

Supplementary appendix – Reference scheme/program: Life Cycle Assessment (LCA)

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CHAPTER 1 - GENERAL

This appendix defines the procedures applied by RINA for validation and/or verification activities and the methods to be followed by interested parties to request and obtain validation/verification on the Life Cycle Assessment (LCA) scheme, with respect to what is already defined in the General Rules for validation and verification activities of information declared in assertions.

CHAPTER 2 – REFERENCE SCHEME/PROGRAM / REQUIREMENTS FOR VALIDATION / VERIFICATION

- ISO 14065:2020 - General principles and requirements for bodies validating and verifying environmental information.
- IAF MD 6 - IAF Mandatory Document for the Application of ISO 14065.
- ISO 14040:2021 - Environmental management - Life cycle assessment - Principles and framework,
- ISO 14044:2021 - Environmental management - Life cycle assessment - Requirements and guidelines.

CHAPTER 3 - CONTRACT

3.1

RINA will prepare the offer on the basis of the following information/documents

- name and address of the applicant
- company form;
- number of employees;
- list of product(s)/service(s) subject to verification;
- reference standard(s);
- system boundaries;
- complexity of products/services (number of raw materials and components);
- type of LCA (complete or for specific indicators);
- availability of the LCA study to interested third parties;
- accuracy of the procedures for data collection, archiving and management;
- how the results are presented.

3.2

The contract stipulated between RINA and the organisation includes

- document review of the organisation's documents (including strategic and risk analysis of validation/verification);
- the collection of sufficient objective evidence on original data/information, ensuring traceability through the data/information management process, further analysis and calculations; the identification of errors and consideration of their significance; the assessment of compliance with requirements (also by means of field visits/site assessments and telephone or remote interviews).

CHAPTER 4 - PLANNING

4.1

Together with or following the verification request, the organisation is to make the following documentation available to RINA:

- life cycle assessment study report (LCA study report) according to the reference standard containing

- life cycle assessment documentation containing all the analysis steps provided for within ISO 14040 and ISO 14044. (e.g. objective and scope, functional unit, system boundaries, data collection/inventory, calculation of impacts, interpretation of results, etc.);
- procedure to ensure any need to update the data contained in the LCA study;

The LCA study must be transparent, exhaustive and complete so that the calculations made can be retraced.

Minimum data quality requirements must be described and guaranteed, as foreseen in point 4.2.3.6 of ISO 14044.

Justification must also be given in the LCA study for the choice of the environmental impact categories analysed according to the objectives of the LCA study

- Calculation sheets and formulas..

In addition to the above documentation, RINA may, at its discretion, also request additional documentation to be examined that it deems necessary for verification.

CHAPTER 5 – VALIDATION/VERIFICATION EXECUTION

The team reviews the documents to ensure that they meet the agreed validation/verification criteria.

If the team considers that the LCA study report does not contain sufficient information to exhaustively complete the document review, it shall request the necessary additional data and information from the responsible party. Failure to provide the requested additions is an impediment to the continuation of the validation/verification.

Through the examination of the documentation, the team initiates and proceeds to the strategic analysis and risk analysis as described below.

Strategic analysis

At the beginning of the verification, RINA assesses the likely nature, extent and complexity of the verification tasks by performing a strategic analysis of all the activities concerning the LCA statement.

The strategic analysis includes the following factors

- a) the organisation's control system for identifying and controlling risks in the processing of data that could result in incorrect data in the LCA statement;
- b) any changes to the installation during the year (structure of the organisation, product or production changes or process changes) if the organisation's declaration has already been verified previously;
- c) any management system (environmental or other) that the organisation adopts relating to data management or processing;
- d) the type, purpose and complexity of equipment and processes used, including calculation methods;
- e) the level of significance defined by the organisation.

Risk analysis

Based on the result of the strategic analysis, RINA conducts a risk analysis which, as a minimum, must include the following

- a) average number of contributions for each impact factor;
- b) type of data to be controlled
- c) complexity of the organisation's processes and installations;
- d) adequacy of the management system, data processing system and control system;
- e) information from previous assessments at the organisation's installation.

As a result of the strategic and risk analysis, the verification times and sites to be sampled may be changed from those defined in the contract review.

Verification Process

After reviewing the documentation, the team identifies additional topics and aspects (objective evidence) that need to be explored with the organisation.

The validation/verification activities must at least allow sufficient data and information to be obtained to

evaluate the LCA study and to verify the reliability of the data collection, processing and control systems.

During the verification RINA must view the project developed within the software used for the LCA study calculation, if any, in order to be able to assess the correctness of the choices made for the LCA calculation. It is not possible to successfully conclude an LCA verification without having been able to verify, under the guidance of the personnel in charge of the project, what has been developed within the software.

The process also requires a site visit when it is a requirement of the supervisory body of the scheme or the accreditation body and in other cases, at the discretion of RINA, depending on the nature of the declaration.

If, during the team's review of the documentation where it has been decided not to carry out a field visit, doubts or problems arise which cannot be resolved without a site visit, the team must still carry out such a visit to the organisation to resolve any necessary clarification.

The date of the site visit is agreed sufficiently in advance with the organisation and officially confirmed at least one week in advance.

A site can be considered both the place where the production process is based and where the collection and management of data and information useful for the LCA study is carried out.

The team during the visit verifies the congruity between the LCA study and the related documentation concerning mainly:

- a) system boundaries,
- b) process units considered,
- c) methodologies and instrumentation for data collection,
- d) measurement of elementary flows in and out of the system boundaries,
- e) procurement of raw materials/components,
- f) transport,
- g) allocations,
- h) production, including energy consumption,
- i) effectiveness and significance of the assessment of potential impacts.

The validation/verification is carried out on the basis of sufficient sampling to verify the reliability of the data and information.

In the event that the team detects non-conformities, the timing and methodology for the follow-up must be agreed with the corrective action manager at the organisation.

The follow-up resulting from the previous validation/verification is documented in the Validation/Verification Report.

Draft Report

Following the on-site visit, the team provides the organisation with a Draft Validation/Verification Report summarising the findings that require further processing, investigation or integration by the organisation in order to confirm that the LCA statement meets the requirements.

The organisation shall provide the additional clarifications or make the necessary improvements to the report and documentation in order to achieve a positive validation/verification outcome.

Depending on the nature of the improvements/corrections and/or documentation provided, a site visit may be necessary to verify the correct implementation of the proposed corrective actions.

Management of Findings

There are 3 types of findings: CAR (Corrective Action Request), CL (Clarification Request), R (Recommendation).

A Corrective Action Request (CAR) is issued if one of the following situations occurs

- the requirements have not been met,
- errors have been made in assumptions, data or calculation.

A request for clarification (CL) is issued if the information is insufficient or insufficiently clear to determine whether the applicable requirements have been correctly applied. A CL could then lead to a CAR, should the

clarification reveal a non-fulfilment of a requirement of the standard, or be positively closed should the additional information provided show compliance with the standard.

A recommendation (R) is a cue for improvement that can be taken into account for future updates of the LCA Study.

Final Report

Upon receipt of the organisation's responses and revised documents following the findings, the Draft Verification Report is revised to reflect the organisation's responses and the team's comments in relation to each finding. The Final Verification Report is prepared including the final verification opinion.

The Final Verification Report will be issued once all findings have been resolved and accepted by RINA.

If the findings are not satisfactorily resolved and accepted

- after 3 months from the first issue of the Draft Verification Report, or
- after more than 3 revisions,

RINA reserves the right to terminate the contract or to issue the Final Verification Report and a negative opinion, in agreement with the organisation, without prejudice to the right to receive the agreed fee.

Verification Opinion

On the basis of the information gathered during the verification, RINA presents a Verification Opinion, for each LCA Statement submitted for verification by the organisation. The Verification Opinion includes at least one of the following opinions:

- a) Positive opinion for assurance level Limited;
- b) Positive opinion for Reasonable assurance level;
- c) Negative opinion.

CHAPTER 6 – DECISION AND ISSUE OF THE VALIDATION/VERIFICATION STATEMENT

The verification report and verification opinion are subject to an independent technical review and decision to ensure that the verification process has been carried out in accordance with the agreed scheme, that the procedures for the verification activities have been properly followed and that due professional diligence and discernment have been applied.

The independent technical reviewer also assesses whether the evidence gathered is sufficient to enable RINA to issue a verification opinion with reasonable certainty.

RINA informs the organisation in writing of the conclusions it has reached on the verification.

CHAPTER 7 – MODIFICATION AND WITHDRAWAL OF THE STATEMENT

The General Rules for validation and verification activities of information declared in assertions apply

CHAPTER 8 - COMPLAINTS AND APPEALS MANAGEMENT

The General Rules for validation and verification activities of information declared in assertions apply

CHAPTER 9 - CONTRACTUAL CONDITIONS

The General Rules for validation and verification activities of information declared in assertions apply

CHAPTER 10 - AGREED-UPON PROCEDURES (AUP)

RINA may perform an AUP engagement provided that the intended user agrees on the evidence collection activities and assumes responsibility for these procedures.

Should the organisation request, as a result of the service provided, a report on the results of the verification activity without indicating an opinion, RINA will explicitly agree at contractual level with the client, in the offer and in the contract

- the procedures to be performed
- the elements to be verified



- the criteria for collecting evidence;
- the criteria to be used to determine the results;
- the minimum elements to be stated on the report.

If the intended user intends to disclose the results of the agreed procedure to a wider audience (e.g. public statement), any limitations on the disclosure of the information contained in the report should be specified both in the agreement signed with the intended user and in the report itself.