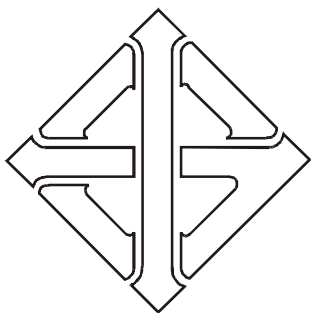




มาตรฐานผลิตภัณฑ์อุตสาหกรรม

THAI INDUSTRIAL STANDARD

มอก. 14015—2554

ISO 14015 : 2001

การจัดการสิ่งแวดล้อม :
การประเมินด้านสิ่งแวดล้อมของที่ตั้งและองค์กร

ENVIRONMENTAL MANAGEMENT -

ENVIRONMENTAL ASSESSMENT OF SITES AND ORGANIZATIONS (EASO)

สำนักงานมาตรฐานผลิตภัณฑ์อุตสาหกรรม

กระทรวงอุตสาหกรรม

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มาตรฐานผลิตภัณฑ์อุตสาหกรรม
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สำนักงานมาตรฐานผลิตภัณฑ์อุตสาหกรรม
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ประกาศในราชกิจจานุเบกษา ฉบับประกาศและงานทั่วไป เล่ม 129 ตอนพิเศษ 25 ง
วันที่ 27 มกราคม พุทธศักราช 2555

มาตรฐานผลิตภัณฑ์อุตสาหกรรมนี้เป็นส่วนหนึ่งในอนุกรมมาตรฐานผลิตภัณฑ์อุตสาหกรรมการจัดการสิ่งแวดล้อม เป็นเรื่องเกี่ยวกับการประเมินด้านสิ่งแวดล้อมของที่ตั้งและองค์กร ซึ่งมาตรฐานผลิตภัณฑ์อุตสาหกรรมนี้ รับ ISO 14015 : 2001 Environmental management – Environmental assessment of sites and organizations (EASO) มาใช้ในระดับเหมือนกันทุกประการ (identical) โดยใช้ ISO ฉบับภาษาอังกฤษเป็นหลัก

มาตรฐานผลิตภัณฑ์อุตสาหกรรมนี้กำหนดขึ้นเพื่อให้ทันกับความต้องการของผู้ใช้และจักแปลเป็นภาษาไทยในโอกาสอันสมควร หากมีข้อสงสัยโปรดติดต่อสอบถามที่สำนักงานมาตรฐานผลิตภัณฑ์อุตสาหกรรม

คณะกรรมการมาตรฐานผลิตภัณฑ์อุตสาหกรรมได้พิจารณามาตรฐานนี้แล้ว เห็นสมควรเสนอรัฐมนตรีประกาศตาม มาตรา 15 แห่งพระราชบัญญัติมาตรฐานผลิตภัณฑ์อุตสาหกรรม พ.ศ. 2511



ประกาศกระทรวงอุตสาหกรรม

ฉบับที่ 4382 (พ.ศ. 2554)

ออกตามความในพระราชบัญญัติมาตรฐานผลิตภัณฑ์อุตสาหกรรม

พ.ศ. 2511

เรื่อง กำหนดมาตรฐานผลิตภัณฑ์อุตสาหกรรม

การจัดการสิ่งแวดล้อม : การประเมินด้านสิ่งแวดล้อมของที่ตั้งและองค์กร

อาศัยอำนาจตามความในมาตรา 15 แห่งพระราชบัญญัติมาตรฐานผลิตภัณฑ์อุตสาหกรรม พ.ศ. 2511 รัฐมนตรีว่าการกระทรวงอุตสาหกรรมออกประกาศกำหนดมาตรฐานผลิตภัณฑ์อุตสาหกรรม การจัดการสิ่งแวดล้อม : การประเมินด้านสิ่งแวดล้อมของที่ตั้งและองค์กร มาตรฐานเลขที่ มอก.14015-2554 ไว้ ดังมีรายละเอียดต่อท้ายประกาศนี้

ทั้งนี้ให้มีผลตั้งแต่วันที่ประกาศในราชกิจจานุเบกษาเป็นต้นไป

ประกาศ ณ วันที่ 5 ตุลาคม พ.ศ. 2554

วรรณรัตน์ ชาญนุกูล

รัฐมนตรีว่าการกระทรวงอุตสาหกรรม

มาตรฐานผลิตภัณฑ์อุตสาหกรรม

การจัดการสิ่งแวดล้อม :

การประเมินด้านสิ่งแวดล้อมของที่ตั้งและองค์กร

บทนำ

มาตรฐานนี้ให้แนวทางในการประเมินด้านสิ่งแวดล้อมของที่ตั้งและองค์กร โดยให้พื้นฐานสำหรับการปรับประสาน คำศัพท์และโครงสร้าง ความสอดคล้อง ความโปร่งใส และวัตถุประสงค์ในการประเมินด้านสิ่งแวดล้อม ซึ่งมาตรฐานนี้ สามารถประยุกต์ใช้ได้กับทุกองค์กร รวมถึงวิสาหกิจขนาดกลางและขนาดย่อม และอาจใช้สำหรับการประเมินตนเอง ขององค์กร รวมทั้งการประเมินจากภายนอก

ข้อมูลที่ใช้ในระหว่างการประเมินอาจมาจากแหล่งต่าง ๆ รวมถึงการตรวจประเมินระบบการจัดการสิ่งแวดล้อม การตรวจประเมินความสอดคล้องกับกฎหมาย การประเมินผลกระทบด้านสิ่งแวดล้อม การประเมินผลการปฏิบัติงาน ด้านสิ่งแวดล้อมหรือการสอบสวนที่ตั้ง โดยการประเมินเหล่านี้อาจใช้มาตรฐานอื่นที่เกี่ยวข้อง (เช่น ISO 14001 ISO 14011 หรือ ISO 14031)

หมายเหตุ ขณะนี้คณะกรรมการวิชาการของ ISO คณะที่ 207 การจัดการสิ่งแวดล้อม ได้ยกเลิก ISO 14011 และใช้ ISO 19011 Guidelines for quality and/or environmental management systems auditing แทน

มาตรฐานนี้ไม่ได้ให้ข้อแนะนำในการสอบสวนการรุกรานหรือการปรับปรุงที่ตั้ง อย่างไรก็ตามถ้าลูกค้าร้องขอ อาจปฏิบัติตามมาตรฐานหรือขั้นตอนการดำเนินงานอื่น ๆ

ขอบข่าย

มาตรฐานผลิตภัณฑ์อุตสาหกรรมนี้ระบุถึงข้อแนะนำในการประเมินด้านสิ่งแวดล้อมของที่ตั้งและองค์กร โดยใช้ กระบวนการอย่างเป็นระบบในการชี้บ่งลักษณะปัญหาสิ่งแวดล้อมและประเด็นด้านสิ่งแวดล้อม

มาตรฐานนี้ครอบคลุมบทบาทหน้าที่และความรับผิดชอบของคณะผู้ประเมิน (ลูกค้า ผู้ประเมิน และผู้แทนของผู้รับ การประเมิน) และขั้นตอนของกระบวนการประเมิน (การวางแผน การรวบรวมข้อมูลและการตรวจสอบความใช้ได้ การตรวจประเมินและการรายงาน)

มาตรฐานนี้ไม่ได้ให้คำแนะนำในการประเมินด้านสิ่งแวดล้อมประเภทอื่น ๆ เช่น

- 1) การทบทวนด้านสิ่งแวดล้อมเบื้องต้น
- 2) การประเมินด้านสิ่งแวดล้อม (รวมถึงระบบการจัดการสิ่งแวดล้อม และการตรวจประเมินความสอดคล้องกับกฎหมาย)
- 3) การประเมินผลกระทบด้านสิ่งแวดล้อม
- 4) การประเมินผลการปฏิบัติงานด้านสิ่งแวดล้อม

มาตรฐานนี้ไม่ครอบคลุมเรื่องการสอบสวนการรुक้าหรือการปรับปรุงที่ตั้ง และการตัดสินใจดำเนินการที่เกี่ยวข้อง
มาตรฐานนี้ไม่มีวัตถุประสงค์ให้ใช้เป็นมาตรฐานข้อกำหนดสำหรับการรับรองหรือการขึ้นทะเบียนหรือการจัดทำ
ข้อกำหนดระบบการจัดการสิ่งแวดล้อม

รายละเอียดให้เป็นไปตามมาตรฐาน ISO 14015 : 2001 ข้อ 1

บทนิยาม

รายละเอียดให้เป็นไปตามมาตรฐาน ISO 14015 : 2001 ข้อ 2

บทบาทหน้าที่และความรับผิดชอบ

รายละเอียดให้เป็นไปตามมาตรฐาน ISO 14015 : 2001 ข้อ 3

กระบวนการตรวจประเมิน

รายละเอียดให้เป็นไปตามมาตรฐาน ISO 14015 : 2001 ข้อ 4

การรายงาน

รายละเอียดให้เป็นไปตามมาตรฐาน ISO 14015 : 2001 ข้อ 5

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ส่วนหนึ่งส่วนใดไปทำซ้ำหรือใช้ประโยชน์ในรูปแบบ หรือโดยวิธีใด ๆ ไม่ว่าจะเป็นรูปแบบ
อิเล็กทรอนิกส์หรือทางกล รวมถึงการถ่ายสำเนา ถ่ายไมโครฟิล์ม โดยไม่ได้รับอนุญาตเป็น
ลายลักษณ์อักษรจาก ISO ตามที่อยู่ข้างล่างหรือจากสมาชิก ISO ในประเทศของผู้ร้องขอ

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Foreword

ISO (the International Organization for Standardization) is a worldwide federation of national standards bodies (ISO member bodies). The work of preparing International Standards is normally carried out through ISO technical committees. Each member body interested in a subject for which a technical committee has been established has the right to be represented on that committee. International organizations, governmental and non-governmental, in liaison with ISO, also take part in the work. ISO collaborates closely with the International Electrotechnical Commission (IEC) on all matters of electrotechnical standardization.

International Standards are drafted in accordance with the rules given in the ISO/IEC Directives, Part 3.

The main task of technical committees is to prepare International Standards. Draft International Standards adopted by the technical committees are circulated to the member bodies for voting. Publication as an International Standard requires approval by at least 75 % of the member bodies casting a vote.

Attention is drawn to the possibility that some of the elements of this International Standard may be the subject of patent rights. ISO shall not be held responsible for identifying any or all such patent rights.

ISO 14015 was prepared by Technical Committee ISO/TC 207, *Environmental management*, Subcommittee SC 2, *Environmental auditing and related environmental investigations*.

Introduction

Organizations are increasingly interested in understanding the environmental issues associated with their sites and activities or those of potential acquisitions. These issues and their associated business consequences can be appraised by means of an Environmental Assessment of the Site and Organization (EASO). Such an assessment may be carried out during operations or at the time of acquisition or divestiture of assets and may be conducted as part of a broader business assessment process often referred to as "due diligence".

This International Standard gives guidance on how to conduct an EASO. It provides the basis for harmonization of the terminology used and for a structured, consistent, transparent and objective approach to conducting such environmental assessments. It can be used by all organizations, including small- and medium-sized enterprises, operating anywhere in the world. This International Standard is flexible in its application and may be used for self-assessments as well as external assessments, with or without the need to employ third parties. The users of this International Standard are expected to be industry, past, present and possible future users of particular sites, and organizations with a financial interest in the industry or site (e.g. banks, insurance companies, investors and site owners). This International Standard is likely to be used in connection with the transfer of responsibilities and obligations.

The information used during an EASO may be derived from sources that include environmental management system audits, regulatory compliance audits, environmental impact assessments, environmental performance evaluations or site investigations. Some of these assessments or investigations may have been conducted using other relevant ISO standards (e.g. ISO 14001, ISO 14011 or ISO 14031).

Through the process of evaluating both existing and newly acquired information, an EASO seeks to draw conclusions relating to business consequences associated with environmental aspects and issues.

Conclusions in an EASO should be based on objective information. In the absence of validated information, an EASO assessor may be required to exercise professional judgement in evaluating the available environmental information and drawing conclusions.

This International Standard does not provide guidance on intrusive investigations or site remediation. However, if requested by the client, these may be undertaken in accordance with other standards or procedures.

Environmental management — Environmental assessment of sites and organizations (EASO)

1 Scope

This International Standard provides guidance on how to conduct an EASO through a systematic process of identifying environmental aspects and environmental issues and determining, if appropriate, their business consequences.

This International Standard covers the roles and responsibilities of the parties to the assessment (the client, the assessor and the representative of the assessee), and the stages of the assessment process (planning, information gathering and validation, evaluation and reporting). The process for conducting an EASO is shown in Figure 1.

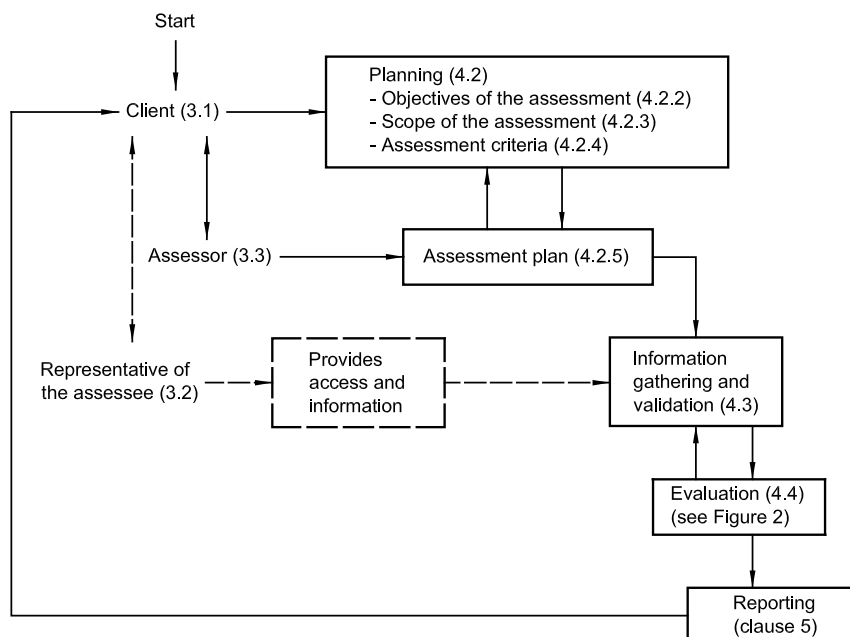
This International Standard does not provide guidance on how to conduct other types of environmental assessment, such as:

- a) initial environmental reviews;
- b) environmental audits (including environmental management system and regulatory compliance audits);
- c) environmental impact assessments; or
- d) environmental performance evaluations.

Intrusive investigations and site remediation, as well as the decision to proceed with them, are outside the scope of this International Standard.

This International Standard is not intended for use as a specification standard for certification or registration purposes or for the establishment of environmental management system requirements.

Use of this International Standard does not imply that other standards and legislation are imposed on the client or the assessee.



NOTE The numbers between brackets refer to (sub)clauses in this International Standard. The dashed lines indicate that the assessee is not necessarily involved in an EASO as described in this International Standard (see note to 3.2)

Figure 1 — Process for conducting an Environmental Assessment of Sites and Organizations

2 Terms and definitions

For the purposes of this International Standard the following terms and definitions apply.

2.1

assessee

site or organization being assessed

2.2

assessor

person, possessing sufficient competence, designated to conduct or participate in a given assessment

NOTE An assessor may be internal or external to the organization subject to the assessment. More than one assessor may be required to ensure adequate coverage of all relevant matters, for example when there is a need for specific expertise.

2.3

business consequence

actual or potential impact (financial or other; positive or negative; qualitative or quantitative) of the identified and evaluated environmental issues

2.4

client

organization commissioning the assessment

EXAMPLES The site owner, the assessee, or any other party.

2.5

environment

surroundings in which an organization operates, including air, water, land, natural resources, flora, fauna, humans, and their interrelation

NOTE Surroundings in this context extend from within an organization to the global system.

[ISO 14001:1996]

2.6

environmental aspect

element of an organization's activities, products or services that can interact with the environment

NOTE An environmental aspect can relate to past, present and future activities, products and services.

2.7

environmental assessment of sites and organizations

EASO

process to identify objectively the environmental aspects, to identify the environmental issues and to determine the business consequences of sites and organizations as a result of past, current and expected future activities

NOTE The determination of business consequences is optional, at the discretion of the client.

2.8

environmental impact

any change to the environment, whether adverse or beneficial, wholly or partially resulting from an organization's activities, products or services

[ISO 14001:1996]

2.9

environmental issue

issue for which validated information on environmental aspects deviates from selected criteria and may result in liabilities or benefits, effects on the assessee's or the client's public image, or other costs

2.10

environmental management system

that part of the overall management system that includes organizational structure, planning activities, responsibilities, practices, procedures, processes and resources for developing, implementing, achieving, reviewing and maintaining the environmental policy

[ISO 14001:1996]

2.11

intrusive investigation

sampling and testing using instruments and/or requiring physical interference

2.12

organization

company, corporation, firm, enterprise, authority or institution, or part or combination thereof, whether incorporated or not, public or private, that has its own functions and administration

NOTE In organizations with more than one operative unit, each operative unit can be defined as an organization.

2.13

representative of the assessee

person authorized to represent the assessee

2.14

site

location with defined geographical boundaries and on which activities under the control of an organization may be carried out

NOTE The geographical boundaries may be on land and in water, and include above- and below-surface structures, both natural and man-made.

2.15

validation

process whereby the assessor determines that the information gathered is accurate, reliable, sufficient and appropriate to meet the objectives of the assessment

3 Roles and responsibilities

3.1 Client

Client responsibilities and activities should include

- a) determining the need for the assessment,
- b) defining the objectives of the assessment,
- c) determining the scope and criteria of the assessment, if appropriate in consultation with the assessor,
- d) selecting the assessor(s),
- e) providing instructions to the assessor(s),
- f) defining which parts of the assessment (planning, information gathering and validation, evaluation and reporting) will be conducted by the assessor and which parts will be the responsibility of the client; this may require identification of and coordination with other experts,
- g) identifying and determining priority assessment areas, if appropriate,
- h) contacting the representative of the assessee, if appropriate, to obtain full cooperation and to initiate the process,
- i) approving the assessment plan,
- j) providing appropriate authority and resources to enable the assessment to be conducted,
- k) providing the assessor with the information necessary to undertake the assessment, and
- l) receiving the assessment results and determining their distribution.

Before any disclosure of the results of the assessment to a third party, the client should decide whether to inform the representative of the assessee.

NOTE The client, assessor and representative of the assessee may be the same body.

3.2 Representative of the assessee

The roles and responsibilities of the representative of the assessee should include

- a) providing access to relevant areas and information to meet the objectives of the assessment,

- b) informing relevant employees and other parties about the assessment process,
- c) providing, or assisting to provide, personnel for interviews,
- d) providing personnel to assist in the assessment process, if requested, and
- e) providing a safe working environment for the assessor.

At the discretion of the client, the representative of the assessee may participate in the determination of the scope and the assessment plan and may receive the results of the assessment.

The role of the representative of the assessee does not apply if the assessment is undertaken without the knowledge of the assessee, or if the site and/or organization is one for which no responsible party can be identified.

3.3 Assessor

The roles and responsibilities of an assessor are in some respects different from those of an auditor. Whereas an auditor verifies existing information against established criteria, an assessor in addition gathers new information and is often required to evaluate information to determine business consequences.

In the conduct of an environmental assessment of sites and organizations, an assessor should use the diligence, knowledge, skill and judgement expected of any assessor in similar circumstances. An assessor should exercise discretion and maintain confidentiality unless required by laws or regulations to do otherwise.

The responsibility and activities of the assessor, or the team leader when more than one assessor is involved, should include

- a) assisting the client, when requested, to determine the objectives, scope (including the identification and determination of priority assessment areas) and criteria of the assessment,
- b) agreeing with the client on the method and format for reporting,
- c) preparing the assessment plan and obtaining the client's approval and, if appropriate, that of the representative of the assessee,
- d) creating and maintaining working documents such as checklists and protocols,
- e) ensuring that the necessary skills are available to meet the assessment objectives and, if appropriate, assembling an assessment team,
- f) obtaining the client's approval of the assessment team,
- g) obtaining initial information,
- h) assigning members of the assessment team to conduct the component parts of the assessment,
- i) gathering and validating information in accordance with the assessment plan,
- j) identifying and evaluating environmental issues,
- k) determining business consequences, if requested by the client, and
- l) preparing and providing the report to the client, if requested.

This International Standard does not give guidance on assessor competence and qualifications. However, the performance of an environmental assessment requires sufficient

— education,

- training, and
 - relevant work experience
- as well as knowledge of and competence in
- relevant laws and regulations and related documents,
 - environmental science and technology,
 - economics and the relevant business area,
 - technical and environmental aspects of (commercial) operations,
 - facility operations, and
 - assessment techniques.

4 Assessment process

4.1 General

The assessment process involves planning the assessment, gathering and validating information, evaluating the information, and reporting on the assessment.

The process may include the identification of business opportunities, if specifically requested by the client.

4.2 Planning

4.2.1 General

Once it has been agreed that an assessment will be conducted, it should be planned. Planning includes defining and agreeing on the objectives, the scope and the criteria of the assessment, and developing the assessment plan.

4.2.2 Objectives of the assessment

The assessment should address the objectives defined by the client. The objectives of an EASO may include

- the identification, gathering and evaluation of information on the environmental aspects and environmental issues associated with the site and/or organization; and when desired,
- the determination of the business consequences of the environmental issues associated with the site and/or organization.

4.2.3 Scope of the assessment

The scope establishes the boundaries and the focus of the assessment.

At the discretion of the client, the scope may or may not include the determination of business consequences.

In developing the scope of the assessment, the following should be considered:

- categories of environmental aspects to be assessed;
- any environmental impacts that other sites and organizations may have on the assessee;

- physical boundaries of the assessee (e.g. site, part of a site);
- adjacent and nearby sites, where applicable;
- organizational boundaries, including relationships with or activities involving contractors, suppliers, organizations (e.g. off-site waste disposal), individuals, former occupants;
- time period covered (e.g. past, present and/or future):
 - with regard to the activities of the assessee and/or the client (e.g. continuing present operations, plans for change, expansion, demolition, decommissioning, revamping);
 - with regard to development of the criteria (see 4.2.4); and
- business consequence cost threshold, if applicable.

The scope may define or limit any related sites and organizations to be included in the assessment. At the discretion of the client, the scope may be amended after the assessment has begun. Any change should be recorded and communicated to the relevant parties.

The client may identify elements within the defined scope that deserve priority attention during the assessment. Priorities are typically established on the basis of information available while planning the assessment. The identification of priorities does not exempt the assessor from the obligation of taking into account the full scope during the assessment.

4.2.4 Assessment criteria

Criteria should be identified against which gathered information will be assessed. Criteria may include but are not limited to

- currently applicable and reasonably foreseeable legal requirements (e.g. consents, permits, environmental laws and regulations and regulatory policies),
- other client-defined environmental requirements (e.g. organizational policies and procedures, specific environmental conditions, management practices, systems and performance requirements, industry and professional codes of practice and conduct),
- requirements, claims or potential claims of interested third parties (e.g. insurance companies, financial organizations), and
- technological considerations.

4.2.5 Assessment plan

The assessment plan should include the following, where applicable:

- identification of the client, the representative of the assessee, and the assessor(s);
- assessment objectives and scope;
- assessment criteria;
- priority assessment areas;
- roles and responsibilities;
- working language of the assessment and associated reports;

- assessment schedule, including dates and duration;
- resources requirements (e.g. human, financial, technological);
- outline of the assessment procedures to be used;
- summary of the reference documents, checklists and protocols and other working documents, to be used;
- reporting requirements; and
- confidentiality requirements.

A number of possible limitations that could influence the assessment may be identified in the assessment plan. Possible limitations include:

- time available for the assessment;
- resources available for the assessment;
- access to relevant areas;
- available information; and
- communications with personnel or access to relevant documents.

The client should review and approve the assessment plan. The assessment plan should be communicated, if appropriate, to the representative of the assessee.

4.3 Information gathering and validation

4.3.1 General

The assessment is based on validated information gathered on the environmental aspects through reviewing existing documents and records (both prior to and during the site visit), observing activities and physical conditions, and interviewing.

The process of gathering information on environmental aspects should be consistent with the objectives, scope and assessment plans. While gathering information, the assessor should ensure that it is sufficient, relevant and accurate for the purpose of the assessment. Information gathered may be applicable only at the time of collection as changes in conditions may alter its validity.

The assessor should endeavour to gather sufficient information so that individual findings and consolidations of less significant findings, both of which may affect any conclusions, are taken into account.

Examples of the kinds of information that may be required for the assessment are given in Practical Help Box No. 1.

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Practical Help Box No. 1

Examples of information that may be considered in an EASO^a

- location;
- physical characteristics (e.g. hydrogeology);
- assessee, adjacent and nearby sites:
 - land use;
 - facilities, processes and operations;
 - site sensitivity;
- raw materials, by-products and products (including hazardous materials);
- materials storage and handling;
- emissions and discharges to air, water and soil;
- waste storage, handling and disposal;
- fire prevention and control, spill containment and other emergency planning;
- storm and flood waters;
- occupational and public health and safety;
- legal, organizational and other requirements, noncompliances and nonconformances;
- relationship with external parties.

^a Not all of these will be considered for every site or organization, and others may apply.

4.3.2 Examining existing documents and records

The assessor should collect and review documents and records in order to obtain a sufficient understanding of the site and/or organization, without unnecessarily duplicating prior investigative efforts. Examples of the types of documents and records that may be considered are listed in Practical Help Box No. 2.

Multiple sources of information should be reviewed, in order to corroborate any specific finding. Information may be obtained from the assessee or any other source. The assessee should not withhold requested information unreasonably. If this occurs, it should be noted as a limitation to the review. Other limitations to and constraints on this review may include time, cost and confidentiality.

The assessor should maintain working papers to support the information-gathering process. During the gathering and review of information, it is important that the assessor record the type, source, quality and reliability of the information. This will enable the information to be more effectively validated as discussed in 4.3.5.

Practical Help Box No. 2 Examples of documents and sources that may be considered in an EASO^a	
Documents	Sources
— maps, plans and photographs; — historical records; — geological/hydrogeological records; — geotechnical records; — shipping and handling records; — safety data sheets (material safety data sheets); — work orders; — monitoring procedures and results; — process documents (e.g. material balance); — maintenance records; — inventories; — official registers/records (e.g. landfills, contaminated sites); — contingency and other response plans; — Health, Safety and Environmental (HSE) training records; — accident records; — permits/licenses/notifications; — organization charts (tasks and responsibilities); — audits and other reports; — noncompliance and nonconformance records; — complaints; — organization policies, plans and management systems; — insurance requirements; — contracts with suppliers and other external parties; — training records.	External — government agencies (national, local, regulatory, planning); — archives; — utilities; — commercial publications; — industrial codes of practice; — emergency services; — insurance companies. Internal — environmental, health and safety department; — engineering department; — production department; — procurement department; — research and development; — asset management; — facilities management; — training department; — legal department; — finance and accounting department; — public relations department; — human resources department; — medical department.
^a Not all of these will be considered for every site or organization and others may apply.	

4.3.3 Observing activities and physical conditions

The assessor should observe and record information regarding the physical condition of a site or organization due to past activities and current operations. Examples of on-site and off-site elements that may be observed are given in Practical Help Box No. 3.

Observations may take into consideration information from documents reviewed, including information from research into historic records and archives found on and off the site. Observations should be limited to those able to be detected using the natural senses. The assessor should, where practicable, support observations with photographic and/or written records in accordance with the assessment plan.

The assessor should confirm the physical boundaries of the site and the limits of any associated operations in accordance with the assessment scope and plan. Where the assessor is unable to gain access to any part of the site or organization subject to the assessment, this limitation should be recorded in the assessment report.

The assessor should adhere to all applicable safety requirements for site visits/inspections.

Practical Help Box No. 3

Examples of elements that may be observed in an EASO^a

Activities

- waste management;
- materials and product handling;
- process operations;
- wastewater management;
- air emission control;
- discharges to water;
- use of sites.

Physical conditions

- wastewater treatment plants and sewage systems;
- heating and cooling systems;
- piping and venting;
- containment, drains and sumps;
- storage containers/tanks;
- utilities supply;
- noise, light, vibration or heat;
- odour, dust, smoke, particulate;
- surface waters and site landscape
- site surroundings and adjacent sites and organizations;
- soil and groundwater conditions;
- stained or discoloured surfaces;
- affected flora and fauna;
- landfills;
- buildings, plant and equipment;
- material storage;
- hazardous materials, products and substances;
- fire and emergency control equipment.

^a Not all of these will be considered for every site or organization and others may apply.

4.3.4 Interviewing

4.3.4.1 Objective

The interview is a means of collecting information to corroborate or augment information derived from examining existing documents and records and observing physical conditions and activities.

4.3.4.2 Interviewees

With the approval of the client and of the representative of the assessee, assessee personnel responsible for or engaged in the activities and processes being assessed may be interviewed. Interviews may also be undertaken, if appropriate, with individuals or groups inside or outside the site or organization, where their information could be of value to the assessment. Examples of various interviewee categories are listed in Practical Help Box No. 4.

Practical Help Box No. 4

Examples of interviewees^a

- management;
- environmental specialists;
- personnel responsible for activities;
- operators;
- maintenance staff;
- former and retired employees;
- environmental regulatory agencies;
- fire authorities;
- emergency services;
- health department;
- municipal authorities;
- neighbours to the site;
- legal advisors;
- internal occupational safety and health personnel;
- contractors;
- procurement personnel;
- former occupants.

^a Not all of these will be interviewed for every site or organization and others may be added.

4.3.4.3 Content

Among other questions, the interviewees may be asked, where relevant,

- to describe the nature of their work and the way it is carried out now and was in the past, and
- for information on site uses, conditions and history, with particular reference to events that have had, are having, or may have an environmental impact.

4.3.4.4 Limitations

The interviewee should not be under any obligation to provide answers and may be unable to provide complete answers by virtue of limited knowledge. The assessors should qualify their findings accordingly.

The assessor should verify that lack of information from the interviewee is not caused by lack of communication, including language or idiomatic skills.

4.3.4.5 Conclusions

The results from any interview should be summarized. Any conclusions drawn should be confirmed where possible.

4.3.5 Information validation

As the information is gathered, it should be validated for accuracy, reliability, sufficiency and appropriateness for the purposes of meeting the assessment objectives.

The consequences to the assessment of any information limitations should be determined and communicated to the client as soon as possible.

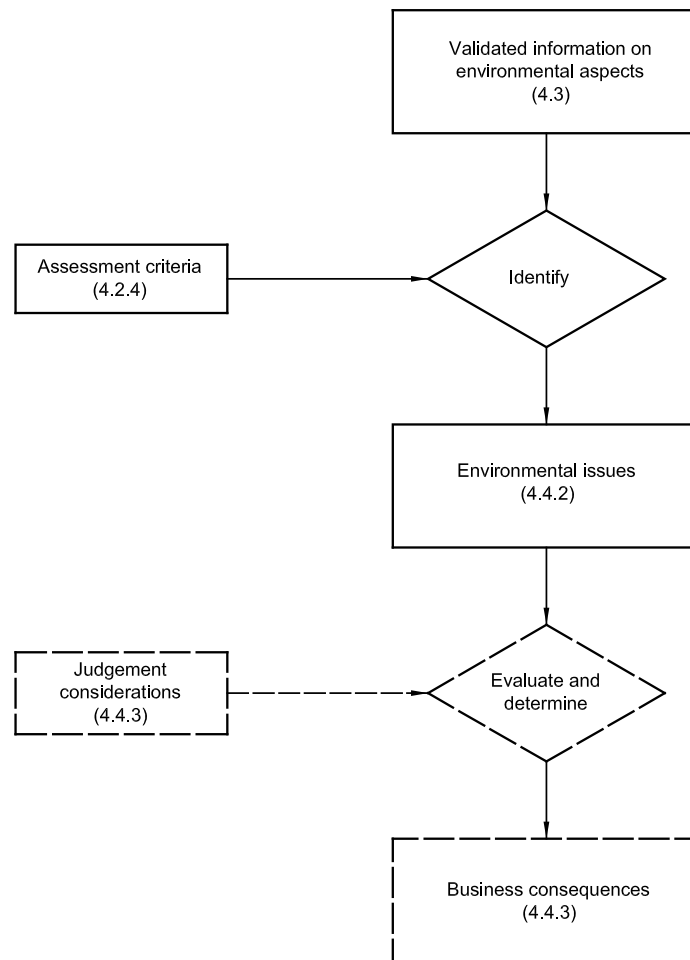
If information of value is collected that is outside the scope of the assessment but can contribute to meeting the objectives of the assessment, it should be communicated to the client.

In the absence of validated information, an EASO assessor may be required to exercise professional judgement in evaluating the available environmental information and drawing conclusions. However, it is always preferable to base conclusions on validated information.

4.4 Evaluation

4.4.1 General

The validated information on environmental aspects provides the input to the evaluation process. This process consists of two steps, identifying environmental issues and determining business consequences, as shown in Figure 2. At the discretion of the client, these two steps may be carried out by different parties, particularly when the client may require other expertise (e.g. technical, legal or financial) to determine the business consequences.



NOTE The numbers in brackets refer to subclauses in this International Standard. The dashed lines indicate that determination of business consequences is not necessarily part of an EASO as described in this International Standard.

Figure 2 — Evaluation process

4.4.2 Identifying environmental issues

In order to identify environmental issues, validated information on environmental aspects is compared with the selected criteria. An environmental issue is identified in the case where the validated information deviates from the selected criteria and may result in

- liabilities or benefits to the organization,
- effects on the assessee's or the client's public image, or
- other costs.

Issues that may be less relevant from a business perspective may be environmentally relevant, and vice versa.

The results of this step are the identified environmental issues that are relevant to the client.

4.4.3 Determining business consequences

The determination of business consequences is only performed if it has been included in the objectives and scope of the assessment.

Business consequences are the actual or potential impacts (financial or other; positive or negative; qualitative or quantitative) of the identified and evaluated environmental issues.

This evaluation typically involves exercising judgement on the consequences of environmental issues in relation to the objectives of the EASO. In this step, costs related to addressing the business consequences are estimated and effects on the assessee's and/or client's public image are identified and evaluated.

In exercising judgement, the following may be considered:

- actual or potential results of mitigating measures, or actions to correct, avoid or prevent
 - environmental damage,
 - current and potential future liabilities (public and private), e.g. as a result of non-compliance with current and foreseeable changes in legislation and other relevant requirements,
 - damage to assessee's and/or client's public image, or
 - non-conformance with the client's or assessee's corporate policy, or other client defined requirements;
- estimated costs of taking such measures or actions;
- technological developments; and
- time period within which costs must be met (e.g. related to likelihood of enforcement activities or establishment of new legislation).

Where conclusions are restricted because of insufficient information, this should be stated and any opinion should be qualified accordingly.

The result of this part of the evaluation process is a list of the business consequences, quantified if appropriate.

5 Reporting

5.1 Report content

The assessor has responsibility for the content of the report and should present information in a manner designed to help the client understand the significance of the findings. To do this, the assessor should distinguish fact from opinion, clearly identify the basis for the findings and indicate the relative uncertainty associated with any finding.

The following information should be reported to the client:

- identification of the sites and/or organizations assessed;
- name(s) of the assessor(s) and author of the report;
- assessment objectives, scope and criteria;
- dates and duration of the assessment;
- any limitations of the available information and its consequences on the assessment;

- any limitations, exclusions, amendments and deviations from the agreed scope of the assessment; and
- summary of the information collected during the assessment and the results of the assessment.

Subject to agreement between the client and the assessor, the following information may also be reported:

- name of the client;
- name of the representative of the assessee;
- identification of assessment team members;
- assessment schedule;
- summary of the assessment procedures used;
- summary of the reference documents, checklists and protocols and other working documents used;
- evaluation methods, and the basis upon which the evaluations were made;
- results of the evaluation if conducted by the assessor;
- recommendations regarding possible next steps;
- confidentiality requirements; and
- conclusions.

An example of a table of contents of an EASO report is given in Practical Help Box No. 5.

If defined in the scope, the report should provide sufficient documentation, including references and key information, to support the findings contained in the report and to enable re-evaluation of the assessment either at a later date or by another party. The assessor should qualify any opinion for which limitations exist, e.g. because of insufficient information.

5.2 Report form

Client priorities or other protocols may require the submission of only a verbal report. Otherwise, the report should be in written form.

Practical Help Box No. 5

Example table of contents of an EASO report

- a) executive summary;
- b) introduction:
 - name of the client;
 - sites or organizations assessed;
 - name of the representative of the assessee;
 - name of assessor(s);
 - time and duration of assessment;
- c) objectives and scope:
 - client's instructions;
 - site and organizational boundaries;
- d) assessment criteria;
- e) assessment process;
- f) information:
 - sources;
 - limitations and potential consequences;
 - summary;
- g) conclusions:
 - environmental issues;
 - business consequences;

Appendices.

5.3 Report distribution

Reports are the sole property of the client. Confidentiality should therefore be respected and appropriately safeguarded by the assessor(s) and any report recipients. Distribution of the report is at the discretion of the client, which may include giving a copy of the report to the assessee.

Bibliography

- [1] ISO 14001, *Environmental management systems — Specification with guidance for use*
- [2] ISO 14004, *Environmental management systems — General guidelines on principles, systems and supporting techniques*
- [3] ISO 14010, *Guidelines for environmental auditing — General principles*
- [4] ISO 14011, *Guidelines for environmental auditing — Audit procedures — Auditing of environmental management systems*
- [5] ISO 14012, *Guidelines for environmental auditing — Qualification criteria for environmental auditors*
- [6] ISO 14031, *Environmental management — Environmental performance evaluation — Guidelines*
- [7] ISO 14050, *Environmental management — Vocabulary*