare the report and shall certify the auditing outcomes so the designated factories and designated buildings submit to Department of Alternative Energy Development and Efficiency.



Step 1 : Notification of Auditing Procedures

Before the auditing of energy management, the energy auditor team shall arrange the meeting with the Energy Management Steering Committee of designated factories / designated buildings and relevant personnel in order to notify the objectives as follows.

1. To promote familiarity between the team and steering committee of designated factories / designated buildings and introduce the responsibilities of each department and representatives of each department regarding the contacts and coordination and identify the communication methods between the team and designated factories / designated buildings.

2. To notify the auditing procedures and items that the team needs assistance from designated factories / designated buildings so the designated factories / designated buildings have proper period of time to prepare such items. This will facilitate the auditing and help achieve the goals efficiently and effectively.

3. Answering the inquiries from designated factories / designated buildings.

Step 2 : Auditing of Energy Management Report

Before the energy auditor team audits the energy management in designated factories / designated buildings, the energy auditor team shall request the energy management report, documents and evidences relevant to the energy management of designated factories or designated buildings for review before the actual auditing in order to recognize the system, nature, and procedure of energy management in such designated factories / designated buildings. The auditing of reports, documents, and evidences shall be complete and accurate.

The documents or evidences may include the documents or evidences prepared formally or informally such as notification, letters, or other electronics media, etc.

The auditing of documents / evidences may be performed by:

1. Informing the intention to request for reports, evidences / documents as mentioned by energy auditor team.

2. Auditing the information on the reports, documents, and evidences according to the requirement and shall realize the size, characteristics, and complexities of designated factories / designated buildings, objectives, and scope of auditing, and details of measurement, analysis and calculation.

3. In case that the reports, documents and evidences are insufficient, the energy auditor team shall inform the designated factories / designated buildings regarding the auditing outcomes to the relevant persons (Energy Management Steering Committee) directly and shall inform the responsible persons of the designated factories or designated buildings to decide whether the auditing shall be continued or not.

From the abovementioned, the energy auditor team shall realize the details of energy management operations in such designated factories / designated buildings. If such information or evidences have no errors, the energy auditor team shall audit the actual workplaces at the operating points (next step). In case that the energy auditor team has found that such documents or evidences have some errors, the energy auditor team shall inform the preliminary outcomes of the auditing of documents or evidences to the Steering Committee. Such errors shall be corrected from the documents or evidences directly. The energy auditor team may assist or give recommendations. Regarding the errors incurred from the operating processes of designated factories / designated buildings that cannot be corrected easily, the energy auditor team shall make an agreement with the Steering Committee whether the energy auditor team shall audit in the next step or not.

Step 3 : Auditing of Actual Workplace

After the energy auditor team audits the existing documents or evidences, the energy auditor team shall realize the principles and procedures of energy management of such designated factories / designated buildings in details. However, the energy auditor team shall audit whether the designated factories / designated buildings actually manages the energy according to the details on the documents or evidences and such actions shall comply with the law. The energy auditor team shall audit the actual designated factories / designated buildings at the operating point.

Step 4 : Notification of Auditing Report

When the energy auditor team audits the actual workplace, the energy audit team shall notify the details and summarize the energy management auditing outcomes to the Steering Committee or the relevant parties so they realize the energy management outcomes of such designated factories / designated buildings and such action shall benefit the development or operations of energy management in designated factories / designated buildings in the future.

Step 5 : Confirmation of Outcomes of Energy Management Auditing and Certification

After finishing the correction and auditing processes and the notification of auditing outcomes to the Steering Committee, the energy auditor team shall prepare the energy management auditing and certification report and shall sign the name of registered juristic person as the energy auditor and team so the Steering Committee shall submit such report to Department of Alternative Energy Development and Efficiency.

Chapter 3

Criteria and Requirement for Energy Management Auditing and Certification

Regarding the energy audit for certification of energy management, the auditing outcome is important since it indicates the capability of energy management and energy conservation in designated factories / designated buildings. Thus, the auditing criteria shall comply with the requirement for energy management procedures, shall be clear and shall be proper to be the tools for auditing and prioritizing the capabilities of designated factories / designated buildings in terms of energy management.

In order for the energy auditor team to have guidelines for auditing and certifying energy management, Chapter 3 prepares the criteria for auditing energy management and mentions criteria for considering the incompliance regarding which issues are major and which issues are minor. The requirement for auditing each requirement of energy management procedures is as follows.

1. Criteria for Energy Management Auditing

1.1 Compliance with Requirement for Energy Management Procedures

The decision regarding which issues comply with the requirement for energy management procedures depends on the fact that the outcomes must comply with the requirements. The evidences are obtained from interviewing with the relevant parties, documents, letters, and from actual workplace.

1.2 Types of Incompliance with Energy Management Procedures

(1) Major means no documents in energy management or most people do not possess knowledge about energy management, or no evidences in several issues according to the requirement for energy management procedures.

(2) Minor means the documents does not comply with or is partially incorrect.

1.3 Recommendations for Improvement

The energy auditor team proposes the recommendations for improvement to the owners of designated factories or designated buildings in case that the designated factories or designated buildings do not follow the requirement for energy management procedures or there are no errors from following the energy management procedures but there are some opportunities for improvement.

1.4 Decisions on Energy Management Auditing Outcomes

(1) In case that the auditing outcomes comply with every item of energy management procedures, the decision shall be “Pass”.

(2) In case of incompliance with requirements (Minor), shall mention the auditing outcome as “Pass but Need Some Corrections” and the designated factories / designated buildings shall correct and send the evidences in documents or copy.

(3) In case of incompliance with requirements (Major) in any requirement, the decision shall be “Fail”.

2. Requirement for Energy Management Auditing and Certification

In order for the energy auditors to understand each auditing issue in the requirement for energy management procedures, each requirement from the ministerial regulation identifying standards, criteria, and procedures for energy management in designated factories / designated buildings B.E.2552 and the main auditing issues, an important part of energy management and criteria for the decision of incompliance with the requirement, shall be additionally explained as follows.

Unofficial Transcript

Energy Management Steering Committee

Requirement

“Clause 5 : The owners of designated factories and designated buildings shall provide the Energy Management Steering Committee and shall identify the structure, authorities, duties, and responsibilities of Energy Management Steering Committee by preparing the documents and publicizing such documents to the personnel of designated factories or designated buildings.

The authorities, duties, and responsibilities of Energy Management Steering Committee shall be at least as follows.

- (1) Manage energy according to the energy conservation policies and energy management procedures of the designated factories or designated buildings.
- (2) Coordinate with the relevant parties to request for cooperation according to the energy conservation policies and energy management procedures and arrange trainings or activities to generate awareness of personnel of designated factories or designated buildings.
- (3) Control and supervise the energy management of designated factories or designated buildings according to the energy conservation policies and energy management procedures.
- (4) Report the energy management and conservation outcomes according to the energy conservation policies and energy management procedures of the designated factories or designated buildings to the owners of designated factories or designated buildings.
- (5) Recommend the identification or review of energy conservation policies and energy management procedures to the owners of designated factories or designated buildings for further consideration.
- (6) Support the owners of designated factories or designated buildings to follow this ministerial regulation”.

(Source : Ministerial Regulation Prescribing Standards, Criteria, and Procedures for Energy Management in Designated Factories and Designated Buildings B.E.2552)

Main Auditing Issues

1. Whether the Energy Management Steering Committee is set up or not.
2. Whether the order of appointment of such Steering Committee is prepared in documents and the high-ranking executives or owners of designated factories / designated buildings sign such order or not.

3. Whether the structure of Steering Committee is proper with the structure of designated factories / designated buildings or not.
4. Whether the authorities, duties, and responsibilities of Steering Committee comply with every important issue of the ministerial regulation, Clause 5 or not.
5. Whether the order of appointment of Steering Committee is publicized to the personnel of designated factories / designated buildings or not.
6. Whether the methods of publicizing the order of appointment of Steering Committee are proper or not and whether the methods affect the acknowledgement of personnel or not.
7. There are some documents to confirm that the personnel within the designated factories / designated factories acknowledge that the Steering Committee is appointed.

Criteria for Decision of Incompliance

Major

1. No order of appointment of Steering Committee in documents
2. No identification of authorities, duties and responsibilities of Steering Committee
3. No announcement of order of appointment of Steering Committee via any methods

Minor

1. Have order of appointment of Steering Committee in documents but the high-ranking executives or owners of designated factories / designated buildings do not sign such documents.
2. The authorities, duties, and responsibilities of Steering Committee comply with some important issues in ministerial regulation, Clause 5.
3. The order of appointment of Steering Committee is announced or publicized via any methods but the personnel of designated factories / designated buildings partially acknowledge such order.
4. Others (if applicable).

Evaluation of Preliminary Status of Energy Management

Requirement

“Clause 3, Paragraph 2: In case of the first usage of energy management procedures according to this ministerial regulation, the owners of designated factories and designated buildings shall control the evaluation of preliminary status of energy management by considering from the previous energy management operations before the identification of energy conservation policies”

(Source : Ministerial Regulation Prescribing Standards, Criteria, and Procedures for Energy Management in Designated Factories and Designated Buildings B.E.2552)

Main Auditing Issues

1. Whether the evaluation of preliminary status of energy management applies Energy Management Matrix (EMM) or not.
2. Whether the evaluation is performed in the sub-unit according to the structure of designated factories / designated buildings before considering the overall evaluation outcomes of the designated factories / designated buildings or not and the evaluation shall be performed in all of the 6 components as identified in EMM.
3. Whether there are documents or evaluation forms according to Clause 2 or not.
4. Others (If applicable)

Criteria for Decision of Incompliance

Major

1. No evaluation of preliminary status of energy management in sub-unit according to the structure and overall image of designated factories and designated buildings.
2. Others (If applicable).

Minor

1. The evaluation is performed in some sub-units according to the structure of designated factories / designated buildings.
2. The evaluation according to Clause 1 is performed in some of the 6 components in EMM.
3. Incomplete documents / evidences / evaluation forms according to Clause 1.
4. Others (If applicable).

Energy Conservation policy

Requirement

“Clause 4 : In order to prepare the energy conservation policy, the owners of designated factories or designated buildings shall appoint the steering committee to help prepare the energy conservation policy.

The energy conservation policy shall demonstrate the intention and commitment in energy management in designated factories and designated buildings and shall be prepared in documents and signed by the owners of designated factories or designated buildings and shall at least possess the following details.

- (1) Statements mentioning that the energy conservation is a part of the operations of the owners of designated factories or designated buildings.
- (2) Energy conservation policy proper with the characteristics and amount of energy used in the designated factories or designated buildings.
- (3) Intention to follow the laws relevant to the energy management and conservation
- (4) Guidelines for continuous improvement of efficiency in energy usage
- (5) Guidelines for efficient resource allocation according to the energy management procedures

The owners of designated factories and designated buildings shall publicize the energy conservation policy by posting a notice in the designated factories or designated buildings or via other methods so the personnel of designated factories or designated buildings acknowledge and follow the energy conservation policy.

(Source : Ministerial Regulation Prescribing Standards, Criteria, and Procedures for Energy Management in Designated Factories and Designated Buildings B.E.2552)

Main Auditing Issues

1. Whether there are energy conservation policies or not.
2. Whether the policies are prepared in documents and are signed by the high-ranking executives or owners of designated factories or designated buildings or not.
3. Whether the contents of the policies comply with every requirement in the ministerial regulation, Clause 4 or not.
4. Whether the policies are announced or publicized to the personnel in the designated factories or designated buildings or not.
5. Whether the methods of policy announcement are proper or not and whether they affect the acknowledgement and the compliance with the policies or not.

6. There are some documents / evidences to confirm that the personnel in designated factories / designated buildings acknowledge and comply with the policies.
7. Others (If applicable).

Criteria for Decision of Incompliance

Major

1. No documents identifying energy conservation policies
2. No identification of main contents of policies
3. No announcement of policies via any methods
4. Others (If applicable)

Minor

1. The policies are not signed by the high-ranking executives or owners of designated factories / designated buildings.
2. The policies comply with the some of the main contents in the ministerial regulation, Clause 4.
3. The policies are publicized / announced via any methods but the personnel of designated factories / designated buildings partially acknowledge and cannot follow such policies.
4. Others (If applicable).

Evaluation of Energy Conservation Potential

Requirement

“Clause 6 : The owners of designated factories and designated buildings shall evaluate the energy conservation potential and shall audit and evaluate the significant energy usage according to the criteria and procedures as mentioned by the Minister on the Royal Gazette.”

(Source : Ministerial Regulation Prescribing Standards, Criteria, and Procedures for Energy Management in Designated Factories and Designated Buildings B.E.2552)

Main Auditing Issues

1. Whether the evaluation of energy conservation potential is performed according to the criteria and procedures as notified by the Minister or not.
2. Auditing the completeness and accuracy of measurement data and outcomes of data analysis according to the engineering principles obtained from the evaluation of energy conservation potential in Clause 1.
3. Others (If applicable)

Criteria for Decision of Incompliance

Major

1. No evaluation of energy conservation potential in every requirement according to the criteria and procedures as notified by the Minister.
2. Others (If applicable).

Minor

1. The evaluation of energy conservation potential is partially performed according to the criteria and procedures as notified by the Minister.
2. The outcome from the measurement and analysis of data obtained from the evaluation of energy conservation potential does not comply with the engineering principles.
3. Others (If applicable).

Identification of Energy Conservation Goals and Plans and Training Plans and Energy Conservation Promotion Activities

Requirement

“Clause 7 : The owners of designated factories and designated buildings shall identify energy conservation goals and plans by identifying % of amount of energy current used or level of energy usage per one unit of production and shall mention period of time, investment, and expected outcomes according to the criteria and procedures as notified by the Minister on the Royal Gazette.

In order to follow the energy conservation plan according to paragraph 1, the owners of designated factories and designated buildings shall provide the training plans and arrange the energy conservation promotion activities and request the personnel of designated factories or designated buildings to participate in the training and activities continuously in order to provide knowledge and generate awareness of the impacts on energy usage and shall publicize to the personnel of designated factories or designated buildings.”

(Source : Ministerial Regulation Prescribing Standards, Criteria, and Procedures for Energy Management in Designated Factories and Designated Buildings B.E.2552)

Main Auditing Issues

1. Whether the energy conservation goals and plans are identified in % of amount of energy current used or level of energy usage per one unit of production (for designated factories) or level of energy usage per unit of service (for designated buildings) or not.
2. Whether the energy conservation goals and plans comply with the criteria and procedures as notified by the Minister or not.
3. Whether the training plans and energy conservation promotion activities are arranged or not.
4. Whether the training plans and energy conservation promotion activities are proper with each level of personnel in designated factories / designated buildings or not.
5. Whether the training plans and energy conservation promotion activities are publicized to the personnel within the designated factories / designated buildings or not.
6. Auditing the completeness and accuracy of data and whether the data measurement and analysis comply with the engineering principles in every energy conservation measure (electricity and heat) or not.
7. Others (If applicable).

Criteria for Decision of Incompliance

Major

1. No identification of energy conservation goals.
2. No identification of energy conservation goals and plans according to the criteria and procedures notified by the Minister.
3. No identification of training plans and energy conservation promotion activities.
4. No announcement of training plans and energy conservation promotion activities to the personnel of designated factories / designated buildings.
5. Others (If applicable).

Minor

1. The outcomes of the auditing and analysis of data used in the identification of energy conservation measures (electricity and heat) do not comply with the engineering principles.
2. The training plans and energy conservation promotion activities are publicized but the personnel of designated factories / designated buildings do not acknowledge such plans and activities.
3. Others (If applicable).

Compliance with Energy Conservation Plans, Auditing, and Analysis of Compliance with Energy Conservation Goals and Plans

Requirement

“Clause 8 : The owners of designated factories and designated buildings shall control and supervise the compliance with energy conservation policies and shall audit and analyze the compliance with energy conservation goals and plans prepared according to Clause 7 of the criteria and procedures notified by the Minister on the Royal Gazette.”

(Source : Ministerial Regulation Prescribing Standards, Criteria, and Procedures for Energy Management in Designated Factories and Designated Buildings B.E.2552)

Main Auditing Issues

1. Whether the energy conservation plans are strictly followed or not. Whether the compliance with the energy conservation goals and plans according to the criteria and procedures notified by the Minister is audited and analyzed or not.
2. Auditing the completeness and accuracy of data, the measurement and data analysis according to the engineering principles in each energy conservation measure.
3. Whether the performance of training plans and the energy conservation promotion activities is monitored / audited or not.
4. Others (If applicable).

Criteria for Decision of Incompliance

Major

1. No monitoring / auditing of the performance according to energy conservation plans and no auditing and analysis of compliance with the energy conservation goals and plans according to the criteria and procedures notified by the Minister.
2. No monitoring / auditing of performance of training plans and energy conservation promotion activities.

Minor

1. The outcomes of auditing and analysis of data from the compliance with energy conservation goals and plans in each energy conservation measure are accurate according to the engineering principles.
2. The outcomes of the monitoring / auditing of training plans and / or energy conservation promotion activities do not comply with the specified plans.
3. Others (If applicable).

Energy Management Monitoring / Auditing and Evaluation

Requirement

“Clause 9 : The owners of designated factories and designated buildings shall monitor / audit and evaluate energy management, review, analyze, and correct any defects of energy management at least once a year according to the criteria and procedures notified by the Minister on the Royal Gazette.”

(Source : Ministerial Regulation Identifying Standards, Criteria, and Procedures for Energy Management in Designated Factories and Designated Buildings B.E.2552)

Main Auditing Issues

1. Whether the auditing / monitoring of energy management complies with the criteria and procedures notified by the Minister or not.
2. Whether there is an order of appointment of Energy Management Audit Committee within the organization in documents or not. Whether such order is signed by the high-ranking executives or owners of designated factories / designated buildings or not.
3. Whether the components of Energy Management Audit Committee are proper in terms of its educational background and experiences relevant to the energy management procedures or not.
4. Whether the order of appointment of Energy Management Audit Committee is publicized to the personnel in each unit of the structure of designated factories / designated buildings or not.
5. Whether the Energy Management Audit Committee has the audit plans and procedures and prepares the audit documents or not.
6. What kinds of auditing criteria it applies ?
7. Shall have the documents / evidences demonstrating the acknowledgement of personnel within the designated factories / designated buildings regarding the appointment of Audit Committee.
8. Others (If applicable).

Criteria for Decision of Incompliance

Major

1. No order of appointment of Energy Management Audit Committee within the organization.
2. No auditing of energy management according to the criteria and procedures notified by the Minister.

3. No announcement of order of appointment of Energy Management Audit Committee to the personnel within the designated factories / designated buildings.
4. Others (If applicable).

Minor

1. The audit of energy management is performed according to the criteria and procedures notified by the Minister but such audit is incompletely performed according to the components of energy management procedures.
2. The order of appointment of Energy Management Audit Committee is publicized but all of the personnel within the designated factories / designated buildings do not acknowledge such order.
3. Others (If applicable).

Unofficial Translation

Review, Analysis, and Correction of Defects on Energy Management

Requirement

“Clause 9 : The owners of designated factories and designated buildings shall audit, monitor, and evaluate the energy management, review, analyze, and correct any defects on energy management at least once a year according to the criteria and procedures notified by the Minister on the Royal Gazette.”

(Source : Ministerial Regulation Prescribing Standards, Criteria, and Procedures for Energy Management in Designated Factories and Designated Buildings B.E.2552)

Main Auditing Issues

1. Whether the review, analysis, and correction of defects on energy management are performed according to the criteria and procedures notified by the Minister or not.
2. Whether the outcomes of energy management auditing and evaluation are considered by the Energy Management Steering Committee or not.
3. Whether the review, analysis, and correction of defects on energy management are performed periodically throughout the year or not.
4. Whether there are documents / evidences demonstrating that the review, analysis, and correction of defects on energy management are performed periodically or not.
5. Whether the outcomes of review, analysis, and correction of defects on energy management are completely performed according to the components of energy management procedures or not.
6. Others (If applicable).

Criteria for Decision of Incompliance

Major

1. No review, analysis, and correction of defects on energy management according to the criteria and procedures notified by the Minister.
2. No presentation of outcomes of energy management auditing and evaluation to the Energy Management Steering Committee for review, analysis, and correction of defects on energy management within a year.
3. No outcomes of review, analysis, and correction of defects on energy management.
4. Others (If applicable).

Minor

1. There are outcomes of review, analysis, and correction of defects on energy management but such outcomes are incomplete according to the components of energy management procedures.
2. Others (If applicable).

Unofficial Translation

Chapter 4

Submission of Energy Management Auditing and Certification Report

The Ministerial Regulation Prescribing Standard, Criteria, and Energy Management Procedures in Designated Factories and Buildings B.E. 2552 identifies that the owners of designated factories and designated buildings shall submit the energy management auditing and certification report to the Director – General of Alternative Energy Development and Efficiency within March of every year.

The Energy Management Auditing and Certification Report submitted to Department of Alternative Energy Development and Efficiency shall consist of :

1. Energy Management Auditing and Certification Report
2. Energy Management Auditing Form
3. Energy Management Report

The abovementioned reported shall be submitted via 2 channels as follows.

1. Submission by him / herself
2. Submission by registered mail and the registration date shall be viewed as the date of report submission and the mail shall be sent to :

Director – General of Department of Alternative Energy Development and Efficiency
Department of Alternative Energy Development and Efficiency
17 Rama I Road, Rong Muang Sub-district
Pathumwan District, Bangkok 10330

Unofficial Translation

Appendix

Appendix A
Ministerial Regulation
Prescribing Standard, Criteria, and Energy Management
Procedures in Designated Factories and Buildings
B.E. 2552



Ministerial Regulation

Prescribing Standard, Criteria, and Energy Management Procedures

In Designated Factories and Buildings

B.E. 2552

By virtue of the provision in paragraph 2 of Section 6, Section 9 (1) and Section 21 (1) of the Energy Conservation Promotion Act B.E. 2535 amended by the Energy Conservation Promotion Act (No. 2) B.E. 2550 which is the Act having some provisions concerning restriction of right and freedom of persons, in which Section 29 in addition to Section 33, 41 and Section 43 of the Constitution of the Kingdom of Thailand has prescribed it can be done by virtue of the legal provisions, the Minister of Energy, by an advice of the National Energy Policy Board, issues the ministerial regulation as follows:

Clause 1: This Ministerial Regulation shall become effective in 120 days after it is published in the Government Gazette.

Clause 2: In this Ministerial Regulation:

“Designated Factory” means a factory, classified as the designated factory by a Royal Decree according to Section 8 of the Energy Conservation Promotion Act.

“Owner of Designated Factory” means also the person responsible for managing the designated factory.

“Designated Building” means a building, classified as the designated building by a Royal Decree according to Section 18 of the Energy Conservation Promotion Act.

“Owner of Designated building” means also the person responsible for managing the designated building.

“Auditor and Certifier” mean the authorized person who has the power to audit and certify energy management according to the Energy Conservation Promotion Act.

Clause 3: The owner of the designated factory or building shall arrange to have energy conservation management system in the designated factory or building that includes energy conservation policies, objectives, plans and energy management procedures.

In a case where the energy conservation procedures are implemented for the first time, the owner of the designated factory or building must evaluate the condition of energy management, basing on the energy management procedures, existed in prior to the establishment of energy conservation policy.

Clause 4: The owner of the designated factory or building may set up a working group to help establish energy conservation policies.

The established energy policies must include an intention and determination to manage energy in the designated factory or building by establishing written policy guideline which was signed by the owner of the designated factory or building and contains the following detail:

- (1) A clause, stipulating that energy conservation is a part of the operation of the owner of the designated factory or building.
- (2) A set of energy conservation policies that are appropriate with the nature and quantity of energy used in the designated factory or building.
- (3) An intention to comply with the laws related to energy conservation and management.
- (4) Guidelines for continuing improvement of energy consumption efficiency.
- (5) Guidelines for effective allocation of resources for management of energy conservation.

The owner of the designated factory or building must arrange to publicize the energy conservation policies by putting up notices in areas that they can be easily seen inside the designated factory or building or by other methods to keep all personnel inform and comply with the energy conservation policies.

Clause 5: The owner of the designated factory or building must arrange to set up an energy management working group, its structure, authority, duties and responsibilities of this working group. A written document on structure, authority, duties and responsibilities of this working group should be published and distributed to all staff in the designated factory or building.

The working group should at least have the following authorities and duties:

(1) To manage energy conservation program according to the energy conservation policies and procedures of the designated factory or building.

(2) To coordinate and seek cooperation from all involved agencies in order to execute energy conservation policies and procedures including the arrangement of training courses or activities to create consciousness of personnel in the designated factory or building.

(3) To ensure that the management of energy conservation in the designated factory or building is carried out according to the established energy conservation policies and procedures.

(4) To prepare reports on the outcome of energy conservation management policies and procedures for the owner of the designated factory or building.

(5) To provide recommendations on how to review or revise the energy conservation policies and procedures to the owner of the designated factory or building.

(6) To support the owner of the designated factory or building to comply with this ministerial regulations.

Clause 6: The owner of the designated factory or building must evaluate the capability in managing energy conservation program by inspecting and evaluating the use of energy that has important implication according to the criteria and procedures, prescribed by the Minister and published in the Government Gazette.

Clause 7: The owner of designated factory or building must arrange to set objectives and plans to decrease the consumption amount of target energy by setting the target decreasing amount in percentage against the existing rate of consumption or set an amount of energy consumption per work unit and specify a period of project implementation, amount of an investment and expected results from the implementation of energy conservation program in order to achieve the objectives according to the criteria and procedures announced in the Government Gazette by the Minister.

In carrying out the implementation according to energy conservation plan according to paragraph 1, the owner of the designated factory or building must arrange to have training courses and energy conservation promotion activities for the personnel of the designated factory or building on a continuing basis in order to create knowledge and consciousness on the impact of energy usage.

Clause 8: The owner of the designated factory or building must maintain close supervision to ensure that the energy conservation is implemented as planned.

The owner of the designated factory or building must inspect and analyze to see if the energy conservation plan has been implemented according to the objectives and plans,

specified in Clause 7 according to the criteria and procedures announced in the Government Gazette by the Minister.

Clause 9: The owner of the designated factory or building must arrange to have an inspection, following up and assessment of energy management including the review, analysis and improvement of shortcomings in the plan at least once a year according to the criteria and procedures announced in the Government Gazette by the Minister.

Clause 10: The owner of the designated factory or building must arrange to have the inspection and certification made on the energy conservation management plan by the inspector according to the criteria and procedures announced in the Government Gazette by the Minister.

Clause 11: The owner of the designated factory or building must submit the results of the inspection and certification of the energy conservation management of the past year to the Director-General before March of each year, except in a case where in that past year, the owner of the designated factory or building has less than 180 days to implement the energy conservation project. In such case, the owner must file the report in March of the following year.

The filing of inspection results and certification report, specified in paragraph 1 must be in accordance with the criteria, steps and procedures announced in the Government Gazette by the Minister.

This is given on 25th June 2009

Wannarat Channukul

Minister of Energy

Appendix B
Energy Management Auditing Form

Unofficial Translation

Energy Management Auditing Form

Name of Juristic Person :				For the Year :		
Name of Designated Factories / Designated Buildings				TSIC-ID :		Date :
Name of Energy Auditor				No. of License :		
Name of Energy Expert :						
Name of the 1st Assistant Expert :				Name of the 2nd Assistant Expert :		
No.	Auditing Transaction	Auditing Outcome				Recommendations for Improvement
		Evidence		Compliance		
		No	Yes (Please Specify)	Compliance	Incompliance	
1 Energy Management Steering Committee						
1.1	The Energy Management Steering Committee is set up in documents and such documents are signed by the high-ranking executives or owners of designated factories / designated buildings.					
1.2	The structure of steering committee is proper with the management structure of designated factories / designated buildings, namely, high-ranking executives acting as Head / Chairman of the Committee, and every personnel responsible for energy acting as Secretary and representatives of every department acting as member of the Committee, etc.					
1.3	Authorities, duties, and responsibilities of the Committee comply with every requirement on the ministerial regulation, Clause 5.					
1.4	The order of appointment of steering committee is publicized via one or several methods so all of the personnel within the designated factories / designated buildings acknowledge such order.					
1.5	The methods of announcement of the order of appointment are proper and affect the acknowledgement of personnel.					

No.	Auditing Transaction	Auditing Outcome				Recommendations for Improvement
		Evidence		Compliance		
		No	Yes (Please Specify)	Compliance	Incompliance	
1.6	The documents / evidences confirm that the personnel within the designated factories / designated buildings acknowledge the appointment of steering committee.					
1.7	Others (Please Specify).					

- Note :
1. Please mark (/) in the box (No) in case that there are no documents or evidences in such topic.
 2. In case that there are documents / evidences, shall mention the evidences in such topic.
 3. In case that there are documents / evidences, please mark (/) in the box (Compliance or Incompliance), and in case of "Incompliance", shall mention "Major" or "Minor" (Major = Serious and Has an Impact on Efficiency of Energy Management, and Minor = Not Serious, Have some errors, incomplete documents or evidences, etc.)

Energy Management Auditing Form

Name of Juristic Person :				For the Year :		
Name of Designated Factories / Designated Buildings				TSIC-ID :	Date :	
Name of Energy Auditor				No. of License :		
Name of Energy Expert :						
Name of the 1st Assistant Expert :			Name of the 2nd Assistant Expert :			
No.	Auditing Transaction	Auditing Outcome				Recommendations for Improvement
		Evidence		Compliance		
		No	Yes (Please Specify)	Compliance	Incompliance	
2 Evaluation of Preliminary Status of Energy Management						
2.1	The evaluation of preliminary status of energy management applies Energy Management Matrix (EMM) at the sub-unit level of the structure of designated factories / designated buildings and at the overall level of the designated factories / designated buildings.					
2.2	The evaluation at the sub-unit and overall level of the designated factories / designated buildings covers every 6 components as identified on the EMM.					
2.3	Have documents / evidences / evaluation forms according to Clause 2.1					
2.4	Others (If applicable).					

- Note :
1. Please mark (/) in the box (No) in case that there are no documents or evidences in such topic.
 2. In case that there are documents / evidences, shall mention the evidences in such topic.
 3. In case that there are documents / evidences, please mark (/) in the box (Compliance or Incompliance), and in case of "Incompliance", shall mention "Major" or "Minor" (Major = Serious and Has an Impact on Efficiency of Energy Management, and Minor = Not Serious, Have some errors, incomplete documents or evidences, etc.)

Energy Management Auditing Form

Name of Juristic Person :				For the Year :		
Name of Designated Factories / Designated Buildings				TSIC-ID :	Date :	
Name of Energy Auditor				No. of License :		
Name of Energy Expert :						
Name of the 1st Assistant Expert :			Name of the 2nd Assistant Expert :			
No.	Auditing Transaction	Auditing Outcome				Recommendations for Improvement
		Evidence		Compliance		
		No	Yes (Please Specify)	Compliance	Incompliance	
3 Energy Conservation Policy						
3.1	The energy conservation policy is prepared in documents and signed by the high-ranking executives or owners of designated factories / designated buildings.					
3.2	The main contents of policy comply with every requirement in the ministerial regulation, Clause 4.					
3.3	The policy is publicized via one or several methods so the personnel within the designated factories / designated buildings acknowledge and follow such policy.					
3.4	The methods of announcement are proper and affect the acknowledgement and the compliance with the policy.					
3.5	The documents / evidences confirm that the personnel within the designated factories / designated buildings acknowledge the policy and follow such policy.					
3.6	Others (If applicable).					

- Note :
1. Please mark (/) in the box (No) in case that there are no documents or evidences in such topic.
 2. In case that there are documents / evidences, shall mention the evidences in such topic.
 3. In case that there are documents / evidences, please mark (/) in the box (Compliance or Incompliance), and in case of "Incompliance", shall mention "Major" or "Minor" (Major = Serious and Has an Impact on Efficiency of Energy Management, and Minor = Not Serious, Have some errors, incomplete documents or evidences, etc.)

Energy Management Auditing Form

Name of Juristic Person :				For the Year :		
Name of Designated Factories / Designated Buildings				TSIC-ID :		Date :
Name of Energy Auditor				No. of License :		
Name of Energy Expert :						
Name of the 1st Assistant Expert :				Name of the 2nd Assistant Expert :		
No.	Auditing Transaction	Auditing Outcome				Recommendations for Improvement
		Evidence		Compliance		
		No	Yes (Please Specify)	Compliance	Incompliance	
4 Evaluation of Energy Conservation Potential						
4.1	The evaluation of energy conservation potential complies with the criteria and procedures notified by the Minister, namely, the evaluation at : (1) Organizational level (2) Product level (For designated factories) and Service level (For designated buildings) (3) Main machinery / equipment level					
4.2	The evaluation at the organizational level collects, measures, and analyzes the following data : (1) Electricity system (2) Electricity and fuel usage / renewable energy during the year (Jan – Dec.) (3) Fuel usage for electricity generation (4) Ratio of the use of electrical / fuel energy classified by the specified system					

No.	Auditing Transaction	Auditing Outcome				Recommendations for Improvement
		Evidence		Compliance		
		No	Yes (Please Specify)	Compliance	Incompliance	
4.3	<p>The evaluation at the product level for each product (for designated factories) collects, measures, and analyzes the following data :</p> <ul style="list-style-type: none"> (1) Production Process Chart and Explanation (2) Usage of specific energy per unit of production during the year (Jan. – Dec.) 					
4.4	<p>The evaluation at the service level (for designated buildings) collects, measures, and analyzes the following data :</p> <ul style="list-style-type: none"> (1) Usage of specific energy of area utilization (every kind of designated building) (2) Usage of specific energy of number of in-patients (in case of hospital building) (3) Usage of specific energy of number of sold rooms (in case of hotel buildings) 					
4.5	<p>The evaluation at the main machinery / equipment level to search for the significant use of energy in identifying energy conservation measure collects, measures, and analyzes the following data :</p> <ul style="list-style-type: none"> (1) Evaluate the energy usage in main machinery / equipment classified by sub-units that use energy (for designated factories) and sub-units in the buildings that use energy (for designated buildings) (2) Record data about significant electrical / heat energy usage for main machinery / equipment 					

No.	Auditing Transaction	Auditing Outcome				Recommendations for Improvement
		Evidence		Compliance		
		No	Yes (Please Specify)	Compliance	Incompliance	
4.6	The outcomes of the audit of completeness and accuracy of measurement data and outcomes of the analysis of various types of data according to Clause 4.1 0 4.5 comply with the engineering principles.					
4.7	Others (If applicable).					

- Note :
1. Please mark (/) in the box (No) in case that there are no documents or evidences in such topic.
 2. In case that there are documents / evidences, shall mention the evidences in such topic.
 3. In case that there are documents / evidences, please mark (/) in the box (Compliance or Incompliance), and in case of “Incompliance”, shall mention “Major” or “Minor” (Major = Serious and Has an Impact on Efficiency of Energy Management, and Minor = Not Serious, Have some errors, incomplete documents or evidences, etc.)

Energy Management Auditing Form

Name of Juristic Person :				For the Year :		
Name of Designated Factories / Designated Buildings				TSIC-ID :		Date :
Name of Energy Auditor				No. of License :		
Name of Energy Expert :						
Name of the 1st Assistant Expert :				Name of the 2nd Assistant Expert :		
No.	Auditing Transaction	Auditing Outcome				Recommendations for Improvement
		Evidence		Compliance		
		No	Yes (Please Specify)	Compliance	Incompliance	
5 Identification of Energy Conservation Goals and Plans						
5.1	The energy conservation goals are identified into % of amount of energy currently used or level of energy usage per one unit of production (for designated factories) or level of energy usage per unit of service (for designated buildings).					
5.2	The overall energy conservation measures and goals are classified into electrical and heat measures.					
5.3	There are energy conservation plans (both electrical and heat energy).					
5.4	The details of energy conservation measures (electrical and heat energy) consist of : (1) Sequence of Measure (2) Name of Measure (3) Responsible Persons and Positions (4) Adjusted Equipment (5) Number of adjusted Equipment (6) Places of Adjustment (7) Causes of adjustment (8) Quantitative Goals (9) Level of the use of baseline energy before adjustment					

No.	Auditing Transaction	Auditing Outcome				Recommendations for Improvement
		Evidence		Compliance		
		No	Yes (Please Specify)	Compliance	Incompliance	
	(10) Level of the use of target energy after adjustment (11) Total Investment (12) Payback Period (13) Details of Adjustment (14) Auditing Methods of the Amount of Energy Saved After Adjustment (15) Calculation Methods					
5.5	The outcomes of auditing the completeness and accuracy of data, measurement, and analysis of data of energy conservation measure (electrical and heat energy) comply with the engineering principles.					
5.6	There are training plans and energy conservation promotion activities.					
5.7	The training plans and energy conservation promotion activities are proper with each level of personnel in the designated factories / designated buildings.					
5.8	The training plans and energy conservation promotion activities are publicized to each level of personnel within the designated factories / designated buildings.					
5.9	Others (If applicable).					

- Note :
1. Please mark (/) in the box (No) in case that there are no documents or evidences in such topic.
 2. In case that there are documents / evidences, shall mention the evidences in such topic.
 3. In case that there are documents / evidences, please mark (/) in the box (Compliance or Incompliance), and in case of “Incompliance”, shall mention “Major” or “Minor” (Major = Serious and Has an Impact on Efficiency of Energy Management, and Minor = Not Serious, Have some errors, incomplete documents or evidences, etc.)

Energy Management Auditing Form

Name of Juristic Person :				For the Year :		
Name of Designated Factories / Designated Buildings				TSIC-ID :	Date :	
Name of Energy Auditor				No. of License :		
Name of Energy Expert :						
Name of the 1st Assistant Expert :			Name of the 2nd Assistant Expert :			
No.	Auditing Transaction	Auditing Outcome				Recommendations for Improvement
		Evidence		Compliance		
		No	Yes (Please Specify)	Compliance	Incompliance	
6 Compliance, Auditing and Analysis of Compliance with Energy Conservation Goals and Plans						
6.1	<p>The monitoring of the performance according to energy conservation plans, the auditing and the analysis of the compliance with the energy conservation goals and plans comply with the criteria and procedures notified by the Minister as follows.</p> <p>(1) Monitoring the performance of each energy conservation measure as identified on the energy conservation goals and plans by auditing the following status :</p> <p style="margin-left: 20px;">(1.1) Follow the plan or</p> <p style="margin-left: 20px;">(1.2) Do not follow the plan and the reasons or</p> <p style="margin-left: 20px;">(1.3) Delay and the reasons.</p>					
	<p>(2) Auditing and analyzing the compliance with the energy conservation measure (electrical and heat measure) with the following details.</p> <p>(2.1) Name of Measure</p> <p>(2.2) Sequence of Measure</p> <p>(2.3) Period of Time (Expected Period of Time and Actual Period of Time)</p> <p>(2.4) Status of Operations</p> <p>(2.5) Investment (expected investment and actual investment)</p>					

No.	Auditing Transaction	Auditing Outcome				Recommendations for Improvement
		Evidence		Compliance		
		No	Yes (Please Specify)	Compliance	Incompliance	
	(2.6) Energy Conservation Outcomes (expected outcomes and actual outcomes by demonstrating both amount of energy and amount of money saved) (2.7) Problems and threats incurred (2.8) Opinions and recommendations					
6.2	The outcomes of auditing the completeness and accuracy of data, measurement, and analysis of data of energy conservation measure (electrical and heat energy) comply with the engineering principles.					
6.3	The performance of training plans and energy conservation promotion activities is monitored with the following details : (1) Follow the plan or (2) Do not follow the plan and the reasons or (3) Delay and the reasons.					
6.4	Others (If applicable).					

- Note :
1. Please mark (/) in the box (No) in case that there are no documents or evidences in such topic.
 2. In case that there are documents / evidences, shall mention the evidences in such topic.
 3. In case that there are documents / evidences, please mark (/) in the box (Compliance or Incompliance), and in case of “Incompliance”, shall mention “Major” or “Minor” (Major = Serious and Has an Impact on Efficiency of Energy Management, and Minor = Not Serious, Have some errors, incomplete documents or evidences, etc.)

Energy Management Auditing Form

Name of Juristic Person :				For the Year :		
Name of Designated Factories / Designated Buildings				TSIC-ID :	Date :	
Name of Energy Auditor				No. of License :		
Name of Energy Expert :						
Name of the 1st Assistant Expert :			Name of the 2nd Assistant Expert :			
No.	Auditing Transaction	Auditing Outcome				Recommendations for Improvement
		Evidence		Compliance		
		No	Yes (Please Specify)	Compliance	Incompliance	
7 Auditing / Monitoring and Evaluation of Energy Management						
7.1	The auditing / monitoring and evaluation of energy management comply with the criteria and procedures notified by the Minister as follows. (1) Appointment of Energy Management Audit Committee within the organization. (2) Auditing / monitoring every component of energy management procedure as follows. (2.1) Energy Management Steering Committee (2.2) Evaluation of Preliminary Status of Energy Management (2.3) Energy Conservation Policy (2.4) Evaluation of Energy Conservation Potential (2.5) Identification of Energy Conservation Goals and Plans (2.6) Compliance, Auditing and Analysis of Compliance with Energy Conservation Goals and Plans (2.7) Auditing / Monitoring and Evaluation of Energy Management (2.8) Review, Analysis, and Correction of Defects on Energy Management					

No.	Auditing Transaction	Auditing Outcome				Recommendations for Improvement
		Evidence		Compliance		
		No	Yes (Please Specify)	Compliance	Incompliance	
7.2	Whether the order of appointment of Energy Management Audit Committee in the organization is prepared in documents and signed by the high-ranking executives or owners of designated factories / designated buildings or not.					
7.3	The components of Energy Management Audit Committee are proper in terms of educational background and experiences relevant to energy management procedures.					
7.4	The order of appointment of Energy Management Audit Committee is publicized to the personnel within the designated factories / designated buildings.					
7.5	The monitoring / auditing and evaluation of energy management of Energy Management Audit Committee consider the documents and evidences relevant to energy management procedures and applies the criteria of decision from documents / evidences (Yes / No) and the completeness and accuracy of such documents / evidences and whether the committee has the recommendations for improvement or not in each energy management procedure implemented by the designated factories / designated buildings.					
7.6	There are documents / evidences demonstrating that all of the personnel within the designated factories / designated buildings acknowledge the appointment of Energy Management Audit Committee.					
7.7	Others (If applicable)					

- Note :
1. Please mark (/) in the box (No) in case that there are no documents or evidences in such topic.
 2. In case that there are documents / evidences, shall mention the evidences in such topic.
 3. In case that there are documents / evidences, please mark (/) in the box (Compliance or Incompliance), and in case of “Incompliance”, shall mention “Major” or “Minor” (Major = Serious and Has an Impact on Efficiency of Energy Management, and Minor = Not Serious, Have some errors, incomplete documents or evidences, etc.)

Energy Management Auditing Form

Name of Juristic Person :				For the Year :		
Name of Designated Factories / Designated Buildings				TSIC-ID :	Date :	
Name of Energy Auditor				No. of License :		
Name of Energy Expert :						
Name of the 1st Assistant Expert :			Name of the 2nd Assistant Expert :			
No.	Auditing Transaction	Auditing Outcome				Recommendations for Improvement
		Evidence		Compliance		
		No	Yes (Please Specify)	Compliance	Incompliance	
8 Review, Analysis and Correction of Defects on Energy Management						
8.1	<p>The review, analysis, and correction of defects on energy management comply with the criteria and procedures notified by the Minister as follows.</p> <p>(1) The outcomes of monitoring / auditing and evaluation of energy management obtained from the auditing of the Energy Management Audit Committee in Clause 7 are presented in the Energy Management Steering Committee's meeting for consideration, review, analysis and correction of defects on energy management in the designated factories / designated buildings.</p> <p>(2) The review, analysis, and correction of defects on energy management shall cover the following components of energy management procedures.</p> <p>(2.1) Energy Management Steering Committee</p> <p>(2.2) Evaluation of Preliminary Status of Energy Management</p> <p>(2.3) Energy Conservation Policy</p> <p>(2.4) Evaluation of Energy Conservation Potential</p> <p>(2.5) Identification of Energy Conservation Goals and Plans</p>					

No.	Auditing Transaction	Auditing Outcome				Recommendations for Improvement
		Evidence		Compliance		
		No	Yes (Please Specify)	Compliance	Incompliance	
	(2.6) Compliance, Auditing and Analysis of Compliance with Energy Conservation Goals and Plans (2.7) Auditing / Monitoring and Evaluation of Energy Management					
8.2	The review, analysis, and correction of defects on energy management are performed periodically throughout the year.					
8.3	The documents / evidences demonstrate that the review, analysis, and correction of defects on energy management are performed periodically.					
8.4	The outcomes of the review, analysis, and correction of defects on energy management cover every component of energy management procedures according to Clause 8.1.					
8.5	Others (If applicable).					

- Note :
1. Please mark (/) in the box (No) in case that there are no documents or evidences in such topic.
 2. In case that there are documents / evidences, shall mention the evidences in such topic.
 3. In case that there are documents / evidences, please mark (/) in the box (Compliance or Incompliance), and in case of "Incompliance", shall mention "Major" or "Minor" (Major = Serious and Has an Impact on Efficiency of Energy Management, and Minor = Not Serious, Have some errors, incomplete documents or evidences, etc.)

Unofficial Translation

Appendix C
Energy Management Auditing and Certification Report

**Energy Management Auditing and Certification Report
Of**

Factory / Building

.....

TSIC – ID

..... **Company Limited**

By

..... **Company Limited**

License Number

Unofficial Translation

Energy Management Auditing and Certification Report

Summary of Opinions from Energy Management Audit Committee of Energy Auditor

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

Summary of Auditing and Certification

Pass

The Energy Auditor certifies that the energy management report of factory / building TSIC-ID Of Company Limited passes the auditing and certification of energy management on This report is complete and accurate according to the ministerial regulation and the Energy Management Audit Committee signs this report as evidence and attaches the following attachment.

- Energy Management Auditing Form
- Energy Management Report

Sign
(.....)
(Authorized Person of Juristic Person)
Energy Auditor / Affix Juristic Person's Seal
..... Company Limited
License Number

Sign
(.....)
Expert

Sign
(.....)
1st Assistant Expert

Sign
(.....)
2nd Assistant Expert

Summary of Energy Management Auditing and Certification

Name of Designated Factory / Designated Building TSIC-ID.....

Name of Juristic Person Date of Auditing and Certification

Chairman of Energy Management Audit Committee

Name of Auditors : 1. Expert No. of 30 Factories / Buildings

2. 1st Assistant Expert No..... of 30 Factories/Buildings

3. 2nd Assistant Expert No..... of 30 Factories/Buildings

No.	Auditing Transaction	Evaluation Outcome		Opinions / Recommendations
		Pass	Fail	
1.	<i>Energy Management Steering Committee</i>			
2.	<i>Evaluation of Preliminary Status of Energy Management</i>			
3.	<i>Energy Conservation Policy</i>			
4.	<i>Evaluation of Energy Conservation Potential</i>			
5.	<i>Identification of Energy Conservation Goals and Plans</i>			
	<i>5.1 Energy Conservation Goals and Plans</i>			
	<i>5.2 Training Plans and Energy Conservation Promotion Activities</i>			
6.	<i>Compliance, Auditing, and Analysis of Compliance with Energy Conservation Goals and Plans</i>			

No.	Auditing Transaction	Evaluation Outcome		Opinions / Recommendations
		Pass	Fail	
7.	<i>Monitoring / Auditing and Evaluation of Energy Management</i>			
8.	<i>Review, Analysis, and Correction of Defects on Energy Management</i>			

Sign.....

(.....)

(Authorized Person of Juristic Person)

Energy Auditor / Affix Juristic Person's Seal

..... Company Limited

License Number

Sign

(.....)

Expert

Sign

(.....)

1st Assistant Expert

Sign

(.....)

2nd Assistant Expert