



UL Accredited Elevator/Escalator Certification Organizations (AECO) Program **GENERAL INFORMATION FOR SUPPLIERS**

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1. PROGRAM

“Certification of Sub-Systems, Components, or Functions” is the procedure whereby the UL AECO certifies that a representative sample of a sub-system, component, or function of an elevator system will permit the elevator system to satisfy the relevant requirements of 2.2.1(b) or (c) of ASME A17.7-2007/CSA B44.7-07, Performance-based Safety Code for Elevators and Escalators, provided the sub-system, component, or function is correctly fitted to the elevator system as specified in the manufacturer’s Code Compliance Document (CCD).

“Certification of Elevator System” is the procedure whereby the UL AECO certifies that an elevator system satisfies the requirements of 2.2.1(b) or (c) of ASME A17.7-2007/CSA B44.7-07, Performance-based Safety Code for Elevators and Escalators.

Additional information related to the UL AECO certification program can be found in the “program guide information” under the category code “AECO” on www.ul.com under “certifications”.

Certified products and systems, including previously certified products and systems that have been WITHDRAWN are found under the category code “AECO” on www.ul.com under “certifications”.

2. PROGRAM SCOPE

The safety of an elevator system, sub-system, component, or function is established by one of the following processes:

Option 1 — Conform to the requirements in ASME A17.1 or CSA B44. This is the conventional process used by implementing the ASME A17.1/CSA B44 Codes.

Option 2 — Conform to some of the requirements in ASME A17.1 or CSA B44 and for elevator systems, sub-systems, components, or functions that do not conform to certain requirements in ASME A17.1 or CSA B44, conform to the applicable requirements of ASME A17.7/CSA B44.7. This is the most common process for innovative design or use of new technology. The elevator system, sub-system, component, or function will typically meet most requirements of ASME A17.1 or CSA B44; however, it may have certain design or other features or components not covered by, or which deviate from, ASME A17.1 or CSA B44 prescriptive requirements but conform to applicable GESRs.

Option 3 — Conform to the requirements of ASME A17.7/CSA B44.7. This provides the alternative of achieving safety by satisfying all the applicable GESRs. The option is useful when the elevator system, sub-system, component, or function is radically different from that addressed by ASME A17.1 or CSA B44 requirements. In this case, all applicable requirements of the GESRs shall be conformed to.

This Program (The UL AECO Program) provides certification for the processes described in Options 2 and 3.

3. SERVICE OFFERING

UL, as an Accredited Elevator and Escalator Certification Organization (AECO) provides third party verification of:

- a) Evaluation of elevator and escalator systems, subsystems, components and functions for conformance with equivalent safety to the A17.1/B44 using the processes and procedures allowed by A17.7/B44.7.
- b) Continued surveillance of the manufacture of approved designs of systems, subsystems, components and functions to ensure they continue to meet the requirements A17.7/B44.7 throughout the product life cycle.

A17.7/B44.7 provides an alternative process to the ASME A17.1 and CSA B44 Codes for establishing elevator safety. It includes a structured methodology for establishing, documenting, and demonstrating that necessary and appropriate protective measures are taken to minimize hazards or sufficiently mitigate risks. This process is particularly useful for establishing safety of elevator systems, sub-systems, components, or functions involving innovative design and new technologies.

A product or system that has been found to comply with all of the elements of this program is issued a Certificate of Conformance to ASME A17.7/CSA B44.7 Mandatory Appendix I-3 for sub-systems, components, or functions or Mandatory Appendix I-4 for an elevator system, whichever is applicable.

4. SERVICE ACCEPTANCE

The American National Standards Institute (ANSI) accredits UL's Accredited Elevator and Escalator Certification Organization (AECO) certification program.

5. REQUIREMENTS

The basic standards used to investigate products in this category are:

ASME A17.1/CSA B44, Safety Code for Elevators and Escalators

ASME A17.5/CSAB44.1, Standard for Elevator and Escalator Electrical Equipment

ASME A17.7-2007/CSA B44.7-07, Performance-based safety code for elevators and escalators

ISO/TS 22559-1 – Safety requirements for lifts (elevators) – Part 1, Global essential safety requirements (GESRs) for lifts (elevators)

6. CERTIFICATION PROCEDURES

GENERAL

A product certification review is initiated by the submittal, by the Supplier or his representative, of a completed Application (appropriate program application form and all of the information required under the program regulations such as test data, photographs, schematics, attachments, exhibits, etc.) signed by a duly authorized representative of the Supplier.

GENERAL SERVICES AGREEMENT (GSA) AND THE AECO PROGRAM TERMS AND CONDITIONS

Both the Global Services Agreement and program terms and conditions are incorporated in the quotation provided to customers. The Global Services Agreement, program terms and conditions, and the quotation together constitute the entire agreement governing the delivery of requested services by Underwriters Laboratories Inc., and its subsidiaries and affiliates (UL). The GSA and Terms and Conditions are available at:

<http://programmes.ul-europe.com/en/index.php>

Before you begin your project, UL encourages you to review the program terms and conditions covering the service you've requested. Please print a copy of the program terms and conditions for your project records.

The GSA and Program Terms and Conditions contain required program information and impose the following Supplier obligations and requirements:

- a. The Supplier's corporate entity, name, address and legal status;
- b. Compliance with provisions of the product certification program shall be maintained at all times;
- c. Certification shall only be used to assure products are in conformity with specific requirements;
- d. A statement that the Supplier agrees to comply with requirements for the certification being sought and to supply any information needed for evaluation of products to be certified;
- e. Arrangements necessary for the conduct of all required evaluations shall be made, including access to all facilities, records, documents, information, product samples and personnel for the purpose of evaluation and resolution of complaints;
- e. Certification shall not be used in a misleading or unauthorized manner;
- f. Claims regarding certification shall only be made for the scope and product(s) for which certification was specifically granted;
- g. References to certification shall not be used in a misleading or unauthorized manner.
- h. Certification documents shall not be used in a misleading or unauthorized manner; In the event of suspension (if used) or withdrawal of certification, use of certification documents shall be discontinued; references to certification shall be removed from all advertising or promotional material; and certification documents shall be returned if necessary to prevent misrepresentation of non-certified products;
- i. Cooperation with the required UL AECO surveillance programs.
- j. Maintain records of complaints received concerning certified products.
- k. Notification to the UL AECO of any changes that affect the conformity of certified products as a condition of certification. If further evaluation activities are needed, the Supplier is prohibited from releasing certified products until authorized by the UL AECO.
- l. To provide UL AECO with a written declaration that the same application has not been submitted to any other AECO, or a written explanation as to why the application is being submitted to another AECO.

GLOBAL ESSENTIAL SAFETY REQUIREMENT (GESR)

Globally agreed-upon essential safety requirement based on *ISO/TS 22559-1 – Safety requirements for lifts (elevators) – Part 1 – Global essential safety requirements (GESRs) for lifts (elevators)*. A GESR states only the safety objective, or “what” shall be done or accomplished, but not “how” to accomplish the objective. To accomplish the safety objective of a GESR, elevator systems, sub-systems, components, or functions and safety parameters (SPs) that are used shall be capable of eliminating or sufficiently mitigating safety risks addressed in the GESR.

CODE COMPLIANCE DOCUMENT (CCD)

A CCD shall be produced for each design of an elevator system, sub-system, component, or function for which safety has been assessed for conformance with ASME A17.7-2007/CSA B44.7-07, Performance-based Safety Code for Elevators and Escalators.

The CCD shall include:

- (a) an overall description of equipment;
- (b) a description of particular elevator system, sub-system, component, or function for which certification is desired;

- (c) a list of ASME A17.1 or CSA B44 Parts, Sections, or requirements that have been addressed by compliance with ASME A17.7/CSA B44.7;
- (d) technical documentation necessary to demonstrate conformity and enable verification of conformance;
- (e) a list of GESRs considered;
- (f) a risk assessment report, including team members, their relevant expertise and experience, and date of completion of the risk assessment processes;
- (g) procedures for acceptance inspections and tests to verify conformance with CCD; and
- (h) procedures for tests, periodic inspections, maintenance, replacements, adjustments, and repairs to be incorporated into and made a part of the maintenance control program (MCP) required by ASME A17.1 or CSA B44, requirement 8.6.1.2.1.

CERTIFICATION OF SUB-SYSTEMS, COMPONENTS, OR FUNCTIONS

Application

The application for Certification of Sub-Systems, Components, or Functions shall be submitted by the applicant or an authorized representative to UL AECO. The application shall include:

- (a) the name and address of applicant;
- (b) the name and address of the manufacturer of the sub-system, component, or function or the authorized representative and the place of manufacture of the sub-system, component, or function;
- (c) a written declaration that the same application has not been submitted to any other AECO, or a written explanation as to why the application is being submitted to another AECO;
- (d) technical documentation (see below); and
- (e) a representative sample(s) of the sub-system, component, or function, or details of the place where it can be examined.

Technical documentation

Technical documentation shall be provided for UL AECO to assess the conformity of a sub-system, component, or function when it is correctly fitted as specified in the manufacturer's CCD.

The technical documentation shall include the following:

- (a) CCD (see details above);
- (b) a general description of the sub-system, component, or function, including its intended use (possible limitations such as speed, load, power, etc.) and conditions affecting use (such as explosive environments, exposure to the elements, etc.);
- (c) design and manufacturing drawings or diagrams;
- (d) GESRs taken into consideration and the means adopted to conform;
- (e) results of all applicable tests or calculations performed or subcontracted by the applicant or manufacturer;
- (f) a copy of the assembly instructions for the sub-system, component, or function; and
- (g) steps taken at the manufacturing stage to ensure that the series-produced sub-system, component, or functions conform to the sub-system, component, or function examined.

Certification Process

UL AECO will

- (a) examine the technical documentation to verify that the sub-system, component, or function meets the relevant GESRs; and
- (b) perform or have performed appropriate checks and tests necessary to determine whether the solutions adopted by the manufacturer of the sub-system, component, or function meet the requirements, allowing the sub-system, component, or function to carry out its function when correctly fitted on an elevator as specified in the manufacturer's CCD.

When UL AECO confirms that the representative sub-system, component, or function conforms to the applicable requirements, UL issues a Certificate of Conformance to the applicant. The certificate and accompanying documents, if any, includes the following:

- (a) the name and address of the manufacturer of the sub-system, component, or function and the name and address of the applicant, if other than the manufacturer;
- (b) the scope of the certification, including, as appropriate:
 - (1) product(s) certified, which shall be permitted to be identified by type or range of products;
 - (2) relevant parts of the requirements (such as GESRs, SPs, etc.) to which each product or product type is certified;
 - (3) statement of compliance with ASME A17.7/CSA B44.7; and
- (c) the effective date of the certificate and the term (time limit) or expiration date.

If UL refuses to issue a Certificate of Conformance based on a non-compliance, UL will state the detailed grounds for refusal. If you have any questions about your test results, the interpretation of a requirement or any UL decision, the UL appeals procedure provides a method for your concerns to be heard by UL management without jeopardizing your relationship with UL. Just contact customer service or our engineering staff for details.

Marking of Sub-Systems and Components

The elevator sub-system or component shall be labeled, marked, or tagged with the following data:

- (a) the name or trademark of the manufacturer, or UL AECO Certificate of Conformance Identification by which the organization that manufactured the device can be identified;
- (b) the UL Classification mark;
- (c) the UL AECO Certificate of Conformance identification;
- (d) statement of compliance with ASME A17.7/CSA B44.7;
- (e) a distinctive type, model, or style letter or number; and
- (f) any conditions of validity of the certificate and any particulars necessary to identify the type of component certified, as determined by the UL.

Applicant Responsibilities

An applicant who has received a Certificate of Conformance for a sub-system, component, or function is required to inform UL in writing of any modifications to the sub-system, component, or function that could affect the safety of the system in which it is applied. UL will examine the modifications and inform the applicant whether the Certificate of Conformance remains valid.

CERTIFICATION OF ELEVATOR SYSTEMS

Application

The application for "Certification of Elevator System" shall be submitted by the applicant or an authorized representative to UL AECO.

The application shall include:

- (a) the name and address of the applicant or the authorized representative and the place of manufacture of the elevator system;
- (b) a written declaration that the same application has not been submitted to any other AECO, or a written explanation as to why the application is being submitted to another AECO;
- (c) technical documentation (see below); and
- (d) details of the location where the elevator system can be examined. The elevator system submitted for examination and certification must include all parts and be capable of serving at least three levels (top, middle and bottom) unless the system is specifically limited in scope to a two-stop application.

Technical Documentation

The technical documentation shall provide sufficient understanding of the design and operation of the elevator system to facilitate verification of its conformity to the requirements.

The technical documentation shall include the following:

- (a) CCD (see above);
- (b) a general description of the elevator systems indicating all possible extensions to the elevator system under examination (see also definition of "model elevator");
- (c) design and manufacturing drawings or diagrams;
- (d) GESRs taken into consideration and means adopted to satisfy them;
- (e) results of any tests or calculations performed or subcontracted by the manufacturer, applicant, or installer; and
- (f) steps taken at the installation stage to ensure that the elevator system conforms to the requirements.

Certification Process

The AECO will:

- (a) examine the technical documentation to verify that the elevator system meets the relevant GESRs; and
- (b) perform or have performed the appropriate checks and tests necessary to determine that the elevator system meets the requirements.

When UL AECO confirms that the elevator system complies with the applicable requirements of this Code, UL will issue a Certificate of Conformance to the applicant. The certificate and related documents shall include the following:

- (a) the name and address of the supplier whose products are the subject of certification.
- (b) the scope of the certification, including, as appropriate:
 - (1) products certified, which shall be permitted to be identified by type or range of products;
 - (2) relevant parts of this Code to which each product or product type is certified;
 - (3) statement of compliance with ASME A17.7/CSA B44.7; and
- (c) the effective date of the certificate and the term (time limit) or expiration date.

If UL AECO refuses to issue a Certificate of Conformance based on a non-compliance UL will state the detailed grounds for refusal. If you have any questions about your test results, the interpretation of a requirement or any UL decision, the UL appeals procedure provides a method for your concerns to be heard by UL management without jeopardizing your relationship with UL. Just contact customer service or our engineering staff for details.

Applicant Responsibilities

An applicant who has received a Certificate of Conformance for an elevator system is required to inform UL AECO in writing of any modifications that could affect the safety of the system. UL will examine the modifications and inform the applicant whether the Certificate of Conformance remains valid.

7. SURVEILLANCE

GENERAL

The Program's surveillance system is called Follow-Up Service (FUS). UL AECO Classification services are covered by UL's Type R (Re-Examination) Follow-Up Service. The frequency of countercheck (audits) is established at quarterly (4 per year). Certified product inspections (product audits) may include or address (but not necessarily at each inspection) at least the following elements:

- physical examination of the product
- selecting samples for counter check tests (when such testing is required)
- verifying proper conduct and record keeping of factory required tests
- confirming use of approved components
- monitoring manufacturer's control of the UL Mark
- monitoring calibration of equipment used for factory required tests

SURVEILLANCE DETAILS

Because of the potential uniqueness of every submission for a certification, the UL AECO will, in most cases, establish the requirements for the sample selection, models and frequency and specific test methods for the Ongoing (Production Testing – if required) and Follow-Up testing for each product being certified. Where applicable, products may be grouped together into "groups" based on electrical and/or mechanical attributes that characterize these products. Samples are selected from each model no., catalog no. or "group" so that representative samples of all the manufacturer's AECO Certified products are selected on a periodic basis.

SURVEILLANCE TESTING

The test methods used in both Ongoing and Follow-Up testing are usually the same as used in the Initial Evaluation, though test programs for Ongoing and Follow-Up tests are typically not as extensive as those used for the initial certification.

The frequency of Ongoing testing (if required) is established so that representative samples of all the manufacturer's AECO Certified products are selected on a periodic basis. The following conditions are considered when establishing the testing frequency for the product type:

(A) Follow-Up and Inspection Instructions for similar products may be consulted to determine if sample selection and or testing frequency has been previously established for similar product types or technologies.

(B) The average manufacturing production volume is to be considered when determining the testing frequency for the manufacturer's Ongoing Test Program. If the average production volume is constant, samples may be chosen based on time. For example, sample selection could be based on number of samples per day or shift. If the average production greatly varies, consideration should be given to establishing a sample selection based on production volume.

8. CONFIDENTIALITY

Information developed during the course of an investigation is proprietary. UL's confidentiality agreement with our clients (part of the GSA) does not permit UL to disclose any information relating to an investigation to any third party without the supplier's prior written consent. As a result, it is not possible to involve others in the certification process, including status, requirements, data, etc, without the consent of the supplier.

If a supplier wishes to involve others in any part of the certification process, he should discuss this with the UL project engineer.

9. ABOUT UL

UL operates under its own authority as an independent, not-for-profit, nongovernmental organization.

The associated rights and responsibilities of UL and manufacturers are detailed in the various contractual agreements that must be executed prior to initiating the certification process. Additional information is available on the [Submittal Process page](#).

UL is financially funded by the fees it charges manufacturers for evaluation and / or certification of their products. Fees are charged for the initial evaluation process, as well as ongoing maintenance fees for Follow-Up Service.

A formal Appeals Process is available to applicants to address questions concerning interpretations and decisions made by UL concerning submitted products. An appeal can be initiated by contacting [Customer Service](#) or the engineer that was involved with the project. A Field Report system is also available for reporting problems with certified products. Contact information is available on the [Consumer Affairs page](#). An online [Field Report form](#) is also available.