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## 1.PURPOSE

The purpose of this procedure; To determine the methods and responsibilities for the realization of energy management system certification activities in line with the ISO 50003 standard.

## 2. DEFINITIONS

**EMS:** Energy management system

**EMS effective personnel:** Persons who actively contribute to meeting the requirements of an EMS

**Note 1:** EMS effective personnel contribute to the fulfillment of EMS requirements within the scope and limits to identify, implement and maintain energy performance improvement opportunities.

**Note 2:** EMS active personnel have an impact on the energy performance or effectiveness of the EMS and may include contractors in the EMS active personnel.

**Improvement of energy performance:** improvement in measurable results related to energy efficiency, energy use or energy consumption relative to the energy reference indicator

**HVAC (Heating Ventilating and Air Conditioning):** Heating, Cooling, Ventilation are systems that regulate and control air conditioning and help ensure ambient comfort.

**CHP (Cogeneration or combined heat and power):** Cogeneration or combined heat and power generation. They are systems in which steam and electricity are produced together. In these systems, energy efficiency is increased by evaluating the waste heat and it is ensured that more energy is used compared to the conventional system. Since energy is produced where it is consumed, it eliminates the losses in transmission and distribution lines, and provides uninterrupted and high-quality electricity supply without being affected by the network.

**IGCC (integrated gasification combined cycle):** Integrated Gasification Combined Cycle. In solid fuel power plants using this cycle, solid fuels such as coal are gasified before being used. This substance, called Syngas (Syngas) is purified before it is burned, so that the sulfur, nitrogen and other particles produced after combustion are less than in conventional power plants.

## 3. RELATED DOCUMENTS AND REFERENCES

BQP.01 Certification Procedure

BQP.16 EMS Audit Procedure

BQP.05 Document Control Procedure

BQP.06 Records Control Procedure

BQP.01 Certification Personnel Management Procedure

BQP.11 Objection and Complaint Procedure

BQP.10 Personnel Training Procedure

BQP.07 Internal Audit Procedure

BQP.08 Management Review Procedure


BQP.09 Corrective Action Procedure

BQP.04 Certification Suspension and Withdrawal Procedure

BQP.101. EMS Certification Application Control Form

ISO/IEC 17021-1

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#### 4. PRINCIPLES

The provisions in clause 4 of the ISO/IEC 17021 standard are valid.

#### 4. EMS 4 Energy management system audit features

Energy management systems; It enables an organization to follow a systematic approach to ensuring the continuous improvement of energy performance, including energy efficiency, energy use and energy consumption.

#### 5. GENERAL REQUIREMENTS

ISO/IEC 17021 standard and provisions of Article 5 of Quality Manual are valid.

#### 6. STRUCTURAL REQUIREMENTS

ISO/IEC 17021 standard and provisions of Article 6 of Quality Manual are valid.

#### 7. RESOURCE REQUIREMENTS

ISO/IEC 17021 standard and provisions of Article 7 of Quality Manual and provisions in Management Procedure for Certification Personnel are valid.

#### 8. INFORMATION REQUIREMENTS

ISO/IEC 17021 standard and provisions of Article 8 of Quality Manual are valid.

#### 9. PROCESS REQUIREMENTS

##### 9.1. Pre-Certification Activities

The ones specified for ISO/IEC 17021-1 Clause 9.1 are valid and the relevant applications are specified in the Management System Manual and Certification Procedure.

The BQF.101 EMS Certification Application Control Form is sent to the organizations applying for EMS certification in order to provide the necessary information in order to determine the audit time correctly.

##### 9.1 EMS 5.2 Verification of the scope of certification


The organization to be certified should define the scope and limits of the EMS. ASCERT verifies the appropriateness of scope and boundaries at each audit.

Scope of certification; It should define the boundaries of the EMS, including activities, facilities, processes and decisions related to the EMS. Scope; It can be an entire organization with multiple sites, a location within an organization, or subdivision(s) of the site, such as a building, facility, or process. When defining boundaries, the organization should not exclude energy sources.

##### 9.2. Planning Activities

ISO/IEC 17021-1 Clause 9.2 is valid and the relevant applications are specified in the Management System Handbook and Certification Procedure.


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The technical areas for planning activities are given in the table below:

Technical area	Explanation	Examples	Typical energy use
Industry – light to medium	Manufacturing facilities producing consumer intermediates or end-user products	<ul style="list-style-type: none"> <li>• Clothes</li> <li>• Consumer electronics</li> <li>• Electrical appliances, furniture</li> <li>• Plastic products</li> <li>• Production</li> <li>• Special chemicals</li> <li>• Food processing</li> <li>• Water and wastewater treatment</li> </ul>	Typical energy uses: <ul style="list-style-type: none"> <li>• Process heat (electricity, natural gas, coal or other sources)</li> <li>• Operation of machines (pumps, fans, compressed air, processing of materials)</li> <li>• Steam systems</li> <li>• Small cooling towers</li> <li>• Other process uses</li> <li>• Building energy uses (lighting, HVAC, hot water, portable devices)</li> </ul>
Industry – heavy	Manufacturing facilities that require high capital and consume large amounts of raw materials and energy	<ul style="list-style-type: none"> <li>• Chemicals</li> <li>• Steel and other metals</li> <li>• Oil refining process</li> <li>• Shipbuilding</li> <li>• Pulp and paper production facilities</li> <li>• Industrial machines</li> <li>• Semiconductors</li> <li>• Cement and ceramic</li> </ul>	Typical energy uses: <ul style="list-style-type: none"> <li>• Process heat (electricity, natural gas, coal or other resources, raw materials, intermediates)</li> <li>• Process cooling and freezing</li> <li>• Operation of machines (pumps, fans, compressed air, processing of materials)</li> <li>• Turbines, condensers</li> <li>• Steam systems</li> <li>• Large cooling towers</li> <li>• Transport</li> </ul>
Buildings	Facilities with standard commercial building practices	<ul style="list-style-type: none"> <li>• Offices,</li> <li>• Accommodation</li> <li>• Retail</li> <li>• Warehouse</li> </ul>	Typical energy uses: <ul style="list-style-type: none"> <li>• Portable devices</li> <li>• Water heating</li> <li>• Lighting</li> <li>• Heating and cooling systems and related fans</li> <li>• Pump systems</li> </ul>
Building complexes	Facilities where processes that require special expertise due to the complexity of energy sources and energy uses are carried out	<ul style="list-style-type: none"> <li>• Health care facilities</li> <li>• Laboratories</li> <li>• Data centers</li> <li>• Education campuses</li> <li>• Military and government campuses with integrated energy supply (district heating and cooling)</li> <li>• Municipalities</li> </ul>	Typical energy uses: <ul style="list-style-type: none"> <li>• Central and district heating and cooling systems</li> <li>• Portable devices</li> <li>• Water heating</li> <li>• Lighting</li> <li>• Local HVAC</li> <li>• Compressed air, material handling systems</li> <li>• Elevators/lifting vehicles</li> </ul>
Transport	System or vehicles for the transport of people or goods/cargo	<ul style="list-style-type: none"> <li>• Passenger services (vehicle, train, ship, planes)</li> <li>• Municipalities</li> <li>• Trucking services</li> <li>• Vehicle fleets</li> <li>• Rail businesses</li> <li>• Ship tour operators</li> <li>• Airlines, air cargo               <ul style="list-style-type: none"> <li>• Vehicle fleets</li> </ul> </li> </ul>	Typical energy uses: <ul style="list-style-type: none"> <li>• Mobile energy uses</li> <li>• HVAC</li> <li>• Lighting</li> <li>• Portable devices</li> <li>• Processing of materials               <ul style="list-style-type: none"> <li>• Resources (fuel, electricity, coal, etc.)</li> </ul> </li> </ul>
Mining	Production and transportation of raw materials with open pit mining, underground mining and fluid extraction operation	<ul style="list-style-type: none"> <li>• Mineral separation</li> <li>• Hydrometallurgy</li> <li>• Smelting and refining</li> <li>• Oil and gas drilling enterprises               <ul style="list-style-type: none"> <li>• Gas and oil pipelines</li> </ul> </li> </ul>	Typical energy uses: <ul style="list-style-type: none"> <li>• Extraction (subtraction)</li> <li>• Transport (loaders, trucks and conveyor belts)</li> <li>• Operation of machines (water pumping, ventilation, turbines, fans)</li> <li>• Preparation of materials (crushing, grinding, separating)</li> </ul>

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Technical area	Explanation	Examples	Typical energy use
			<ul style="list-style-type: none"> <li>Steam systems, condensers and cooling towers</li> </ul>
Farming	Livestock, seed or crop products	<ul style="list-style-type: none"> <li>Farming</li> <li>Seed production</li> <li>Transport of materials <ul style="list-style-type: none"> <li>Animal production</li> </ul> </li> </ul>	Typical energy uses: <ul style="list-style-type: none"> <li>Extraction (subtraction)</li> <li>Resources (fuel, electricity, natural gas, coal, etc.)</li> <li>Renewable energy sources (biomass, solar, geothermal etc.)</li> <li>Transport</li> <li>Engines</li> <li>Machine operation (pumps, fans, material handling and handling)</li> <li>Pumps</li> <li>Water treatment <ul style="list-style-type: none"> <li>Dryers</li> </ul> </li> </ul>
Energy supply	Energy generation (nuclear, combined heat and power (CHP), electricity, renewable etc.) and energy transport (transmission and distribution)	Power generation (coal, oil, natural gas, renewable, combined heat and power generation (CHP), IGCC, etc.)	Typical energy uses: <ul style="list-style-type: none"> <li>Transformation of raw materials</li> <li>Transmission and distribution turbines</li> <li>Combustion</li> <li>Steam systems <ul style="list-style-type: none"> <li>Condensers and cooling towers</li> </ul> </li> </ul>

### 9.3. Initial Certification

ISO/IEC 17021-1 Clause 9.3 is valid and the relevant applications are specified in the Management System Handbook and Certification Procedure.

### 9.3 EMS 5.7 Initial certification audit

#### 9.3 EMS 5.7.1 Stage 1


Stage 1 includes:

- Verifying the scope and limits of the EMS to be documented,
- Examining a graphical or textual description of the organization's facilities, equipment, systems and processes for defined scope and boundaries;
- Verifying the number of EMS active personnel, energy sources, significant energy uses and annual energy consumption for verification of audit time,
- Examining the documented results of the energy planning process,
- Reviewing the relevant objectives, targets and action plans along with a list of identified energy performance improvement opportunities.

#### 9.3 EMS 5.7.2 Stage 2

In a stage 2 audit, ASCERT gathers the necessary audit evidence to determine that energy performance improvements have been proven before making the certification decision. Validation of energy performance improvement is required for initial certification to be granted. Examples of how a client organization can demonstrate energy performance improvement are given below.

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**Example 1** – Decrease in total energy consumption over time. While production remains at similar levels within the scope and limits of the EMS, data on the total energy consumption in kWh measured in the last 12 months are discussed. This data is used to demonstrate continuous energy performance improvement over the last 12 months through energy performance indicators for the client organization.

**Example 2** – Total energy consumption increases, but the energy performance measure defined by the client organization has been improved. A client organization operating in the insurance industry provided additional computers due to the increase in business. Additional computers have led to an increase in total energy consumption. The energy performance indicator, defined by the client organization as the energy consumption per insurance claim, has decreased, thus proving that the energy performance has been improved.

**Example 3** – A decline in energy performance is predicted as hardware ages. With proper operation and maintenance controls, the delay in performance degradation can demonstrate improved energy performance as defined by the customer organization's energy performance indicators. The air conditioning system in a commercial building that is working overtime will weaken due to aging of the equipment. This loss of performance over time due to various factors such as punctures, mechanical damage or clogged filters can be observed with the specific energy consumption (kWh/m<sup>2</sup>) performance indicator. The client organization associates the energy performance with the maintenance program and proves the stable operation of the system over time through energy performance indicators.

**Example 4** – In mining operations where resources are consumed over time, where the energy reference indicator tends to increase over time, it can be proven that the energy performance is improved relative to the rising base level

### 9.3 EMS 5.3 Determination of audit time

#### 9.3 EMS 5.3.1 Audit time


In order to determine the audit time, the audit time is determined in line with the information received with the EMS Certification Application Control Form. In determining the audit time, ASCERT considers the following factors:

- a) Energy resources,
- b) Significant energy uses,
- c) Energy consumption,
- d) Number of EMS effective personnel.

Audit time includes time spent on site with the client organization, audit planning, document review, and audit reporting. In order to determine the audit time, the audit time charts given in Tables A.3 and A.4 are used.

The calculation method of inspection time is explained below. In cases where shortening of the audit time of the processes and the institutional structure can be justified, ASCERT provides the rationale for such a decision and records it in the EMS Certification Application Control Form.

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Audit time can be reduced if the organization has integrated the EMS with another documented management system. In this case, the reduction to be made cannot exceed 20%.

Audit is based on man-day, 8 hours per day. Regulations can be made on the basis of rules based on international, regional or national legislation.

### 9.3 EMS 5.3.2 EMS effective staff

Calculation of audit time is based on the number of EMS effective personnel defined in A.1 below and the complexity criteria defined in A.2.

In determining the number of effective personnel, it is essential to include those who contribute effectively to meeting the EMS rules. Personnel who are responsible for the operation and maintenance of EMS activities according to the legislation are included in the EMS effective personnel.

ASCERT receives the necessary information to determine the number of EMS effective personnel for the scope of certification and for each audit in the audit program, with the EMS Certification Application Control Form and determines the effective number of personnel in the EMS Certification Application Control Form.

#### A.1 Identification of EMS effective personnel

In determining the effective number of EMS personnel, ASCERT considers personnel who affect the EMS, including:


- a) Top management,
- b) Management representative(s),
- c) Energy management team,
- d) Person(s) responsible for major changes affecting energy performance,
- e) Person(s) who take responsibility for the effectiveness of EMS,
- f) Person(s) responsible for developing, implementing or maintaining energy performance improvement activities, including targets, objectives and action plans,
- g) Person(s) responsible for significant energy uses.

**Note** – Persons responsible for significant energy uses may not be considered EMS effective personnel due to the impact of their activities on energy performance. It is important to understand their roles and influences before being included in EMS effective staff.

#### Example 1 - Automaker:

EMS effective personnel are those directly performing significant energy use (painting system, HVAC system), management, operation, maintenance/plants/engineering personnel, HVAC system contractor personnel, and energy team personnel. EnYS does not include effective personnel, administrative personnel and personnel who set up the system,

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### Example 2 – Plaza:

The effective staff of EMS consists of personnel related to heating and cooling systems, maintenance and engineering activities, construction and renovation activities and procurement, and the energy team. Other personnel and administrative support personnel working in the building are not EMS effective personnel.

### A.2 Determining the complexity of the EMS

Complexity is based on the following 3 considerations:

- Annual energy consumption,
- Number of energy sources,
- Number of significant energy uses.

Complexity is a value calculated based on a weighted coefficient that takes all these considerations into account. For each evaluation, 2 pieces of information are required in calculating the complexity:

- a) Weight factor or multiplier,
- b) The complexity factor, which is a value based on a range.

The formula for calculating complexity (C) is given below:

$$C = (FEC \times WEC) + (FES \times WES) + (FSEU \times WSEU)$$

FEC : Annual energy consumption complexity factor given in Table A.1,

FES : The complexity factor of the number of energy sources given in Table A.1,

FSEU : Significant energy use complexity factor given in Table A.1.

WEC : Weight factor of annual energy consumption factor given in Table A.1,

WES : Weight factor of the factor of the number of energy sources given in Table A.1,

WSEU: It is the weighting factor of the important energy use factor given in Table A.1.


The weighting factors and related ranges of the complexity factors required for calculating the complexity for each evaluation are given in Table A.1.

Table A.1 – Energy complexity criteria for determining inspection time

Evaluations	Weight Factor	Range	Complexity Factor
Annual energy use	% 25	≤ 20 TJ (terajoule)	1,0
		20 TJ ≤ 200 TJ	1,2
		200 TJ ≤ 2000 TJ	1,4
		> 2000 TJ	1,6
Number of energy sources	% 25	1-2 Energy source	1,0
		3 Energy source	1,2
		≥ 4 Energy source	1,4
Number of significant energy uses (SEU)	% 50	1 ile 3 SEUs	1,0
		4 ile 6 SEUs	1,2
		7 ile 10 SEUs	1,3
		11 ile 15 SEUs	1,4
		≥ 16 SEUs	1,6

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After the complexity value is calculated using the above formula, the EMS complexity level is determined according to Table A.2.

Table A.2 – EMS complexity level

Complexity level	EMS Complexity Level
> 1,35	High
1,15 to 1,35	Medium
< 1,15	Low

### A.3 Determining the EMS audit time

The minimum audit time is determined on the basis of a combination of EMS effective staff and complexity. The minimum audit time for initial certification (Stage 1 and Stage 2) is shown in Table A.3.

ASCERT checks that, in Stage 1, the review and verification of the audit time provides.

Table A.3 – Minimum audit time for initial certification (man-days)

EMS Effective number of personnel	Complexity		
	Low	Medium	High
1-8	2,5	4	5
9-15	4	6	7
16-25	5	7	9
26-65	6,5	8	10
66-85	8	9,5	11,5
86-175	8,5	11	12
176-275	9	11,5	12,5
276-425	10	13	15
≥ 426	For the audit time, if there are more than 425 EMS effective personnel, the increase in this table is followed to determine the audit time.		

#### Example: Example of minimum audit days for initial certification:

The number of EMS effective personnel determined by ASCERT for XYZ company is 32. Annual energy consumption is 12 TJ, corresponding to a complexity factor of 1,0 and a weight coefficient of 25% obtained using Table A.1.


The number of energy sources (natural gas, electricity, diesel oil) is 3. According to Table A.1, the corresponding complexity factor is 1,2 and the weight coefficient is 25%.

The number of significant energies uses for company XYZ is 3. According to Table A.1, the corresponding complexity factor is 1,0 and the weight coefficient is 50%.

$$C = (0,25 \times 1,0) + (0,25 \times 1,2) + (0,5 \times 1,0) = 0,25 + 0,3 + 0,5 = 1,05$$

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Since the complexity value is less than 1.15, the complexity level is “low” according to Table A.2.

According to Table A.3, the minimum number of audit time days for Stage 1 and Stage 2 audits will be 6.5 man-days.

According to Table 4, the minimum number of days for surveillance will be 2,5 man-days and 5,0 man-days for recertification.

The minimum number of audit days for surveillance and recertification audits is shown in Table A.4.

Certification process; The EnMS should ensure that the required number of audit days is reviewed in case of any change in significant energy uses, facilities, equipment, systems or processes.

Table A.4 – Minimum time (man-days) for surveillance and recertification

EMS Effective number of personnel	Complexity					
	Low		Medium		High	
	Surveillance	Recertification	Surveillance	Recertification	Surveillance	Recertification
1-8	1	1,5	1	2,5	1,5	3
9-15	1	2,5	2	4	2,5	5
16-25	2	3,5	2,5	5	3	6
26-65	2,5	5	3	6	3,5	7
66-85	2,5	6	3,5	6,5	3,5	8,5
86-175	2,5	6	3,5	7	3,5	8,5
176-275	3	6	4	8	4	9
276-425	3,5	7	4	8,5	5	11
≥ 426	For the audit time, if there are more than 425 EMS effective personnel, the increase in this table is followed to determine the audit time.					

### 9.3 EMS 5.4 Multisite sampling


In multisite sampling, the rules described below apply:

#### B.1 General

Multi-site sampling ensures that the inspections performed show that compliance with the EMS is sufficiently reliable, inspections are easy and applicable at all reported sites.

ASCERT applies multisite sampling in the initial audit, surveillance audit and recertification audit if an organization's activities related to energy resources, energy uses, and energy consumption are within the scope of certification and are similarly performed at different sites under the organization's authority and control.

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Deviations from these rules may occur as long as they are justified and recorded. The justification should demonstrate that compliance with the EMS can be achieved at the same level of confidence in all of the sites reported before starting the audit process.

## **B.2 Application**

### **B.2.1 The Site**

Where no site identification is practicable (eg for services), the scope of certification takes into account the provision of services as well as the organization's activities at its headquarters.

Where relevant, ASCERT may decide that it is necessary to conduct the certification audit at the site it serves, and to identify and audit its head office.

### **B.2.2 Temporary site**

A temporary site is a site established by an organization (for example, a construction site) to perform a specific job or provide a service for a limited period of time. If temporary sites constitute important energy use and energy consumption elements of an organization, these sites are included in the audit.

### **B.2.3 Multi-site organization**

A multi-site organization is defined as an organization that has a head office and a network of local offices and branches (sites) where certain activities are carried out wholly or partially.

A multisite organization does not have to be a unique legal entity, but all sites must have a legal or contractual link with the head office and a common EMS.

In a multi-site organization; The EMS must be established, implemented, maintained and subject to surveillance audits by ASCERT and internal audits scheduled by its head office. The head office should have the authority to require sites to implement corrective actions when necessary.


Example: Organizations working through dealers and agents; manufacturing companies with networks of sales offices; generation companies with similar processes or significant energy uses; multi-site service companies offering similar services, companies with multiple branches.

### **B.2.4 Eligibility of an organization for sampling**

For an organization to be eligible for sampling, processes related to significant on-site energy uses and energy consumptions must be substantially the same or organized into subgroups operated using similar methods and processes.

Where some of the sites under review have similar but lesser processes than other sites, less important sites may be included in multisite certification if sites that carry out energy-intensive processes are subject to more frequent audits.

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The energy performance of the sites can be considered independently or as a whole. This is defined in ASCERT's certification processes or justification of the multi-site organization sampling plan.

The organization's EMS must be included in the centrally controlled and managed energy planning process and be subject to central management review, and a management review must be completed before ASCERT begins the audit.

Relevant sites (including the central management unit) must be included in the organization's centrally managed internal audit program prior to ASCERT auditing.

It must be proven that the central office of the organization has created an EMS and that all the organization within the scope of the EMS fulfills the EMS requirements.

The head office must demonstrate that it can collect and analyze data from all sites within its scope and boundaries. For the organization to be eligible for sampling, the following rules must be met and applied to the head office:

- a) Management system rules:
- System documentation and system changes approved by the head office,
  - Management review at all sites,
  - Evaluation of corrective actions,
  - Internal audit planning and evaluation of results,
  - Demonstrating the authority to gather information on legal and other requirements and initiate changes to the organization when necessary,
  - Results of internal audits at the sites.
- b) Rules for energy performance:
- Consistent energy planning process,
  - Consistent criteria for determining and adjusting the reference indicator, relevant variables and energy performance indicators,
  - Consistent criteria for setting goals and objectives and field action plans,
  - Centralized processes for evaluating the viability and effectiveness of action plans and energy performance indicators,
  - Centrally aggregated energy performance data so that, where appropriate, energy performance can be demonstrated throughout the organization.


## **B.2.5 ASCERT's responsibilities**

### **B.2.5.1 General**

As a premise of sampling, ASCERT's procedures include an initial contract review, an assessment of the complexity and scale of activities under the EMS, and ensure that all criteria and clauses given in the ISO 50003 standard are met. Matters related to differences that may affect sampling may include:

- a) Energy performance,  
b) Significant energy uses,

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- c) Energy resources,
- d) Monitoring, measurement and analysis,
- e) Energy consumption,
- f) Scope changes.

ASCERT defines the functions of the head office (head office) of the organization with which it makes an agreement and has legal obligations to provide certification activities.

ASCERT checks that the rules regarding competency requirements are provided at each site included in certification and audits and assigns competent personnel. If the sites of a client organization where the activity subject to certification is not ready, the client organization is provided to inform ASCERT before the audit about which sites will be included in the audit and which areas will be excluded.

### **B.2.6 Certification documents**

Certification documents can be published to cover more than one site, provided that each site within the scope of certification is audited separately by ASCERT or audited by sampling.

ASCERT may provide certification documents to the organization in any way it requests. If every field included in the certification has the same certification scope or sub-scope of that scope and contains clear references to the main certification documents, a certification document can be given for that field of the organization.

Certification documents are withdrawn in their entirety if the head office or any of the sites do not meet the requirements for maintaining certification. The site list is updated by ASCERT.

To help ensure the accuracy of this information, ASCERT requests the audited body to provide information about any closed areas within the scope of certification and makes necessary updates to the Audit Program.

Failure to provide this information is considered an abuse of certification by ASCERT. Additional fields may be added to existing certification as a result of surveillance or re-certification activities or at the request of the organization as a result of expanding the scope.

## **B.3 Sampling**


### **B.3.1 Methodology**

The sampling is selected based on the factors given below and results in the selection of a representative group of different sites. At least 25% of the samples are randomly selected. The remaining part is chosen in such a way that the difference between the selected sites during the validity period of the certification is the greatest.

Site selection includes the study of energy sources and energy consumptions and, among other criteria, the following:

- a) Results of field internal audits and management reviews or previous certification audits,
- b) Significant variation in the size of the sites,
- c) Variety in shift patterns and work processes or procedures,

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- d) The complexity of the management system,
- e) Processes carried out at different sites,
- f) Changes made after the last certification audit,
- g) The maturity of the management system and the knowledge of the organization,
- h) The complexity of energy sources, energy uses and energy consumption,
- i) Cultural and linguistic differences, legal and other requirements,
- j) Geographical distribution

This selection need not be made at the beginning of the audit process. It can also be done after the audit at the head office is completed. In any event, the central office should inform sites that they are included in the sampling. This information can be made in a short time, but sufficient time should be allowed to prepare for the audit.

### B.3.2 Sample size

ASCERT keeps records and justifies each multisite sampling application. The head office is audited at least once a year during the initial certification and re-certification audit and the surveillance audit carried out every year.

The audit at the head office includes the energy performance review at all sites included in the establishment certificate.


The size and frequency of the sample is increased where the risk analysis by ASCERT of the documented activity covered by the management system indicates special circumstances such as:

- a) The size of the sites and the number of EMS effective personnel,
- b) Diversity in work practices (etc. shifts),
- c) Diversity in the activities undertaken,
- d) Diversity in energy use and energy consumption (especially in significant energy uses);
- e) The complexity of energy uses,
- f) Records of corrective actions,
- g) Multinational legal or other requirements,
- h) Results of internal audits and management review;
- i) Demonstrate energy performance and improvement of the EMS.

The minimum number of sites to be visited per inspection should be as follows:

Number of sites (excluding head office) (1)	Number of samples for the first audit (2)	Number of samples for surveillance audit (3)	Number of samples for recertificate audit (4)
1-2	%100 (All)	All	All
3-4	2	2	2
5-9	3	2	3
10-25	4-5	3	4
26-36	6	4	5
37-49	7	5	6
50-64	8	5	7
65-100	9-10	6	8
101-121	11	7	9
122-144	12	8	10
145-169	13	8	11
170-225	14-15	9	12
226-256	16	10	13

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257-289	17	11	14
290-324	18	11	15
325-400	19-20	12	16
> 400	Min. 21	Min. 13	Min. 17

However, if the management system has proven to be effective over a 3-year period, the sample size may be reduced by multiplying by a factor of 0.8 and rounding to the nearest integer.

When a new site must join a documented multi-site network, each new site is considered as an independent cluster to determine sample size.

After a new site is included in certification, the new site is added to existing sites to determine sample size in future surveillance and recertification audits.

#### **B.4 Audit time for central office**

The total audit time in the audit program is the sum of the audit times at each site and at the head office. ASCERT justifies the time spent in multi-site audits in terms of the distribution of audit time. The number of inspection days for each selected site, including the head office, is calculated using the inspection charts given in clause 9.3. The minimum number of audit days for the head office and EMS audit is determined by ASCERT and the decision rationale is recorded.

Audit time can be adjusted based on sampling information, based on actual processes and information gathered during initial certification or prior to surveillance or recertification. ASCERT keeps records of the reasoning of the decision.

#### **9.4. EMS 5.5 Performing audits**

ISO/IEC 17021-1 Clause 9.4 is valid and the relevant applications are specified in the Management System Handbook and the EMS Audit Procedure.

#### **9.4 Certification Decision**

ISO/IEC 17021-1 Clause 9.5 is valid and the relevant applications are specified in the Management System Handbook and Certification Procedure.

Energy performance improvement is the only requirement for an EMS. ASCERT considers energy performance improvement as part of its certification decision.


#### **9.5. Maintaining Certification**

ISO/IEC 17021-1 Clause 9.6 is valid and the relevant applications are specified in the Management System Handbook, Certification Procedure, EMS Audit Procedure and Certification Suspension and Withdrawal Procedure.

#### **9.6 EMS 5.8 Surveillance audit**

During surveillance audits, ASCERT reviews necessary audit evidence to determine whether continuous energy performance improvement has been demonstrated.

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### 9.6 EMS 5.9 Recertification audit

During the recertification audit, ASCERT reviews the necessary audit evidence to prove whether the energy performance improvement is continuous before making the certification decision.

Major changes to facilities, equipment, systems and processes are also taken into account in the recertification audit. Confirmation of the continuity of energy performance improvement is required for renewal of certification.

**Note:** Improving energy performance; may be affected by changes in facilities, equipment, systems or processes, a change in line of business, and other circumstances that result in or require a change of the energy reference indicator.

### 9.6. Appeals

The ones given for ISO/IEC 17021-1 Clause 9.7 are valid and the relevant applications are specified in the Management System Handbook and the Appeals and Complaint Procedure.

### 9.7. Complaints

The ones given for ISO/IEC 17021-1 Clause 9.8 are valid and the relevant applications are specified in the Management System Handbook and the Objection and Complaint Procedure.

### 9.8. Records of applicants and clients

Those given for ISO/IEC 17021-1 Clause 9.9 are valid, and the relevant practices are specified in the Management System Manual and the Records Control Procedure.

Practices regarding the registration of applicants and customers are specified in the Management System Handbook.

### 10. Terms of Management System

The ones given for ISO/IEC 17021-1 Clause 10 are valid and the relevant applications are specified in the Management System Handbook and in the procedures given below:

- Document Control Procedure
- Records Control Procedure
- Management Review Procedure
- Internal Audit Procedure
- Corrective Action Procedure

### 11. REVISION INFORMATION

Rev. Date	Rev. No	Item No	Rev. Descriptions
01.03.2022	02	-	ISO 50003:2021 transition has been made.

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