

# Emirates Conformity Assessment Scheme (ECAS): Overview of Compliance

By Intertek

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## Executive Summary

**In an effort to enhance safety, implement energy efficiency measures, and protect the environment, the Government of the United Arab Emirates (U.A.E.) introduced mandatory regulatory controls on specific products placed onto their market.**

The U.A.E. Ministry for Commerce and Industry issued a series of federal laws and government orders introduced under a mandatory regulatory program called the Emirates Conformity Assessment System (ECAS). The Emirates Standards & Metrology Authority (ESMA) is the regulatory body appointed by the U.A.E. Government to manage the program. The new mandatory regulatory controls apply to Electrical and Electronic Equipment (EEE), sub-assemblies, and components.

The ECAS regulatory controls govern areas including:

- Energy Efficiency Standards Labelling (EESL)
- Restriction of Hazardous Substances (RoHS)
- Electrical Equipment in Potentially Explosive Atmospheres (ECASEx)
- Lighting Products

- Low Voltage Equipment (LVE)

The ESMA Conformity Affairs Department will provide:

- Implementation of ECAS for regulated products
- Implementation of EESL program
- Emirates Quality Marking (EQM)
- Market Surveillance and Inspection

Intertek is an accredited Notified Body (NB 0007) by ESMA to operate certification activities under the ECAS program. As a leading global provider of assurance, testing, inspection, and certification services with a network of expertise and laboratories worldwide, Intertek has prepared this guidance document on the U.A.E. ECAS program to assist manufacturers, importers, and agents who import electrical products into the U.A.E. in understanding and complying with

the requirements. This document provides an overview of compliance obligations, the certification process, mandatory ECAS requirements for placement of products into the U.A.E. market, and the penalties associated with non-compliance. By understanding these critical elements, as well as how Intertek can fully support the entire process, manufacturers will be better positioned for long-term success in the U.A.E. region.

The ECAS program covers safety, energy efficiency, and environmental requirements for electrical and electronic devices and certain gas products. Some of the ECAS programs mandate UAE and normative IEC Standards as a means of supporting and meeting requirements of the regulations and, in these cases, the conformity assessment process gives a presumption of conformity

in meeting the requirements of U.A.E. standards. On meeting the requirements of the ECAS regulation/s, an ECAS Certificate of Conformity is issued. Products are also subject to a factory inspection as a requirement of the regulation, enabling the Emirates Conformity Mark (EQM) to be affixed by the manufacturer; the manufacturer is subject to a factory inspection as verification of Type.

As some of these regulations took effect on January 1, 2018, they need to be understood and complied with by manufacturers, importers, or agents who intend to sell or import electrical equipment into the U.A.E. Additional guidance documents are available on Intertek's website for each individual regulation.

## Regulated Products

For regulated products, manufacturers must choose a single Notified Body (NB) entity, such as Intertek, to examine the technical design of a product, verify that the technical design meets the requirements of the applicable ECAS regulations, and to issue an evaluation report with an ECAS Certificate of Conformity. The Notified Body must also ensure that the manufacturing process has a production quality system implemented in order to confirm that the product is being manufactured in accordance with the technical specifications.

The product manufacturer must create a Technical Documentation file for each model of product, and this documentation must include a risk analysis/assessment report, test reports, and additional documentation required, but with the additional inclusion of the Notified Body-issued Certificate of Conformity.

## Objective

The United Arab Emirates shall take all appropriate measures to ensure that electrical equipment may be placed on the market or put into service only if, having been constructed in accordance with good engineering practices in safety matters prevailing in the International Community, it does not endanger the safety of persons, domestic animals, or property when properly installed and maintained and used in applications for which it was made.

These provisions constitute the essential requirements of the Emirate Conformity Assessment Scheme rules. Before being placed on the market or put into service, the electrical equipment must meet these requirements for Lighting equipment:

### Technical Requirements —

The Lighting equipment shall be so constructed in accordance with good engineering practices concerning safety. The technical requirements of equipment meeting the safety, energy performance, and environmental standards and requirements specified in Lighting Regulation No. 34. Standards, U.A.E. Standards. The principal elements of safety objectives that the electrical equipment must meet are listed in Annex I of this regulation.

### Administrative Requirements

— Compulsory procedures and documents implemented by the manufacturer or his authorized representative are imposed by ESMA (e.g. conformity assessment procedures, marking on the product, technical files, declaration of conformity, and instructions for use).

## Challenges for Manufacturers

Manufacturers, importers, or agents

within the electrical/electronic industry who import EEE and devices into the U.A.E. are currently experiencing a market and regulatory transition – from requirements to lower their products' energy consumption to achieve greater efficiency to regulations enforcing the use of more environmentally-friendly materials and new testing procedures to certify compliance. These changes will consume engineering and research and development talent, involve the dedication of additional resources as well as potential investments in product redesign, and require attention to new testing procedures in order to ensure product compliance. Manufacturers may need to source new materials, pursue new safety certifications, reassess their entire manufacturing process, and re-test units.

As part of a proactive response to these industry dynamics, manufacturers are encouraged to plan for the changes by understanding the new standards and procedures, how they apply to their products, and whether their products do or do not currently comply. As such, manufacturers are encouraged to be proactive to help ensure a smooth, accurate, and executable transition to the new regulations, redesign, re-testing, and certification activities to ensure their product's compliance and ability to be placed in the U.A.E. market.

## Responsibilities of Supplier

At all times, it is the responsibility of any supplier to have their products approved by an appointed Notified Body and ensure that products continuously comply with the requirements defined in this Technical Regulation.

## Role of the Manufacturer/Importer

The manufacturer or importer is obliged to ensure that the presented product is manufactured accordingly and meets the requirements of the applicable regulation. The manufacturer or importer shall:

- Establish Technical Documentation (Technical File) for each model or range of product
- Draw up a Manufacturers/ Importers Declaration of Conformity
- Secure registered authorized agent (Importers Certificate of Registration in the U.A.E.)
- Specify address of the place of manufacture and storage of the product
- Provide a list of the U.A.E. or IEC standards applied in full or in part
- Once all of these requirements have been satisfied and the product has been registered in the electronic registration system, the manufacturer can affix the proper Emirates Quality Mark (EQM), if applicable.

## Technical File Maintenance

Intertek recognizes that changes to a product or manufacturing process can happen at any time. However, the applicant is advised that if design changes are made which warrant document updates, Intertek should be advised, as this makes the technical file review more efficient during a certificate renewal or when conducting subsequent technical reviews.

## Language and Storage Guidelines

The Technical Documentation must be drawn up in the Arabic language;

if this is not possible, documents in English can be submitted after the approval of the Competent National Authorities in the U.A.E. Additionally, the manufacturer must keep the Technical Documentation at the disposal of the Competent National Authorities for 10 years after the electrical equipment has been placed on the market.

## Certification Critical Work Flow – ISO/IEC 17065

The certification process to be followed by the Intertek Notified Bodies will be in line with the work flow as described under Clause 7, ISO/IEC 17065 in that five (5) principle steps will be undertaken:

- Quotation - based upon customer requirements and supplied information
- Certification Application Review - review of application and produce Certification Plan
- Evaluation - testing conducted in accordance with ISO/IEC 17025
- Certification Review - technical Review of Test Reports and Technical File
- Final Decision - grant of Certification, update of ESMA Registration Database, issuance of ESMA/ECAS registration number

The Certification is issued by an accredited ISO/IEC 17065 body or IECEE NCB and is representative of the product series or range:

- Certificate validity is in date with a minimum of three (3) years remaining
- No date of withdrawal against the reference standard(s) within one (1) year of validity expiry
- The valid Certificate is accompanied with a representative Technical File that meets the requirements of the applicable ECAS Regulation

- Reference standard(s) used are representative of the product and deemed suitable by Intertek
- In all cases Intertek shall ensure essential safety requirements before making a certification authorization decision

## Intertek Acceptance of Third Party Test Reports

Intertek will accept third party test reports providing that the following conditions are met:

- The report is issued by an ISO/IEC 17025 ILAC signatory or IECEE report and accompanying CB certificate
- The report is not older than three (3) years from the date of issue
- The reference standards used within the third-party report are an IECEE CB standard that is deemed valid by the Notified Body and covers the national deviations defined within the relevant ECAS Regulation
- The reference standards used have not a date of withdrawal within one (1) year

## Registration Procedure/ Application Submission

Working together with, and on behalf of, the manufacturer or importer, Intertek as the appointed Notified Body shall review of the application with a view to conduct the Certification Process and issue an ECAS Certificate of Conformity and (if applicable) authorize the affixing of the EQM. In parallel, Intertek shall register the product on the ESMA product registration database.

Intertek shall conduct the certification process in accordance to ISO/IEC 17065 mandatory work flow as indicated in Fig 1.2, and shall be obliged to conduct an annual technical review based on

changes to:

a) ECAS-certified product

b) Revision of IEC standards

Intertek shall issue a new certificate annually based on review of a and b

- All products shall undergo a full re-test, inspection, and certification at the one (1) year or three (3) year point from the date of issue of supporting test reports, as required.

### **Intertek-Issued ECAS Certificate of Conformity**

Upon satisfactory completion of the Testing and Certification or sole Certification program, Intertek shall issue to the customer the ECAS Certificate of Conformity which authorizes the applicant to apply and use the Emirates Quality Mark.

- The Emirates Mark shall be displayed on the product, on user instructions, and on the

packaging in accordance with relevant ECAS Regulations. On product that is too small to carry the designation, the Emirates Mark at a minimum shall be placed on user instructions and packaging.

- The ECAS Certificate of Conformity shall refer to the representative ECAS product characteristics and supplied supporting Technical File in respect to being written in the English language.

### **Product Registration on ESMA Database**

- 9.1 Product shall be registered after a full confirmation that the product is complying with the requirements of the relevant IEC or U.A.E. Standard and by this Specific Requirement.
- 9.2 Where the results of test

showed that product is not complying with the requirements, the client needs to rectify the observed non-compliances and can reapply once rectification is made.

- 9.3 An ECAS Registration Certificate shall be issued to the product upon the fulfilment of all the requirements.
- 9.4 The certified product shall be registered onto the ESMA Certified Product database by the Notified Body

### **ECAS Conformity Marking (All ECAS Technical Regulations)**

The license to use the ECAS Mark of Conformity (ECAS Mark) is given to companies manufacturing certified products. Below are examples of the ECAS mark to be affixed to certified product. The

## **FURTHER INFORMATION**

Misuse of the ECAS Certificate of Conformity/Emirates Quality Mark and Penalties for Non-Compliance  
Intertek reserves the right to suspend and/or terminate certification based on misuse of the ECAS Mark in the case of, but not limited to:

- Non-payment of fees
- Altering or defacing the issued Certificate of Conformity
- Placing onto the market a model which has not been ECAS approved and bears the ECAS Mark
- Placement of non-conforming product onto the market
- Product identified by market surveillance as non-conforming
- Product found to be non-conforming on submittal to a Notified Body for verification of conformity

### **Violations and Penalties**

In the event of any violations, ESMA and relevant government authorities shall implement the following actions to address the violation:

- Enforce the necessary actions depending upon the gravity of the violation to require the supplier to recall the product to either repair, re-export, or destroy them as per the agreed period of implementation.
- Implement the agreed-upon mitigating actions on the non-compliant products and call upon their authority to announce the product recall, in which the supplier shall bear the cost.
- Violations and Penalties from the Federal Law 28 of 2001 shall apply.
- ESMA shall have the authority to withdraw or cancel the Certificate of Conformity granted to the non-complying product.

Conformity marking enforcement timelines	
Activity Enforcement Dates Enforcement of affixing of ECAS Conformity Mark	March 1, 2018
Market Surveillance check for correctly-marked certified products	March 1, 2018
Self-adhesive labels on Certified Products placed in U.A.E. market	Until December 31, 2018
Enforcement of Printed ECAS Mark (no separate adhesive labels permitted)	January 1, 2019

numerals indicate which Notified Body authorized the use of the mark.

The Intertek Notified Body unique reference number is NB-0007.

### ECAS Certificate of Conformity: Modification and Renewal Process

On a design modification to a product such as a component change, the addition of an alternative component, the addition of new models to the existing certificate, or a change in the manufacturing process which affects the safety or performance of the product, the manufacturer shall in all cases contact the issuing Notified Body. Per that process, the product shall in all cases undergo a Certification Review and Certification Decision to verify that Essential Safety Requirements are met.

Per the requirements of the ECAS Program, Intertek shall contact the client prior to the one (1) year or three (3) year ECAS validity expiry date to verify and confirm that Certificate Renewal is required. If renewal is required:

- The product and Technical File shall undergo a design and technical review to ensure that the essential safety and/or

energy efficiency requirements are still being met (one sample for construction review is required).

- The reference standards(s) used for electrical safety presumption of conformity shall be verified.
- If no technical changes to the reference standard(s) that affect the product are noted, ECAS Certificate of Conformity shall be issued – (e.g., new certificate, ECAS registration database updated, etc.)
- If technical changes to ECAS Certificate of Conformity are identified either through a design change or due to technical changes in the reference standard(s), the product may be required to be submitted for either a full or limited scope of testing.
- ECAS Certificates of Conformity not required beyond the one (1) year or three (3) year validity date shall be withdrawn and the ECAS registration database updated.
- In the event of technical changes to standard(s) which affect safety during the Certificate of Conformity validity period, the applicant will be informed of the technical changes and advised of the appropriate actions to take.

### Inspection and Market Monitoring

- Equipment identified under the ESMA requirements may be inspected at Port of Entry. Only consignments having valid ECAS Registration Certificates and valid ECAS Mark of Conformity are allowed to enter the country.
- Consignment without the ECAS Certificate of Conformity can be held in quarantine. Ports and Customs authorities shall coordinate with ESMA whenever a consignment without ECAS certificated is observed. Appropriate action shall then be taken by both ESMA and the Ports and Customs Authorities.
- Products manufactured in U.A.E. are monitored in the factory, warehouses, and in retail shops. Only products with ECAS Registration are allowed to be traded in the U.A.E.
- Registered products being delivered to U.A.E. shall be inspected to ensure continuous compliance. ESMA reserves the right to inspect and conduct inspection of the product being distributed in the market. ESMA shall conduct a regular monitoring of product where ESMA shall take samples either at retail shops or the manufacturer's warehouse for independent testing.
- The result of test shall be the basis whether to continue or stop the registration of the product.
- ESMA also reserves the right to conduct factory inspection at any time to ensure full compliance. Among other things, the factory inspection shall include the process and product verification and the manner in which the product is carefully inspected and handled.
- All fees related to market

## FURTHER INFORMATION

### Scope: Product Categories, Relevant Standards, and EER/EEI Calculation

- Domestic Air Conditioning
  - UAE.S 5010-1- 2016
  - Cooling Capacity/ Energy
- Washing Machines and Dryers
  - UAE.S 5010-2-2013
  - Water/ Energy
- Refrigeration
  - UAES 5010-3-2013
  - Cooling Capacity/ Energy
- Water Storage Heaters
  - UAES 5010-4:2014
  - Energy/ Standby Loss
- Commercial and Central Air Conditioning
  - UAES 5010-5:2016
  - Cooling Capacity/ Energy
- Dishwashers
  - UAES 5010-6:2016
  - Water/ Energy

### For each category, Intertek can provide more information on:

- Purpose
- Product Scope
- Normative References
- Regulated Products including EER Calculations, EEI Values, Star Rating Tables
- Labelling Requirements
- Marking and Instruction Annual Requirements
- Measured performance requirements
- Applicable Standards
- Test Methodology
- Guidance Tables / Charts

sampling and testing shall be paid by the manufacturer/ supplier.

## U.A.E. ECAS: Specific Product Regulations

### ECAS: Energy Efficiency Standards Labelling (EESL)

The U.A.E. Ministry for Commerce and Industry issued Federal Law No. 21 - Energy Efficiency Standards Labelling (EESL) - to be introduced under ECAS. Technical regulations detailed within this order define the criteria for product registration under ECAS being implemented by ESMA. The requirements defined in this document are issued for the information, guidance, and compliance of manufacturers and importers intending to promote and place their products into the United Arab Emirates market.

The ECAS program covers safety, energy efficiency and environmental requirements for electrical and electronic devices and certain gas products; those products identified to meet energy efficiency requirements are subject to EESL. The ECAS program for energy efficiency, which this section concentrates on, mandates U.A.E. and normative IEC Standards as a means of supporting and meeting requirements of the regulation.

The conformity assessment process for energy efficiency gives a presumption of conformity in meeting the requirements of U.A.E. standards and correct calculation of an Energy Efficiency Ratio (EER) or Energy Efficiency Index (EEI) and, depending on this calculation, determines the energy classification in the form of a star rating, with 5

stars being the most efficient and 1 star being the least. On meeting the requirements of this regulation, an ECAS Certificate of Conformity is issued.

The product is also subject to a factory inspection as a requirement of the regulation, enabling the Emirates Conformity Mark (EQM) to be affixed by the manufacturer.

### Objective

The U.A.E. shall take all appropriate measures to ensure that electrical equipment may be energy-efficient when placed on the market or put into service only if it has been constructed in accordance with good engineering practices to ensure it meets defined energy consumption limits.

These provisions constitute the essential requirements of the ECAS rules. Before being placed on the market or put into service, the electrical equipment must meet these requirements. This means that the electrical product(s) identified must meet:

- Technical Requirements --
  - The electrical and electronic equipment shall be so constructed using sound engineering practices in respect to product electrical safety and energy efficiency. The technical requirements of equipment meeting these safety and efficiency practices are specified in IEC Standards, U.A.E. Standards, or other relevant standards and technical documents.
- Administrative Requirements — Compulsory procedures and documents implemented by the manufacturer or his authorized representative are imposed by ESMA (e.g. conformity assessment procedures, marking on the product, technical files, declaration of

conformity, and instructions for use).

## Understanding Energy Efficiency Standards Labelling Technical Regulations (EESL)

ECAS Technical Regulations for Energy Efficiency detail precise definitions and obligations regarding economic operators for meeting product conformity requirements and procedures.

- Products identified in the scope of the EESL are subject to electrical energy usage involving cooling capacity performance and consumption limits, defined as Energy Efficiency Ratios (EER %) or Energy Efficiency Index (EEI K factor) for determination of energy rating classification in the form of star ratings identified on an Energy Label affixed to the Product.
- Where specified in product standards, tolerances for electrical supply and frequency values shall be applied; in addition and where applicable, test conditions/thermal classifications for the U.A.E. shall be also applied (T Classifications)
- Supply -- electrical characteristics of the UAE are considered
- Products subject to EER or EEI calculations are also subject to meeting Electrical Safety Standards under the ECAS Low Voltage Equipment Requirements
- Products subject to EESL requirements are subject to a Type 3 Conformity Assessment Program under ISO IEC 17067 for a factory inspection; on successful review the EQM can be affixed to the product.

## Document Requirements for Certification Application – EESL (All Products)

Applicants are required to submit a Technical File that represents the product and contains the following documents:

- Valid IECEE safety test report and supporting CB certificate (No older than three (3) years from the date of issue); and/or a valid G Mark Type Examination Certificate issued by a GCC GSO Notified Body
- ISO/IEC 17025 accredited Energy Efficiency
- IECEE Safety Test Report and supporting CB Certificate
- Manufacturer Factory Inspection report
- Manufacturer/Importers Declaration of Conformity
- User's Manual in Arabic and English language
- Bill of Materials
- Manufacturer risk assessment
- Technical specifications relating the operation of the product
- Concept of operation
- Engineering and electrical schematic drawings
- Importer / Agent letter of Authorization
- Certificate of Legal Entity Trader / Importers Registration

## Conformity Assessment Procedure

Upon the acceptance of the Application, product shall be evaluated according to a relevant conformity assessment scheme.

- Samples and technical file shall be tested as required to relevant U.A.E. standards
- Samples shall be tested by a recognized third party accredited testing laboratory
- Technical File and performance reports are reviewed by Notified

## FURTHER INFORMATION

### Products & Standards

- Large Household Appliances
- Small Household Appliances
- IT & Telecommunication Equipment
- Consumer Equipment
- Lighting Equipment
- Electrical and Electronic Tools (except for large-scale stationary industrial tools)
- Toys, leisure and sports equipment
- Medical devices (except all implanted and infected products)
- Monitoring & control instruments including industrial equipment
- Automatic dispensers
- Other EEE not covered by the categories above, or falling within the categories of Article one

### For each product group, Intertek can provide further information on:

- Restricted Substance Limits: Annex 2 of Cabinet Order No. 10
- Exempted materials and their applications Substance Limit Exemptions: Annex 3 of Cabinet Order No. 10
- Exempted materials and their applications Substance Limit Exemptions: Annex 3 of Cabinet Order No. 10
- Exempted materials and their applications Substance Limit Exemptions: Annex 4 of Cabinet Order No. 10
- Equipment Categories exempt – Annex 5 of Cabinet Order No. 10
- Conformity Assessment – Mandatory Standards: Annex 6 of Cabinet Order No. 10
- Restrictions Schedule for Cd, Pb, Hg, CR6+, PBB, and PBDE: Annex 7
- Restrictions Schedule for DBP, DEHP, BBP, and DIBP: Annex 8

Body

- Factory inspection conducted; produce a factory inspection report
- Notified Body, on successful review, to issue ECAS EESL CofC and authorize the EQM
- Applicant shall bear all of the cost related to the conformity assessment of the product

## **ECAS: Restriction of Hazardous Substances (RoHS)**

### **Executive Summary**

In an effort to enhance environmental conservation measures, the Government of the United Arab Emirates (U.A.E.) has introduced mandatory regulatory controls on Electrical Electronic Equipment (EEE) being placed onto the market under Federal Law No. 10/2017, Control of Hazardous Materials in Electrical and Electronic Equipment. This new technical regulation was introduced under ECAS and enforced from January 1, 2018.

This technical regulation has been aptly called “ECAS RoHS,” which consequently identifies the same substances and restriction levels as EU RoHS, the main difference being the conformity assessment approach under ISO/IEC 17067, which identifies a Type 1 and Type 3 option. ECAS RoHS mandates a conformity assessment process to IEC Standards as a means of supporting and meeting requirements of the regulation. The conformity assessment process defined gives manufacturers a two-option approach based on a Type 1 and Type 3 system of conformity process.

Intertek has prepared the following

guidance on the ECAS RoHS program to assist manufacturers, importers to understand compliance obligations, the certification process, requirements for meeting the mandatory requirements, and the penalties associated with non-compliance. By understanding these critical elements, as well as how Intertek can fully support the entire process, manufacturers will be better positioned for long-term success.

### **Understanding ECAS RoHS Technical Regulations for EEE**

ECAS Technical Regulations for EEE detail a risk-based approach and obligations for economic operators to meet product (material) requirements of a conformity assessment process.

The articles which form the ECAS RoHS Technical Regulation and product conformity process guidance follows a nearly identical route as taken by European authorities, which is based on a risk-based process, except that under the ECAS RoHS program the conformity assessment process is undertaken and verified by a third-party Notified Body who will then in turn certify product conformity.

- Product (Materials) conformity assessment is achieved by meeting the requirements of the normative reference standards listed within the Technical Regulation for ECAS RoHS, Cabinet Order No. 10.

### **Scope**

The U.A.E. RoHS regulation covers all EEE as detailed in Implementation Guidelines for RoHS – Restriction of Hazardous

Substances – Decision No. 10 of 2017. More detailed information is available in Intertek’s full white paper on U.A.E. ECAS RoHS Compliance on [intertek.com/ecas](http://intertek.com/ecas).

1. Large household appliances
2. Small household appliances
3. IT and Telecommunication equipment
4. Consumer equipment
5. Lighting equipment
6. Electrical and electronic tools (except for large-scale stationary industrial tools)
7. Toys, leisure and sport equipment
8. Medical devices (except for all implanted and infected products)
9. Monitoring and control instruments including industrial monitoring and control instrument
10. Automatic dispensers
11. Other EEE not covered by any of the categories above or, and falling within the definition of Article 1

### **Manufacturer Risk Assessment – IEC 62321**

- The outputs from the manufacturer’s risk assessment (identification of risk levels in respect to homogenous material layers) are incorporated into a materials control plan to define materials (component level), control measures, and acceptance levels of material declarations from the supply chain – IEC 62476 referenced (Supplier Declarations of Conformity levels of material information – Risk level of Declaration of Conformity Grouping 1–3).
- The implemented Material Control Measures (Control Plan) is to meet the requirements of IEC 63000 (Technical Documentation requirements for the assessment of EEE in

respect to restricted hazardous materials).

- For verification of high-level risk components, it is expected that these components are subject to Product Verification Testing using test methodologies outlined in the IEC 62321 series standards.
- Upon meeting the ECAS requirements, the manufacturer will draw up a Declaration of Conformity as well as, if applicable, an Importer Declaration of Conformity.
- Product application and registration is conducted by an ESMA-appointed Notified Body on the applicant submitting an application; on successful conformity assessment the Notified Body shall issue a Certificate of Conformity, valid for one (1) year under Option 1 or three (3) years under Option 2 Conformity Assessment Approach).

### **Document requirements for ECAS RoHS Certification Application**

- Applicants are required to submit a Technical File that represents the product and shall contain the following documents:
- Manufacturer's/Importers Declaration of Conformity
- Valid importers registration Certificate
- Bill of Materials
- Manufacturers risk assessment
- Supplier materials declaration of conformity (component level)
- Accredited ISO/IEC 17025 Test Reports (materials analytical testing) no older than three (3) years from the date of issue.

*Note: Manufacturers' non-accredited test data is accepted through December 31, 2018.*

### **ECAS for Electrical Equipment in Potentially Explosive Atmospheres (ECASEx)**

The U.A.E. government decreed that as a measure of protecting its citizens and property and implementing measures to control Electrical Equipment, sub-assemblies, or components to be installed in potentially explosive atmospheres (Electrical Equipment for Ex), it has introduced mandatory regulatory controls. In August 2017 the U.A.E. Ministry for Commerce and Industry issued Government Order No. 23 from which Articles give direction for new regulations to be introduced under the program now known ECASEx.

The conformity assessment approach for ECASEx is based on meeting the procedures and rules as defined within IECEx scheme rules as defined within IECEx OD 01 and IECEx OD 02 for the certification of electrical products intended for use in potentially explosive atmospheres. By adopting this approach, the ECASEx program utilizes IEC Standards as a means of supporting regulation for safety requirements. A presumption of conformity is said to be met by meeting the requirements of the IECEx scheme in full, including mandatory factory site Quality Assessment Reports (QARs).

Intertek has produced this guidance to assist manufacturers, importers, agents who intend to import Electrical Equipment for Ex installation into the U.A.E. As a leading global Assurance, Testing, Inspection, and Certification provider, Intertek can offer Global Market Access services for the U.A.E. ECASEx program via our global network of Ex laboratories

## **FURTHER INFORMATION**

### **Mandatory Standards in support of this Regulation:**

- IEC 61241-0 (Part 0: General requirements)
- IEC 61241-1 (Part 1: Protection by enclosures 'tD')
- IEC 61241-1-1 (Part 1)
- IEC 61241-4 (Part 4: Type of protection 'pD')
- IEC 61241-11 (Part 11: Protection by intrinsic safety 'iD')
- IEC 61241-18 (Part 18: Protection by encapsulation 'mD')
- IEC 61779-1 (Part 1: General requirements and test methods)
- IEC 61779-2 (Part 2: Performance requirements for group I apparatus indicating a volume fraction up to 5% methane in air)
- IEC 61779-3 (Part 3: Performance requirements for group I apparatus indicating a volume fraction up to 100% methane in air)
- IEC 61779-4 (Part 4: Performance requirements for group II apparatus indicating a volume fraction up to 100% lower explosive limit)
- IEC 61779-5 (Part 5: Performance requirements for group II apparatus indicating a volume fraction up to 100% gas)
- IEC 62013-1 (Part 1: General requirements - Construction and testing in relation to the risk of explosion)
- IEC 62013-2 (Part 2: Performance and other safety-related matters)
- IEC 62086-1 (Part 1: General and testing requirements)
- IEC 80079-34 (Part 34: Application of quality systems for equipment manufacturer)

Further detail available in Intertek's complete UAE ECASEx white paper, available on [intertek.com/ecas](http://intertek.com/ecas).

and Ex Certification Bodies.

## Scope

ECASEx applies to any device that uses electricity for use in a potentially explosive atmosphere. This includes equipment for generation, transmission, distribution, storage, measurement, controls processing, and consumption of electricity and telecommunication equipment. Components, understood as part of electrical construction, which should not be used alone in an explosive atmosphere and require an additional certification when incorporated into electrical construction or electrical systems for potentially explosive atmospheres, are also covered by this Technical Regulation.

## Application Criteria Requirements

- List of applied standards showing which conformity assessment the equipment meets
- Management system according to ISO 9001 and ISO/IEC 80079-34
- Product documentation that meets IECEx Operational Document OD 017 requirements
- IECEx Recognized test report (ExTR) issued by an appointed test laboratory (ExTL) accompanied by an Ex certificate issued by an appointed ExCB
- IECEx Test Reports and IECEx Certificates not more than 3 years from date of issue are considered valid.
- Manufacturers' Quality Management System verified in accordance with IECEx OD 24 Quality Assurance Report (QAR)

## Documents required to be submitted for Registration of Products

- Signed Application Form and certification agreement
- Manufacturer's Quality Management System Manual according to ISO 9001 and ISO/IEC 80079-34
- IECEx Test Report and Ex Certificate
- Valid U.A.E. Industrial or Commercial License (Importers / Agents)
- Manufacturer and / or Importer Declaration of Conformity and a declaration that product is mass produced.
- User/installation manual (Arabic & English language)
- Engineering drawings/electrical schematic diagrams
- BOM (Bill of Materials)
- Nominal characteristics of product and type of protection
- Valid QAR (Quality Assurance Report)

Note: ECASEx Certificate is valid for three (3) years and is subject to an annual surveillance visit.

## ECASEx Certification Process

Intertek shall certify the Ex equipment for safety requirements based on the IECEx scheme and the specific requirements of this Technical Regulations and referenced Standards. On successful review of client supporting technical documentation, an ECASEx certificate of conformity shall be issued with a validity period of three (3) years subject to an annual factory visit (QAR).

Intertek shall conduct the certification process in accordance to ISO/IEC 17065 mandatory work flow and IECEx OD01 and OD02 and shall be obliged to conduct an annual technical review and IECEx QAR based on changes to:

- Type - Certified Product
- Revision of IEC standards

(Safety)

All certified product shall undergo a full re-test, inspection, and certification at the three (3) year point from the date of issue of supporting test reports.

## Product Registration Procedure

- Ex equipment shall be registered after confirmation that the product is compliant with the requirements of the relevant IEC or U.A.E. Standard and by this Technical Regulation.
- Where the results of test showed that the product is not compliant with the requirements, the client needs to rectify the observed non-compliance(s) and can reapply once rectification is made.
- An ECASEx Certificate of Conformity shall be issued upon the fulfilment of all requirements within this Technical Regulation. The Notified Body for the ECASEx program shall register the issued certificate onto the ESMA Certificate Registration Database.

## Intertek Acceptance of Third Party Test Reports & Certificates

Intertek will accept third-party test reports providing that the following conditions are met:

- The report is issued by an IECEx ExTL and Ex certificate by an ExCB, the report and accompanying certificate is not older than three (3) years from the date of issue.
- The reference standards used within the third-party report are IEC standard that on review is deemed valid by the Notified Body and covers the national deviations defined within

ECASEx Regulation for Electrical Ex Equipment placed onto the market in the U.A.E.

- The reference standards used have not a date of within one (1) year of being superseded.

Reference standard(s) and protection concept used are representative of the product and deemed suitable by Intertek.

### **ECASEx Certificate of Conformity**

- Upon satisfactory completion of the Testing and Certification or sole Certification program, Intertek shall issue to the customer the ECASEx Certificate of Conformity which authorizes the applicant to apply and use the Emirates Quality Mark.
- The Emirates Mark shall be displayed on the product, on user instructions, and on the packaging in accordance with ECAS Regulations for Ex Equipment

- The ECASEx Certificate of Conformity shall make reference to the representative ECASEx product characteristics and supplied supporting Technical File in respect to being written in the English language.

### **ECAS for Lighting Products**

In 2016 the U.A.E. Government issued Cabinet Decision No. 34 of 2013 V0, U.A.E. System for Lighting Products, which details new regulations to be introduced under the ECAS program.

With the U.A.E.'s commitment to consumer safety, energy conservation, and environment protection, this regulation has been developed to ensure that lighting products are registered and monitored for their continuous compliance to set specifications covering:

- Electrical Safety
- Performance: Energy Efficiency

- Functionality
- Hazardous Chemicals
- Safe Disposal of Lighting Products

The ECAS Lighting program uses the Regulation, and U.A.E./IEC Standards as a means of meeting conformity assessment needs for safety, energy efficiency, functionality, and environmental regulatory requirements. A presumption of conformity is achieved by meeting the requirements of the standards specified within the Regulation. Conformity Assessment of the product is determined upon issuance of an ECAS Certificate of Conformity; if the applicant / importer manufacturer wishes to affix the Emirates Conformity Mark, the product is subject to a factory inspection.

Intertek has prepared the following guidance on the Lighting Products program to assist manufacturers, importers, and agents in understanding compliance

## **FURTHER INFORMATION**

### **Scope: Products Covered by, and Exempt from, this Specific Requirement:**

- Special purpose lamps exempted from the requirements of this regulation (These lamps and LED modules are not excluded when they are marketed for general lighting purposes)
- The following luminaires are exempted from this regulation
- The following control gears are exempted from this regulation

### **Luminaires EE Labelling Requirements:**

- Article 6 Waste Classification for Lamps
- Article 7 Safe Disposal
- Article 8 Lighting Products Containing Hazardous Substances

### **More Information on:**

- Registration Procedure/Application for Regulated Products, Technical File Submission
- Lighting Modification and Renewal Process
- Intertek Certification/Notified Body Locations

Further detail available in Intertek's complete U.A.E. ECAS Lighting Products white paper, available on [intertek.com/ecas](http://intertek.com/ecas).

obligations, the certification process, requirements for meeting the mandatory ECAS requirements for placement of lighting equipment into the U.A.E. market, and the penalties associated with non-compliance.

## Scope: Products Covered by this Specific Requirement

This regulation covers non-directional lamps, luminaires, and control gear traded and used in U.A.E. that include the following:

- Incandescent lamps  $\geq$  16W (watts)
- Linear fluorescent lamps (only electrical safety requirements; excluding energy efficiency and functionality requirements)
- Compact fluorescent lamps (CFLs)
- Halogen lamps
- Light emitting diode (LED) lamps
- Control gears for general lighting purposes
- Luminaires for general lighting purposes (only electrical safety requirements; excluding energy efficiency and functionality requirements)
- General exemptions for lamps, luminaires, and control gear are detailed in the associated white paper.

## Electrical Safety Requirements

Compliance with the relevant U.A.E. Lighting Safety Standards mentioned in Annex 6 of the regulation are detailed in Intertek's U.A.E. ECAS Lighting Products white paper, available on [intertek.com/ecas](http://intertek.com/ecas).

## Energy Efficiency Requirements

- Compliance with the minimum energy efficiency values defined in Annex 2 of Cabinet Order No.

34.

- Energy Efficiency classes and methods of calculating the energy efficiency index and energy consumption for lamps are stipulated in Annex 2 of the regulation.
- Control gears for fluorescent lamps shall comply with the Energy Efficiency Requirements specified in Annex 3 of this regulation.
- Linear Fluorescent Lamps, Lamps, and Control Gears for general lighting purposes are not covered by Energy Efficiency requirements (only electrical safety requirements; excluding energy efficiency and functionality requirements).

## Functionality

- Lamps covered by this regulation shall comply with the Functionality Requirements specified in Annex 5.
- Hazardous Chemicals
- Products specified in Annex 4, and Table 12 shall comply with the mercury content limits.
- Products covered by this Regulation shall comply with the hazardous chemicals limits in Table 13.
- Products listed in Annex 1 are not covered by the requirements of Table 13.

## Marking Requirements

- Instruction manuals and energy efficiency labels supplied with products shall include the Arabic language. Cautionary and/or any safety warnings for the direct user or consumer shall be in Arabic and English language.
- Products shall not contain any material or descriptive images or definitions which may be regarded as offensive to the Islamic Religion.
- For special purpose lamps, the

following information shall be clearly and prominently indicated on their packaging and in all forms of product information accompanying the lamp, luminaire, and control gear when it is placed on the market:

- o Their intended purpose; and
- o That they are not suitable for household room illumination.

## Product Information Requirements

- Information shall be visibly displayed prior to purchase to end-users on the packaging.
- Information should be available on internet and free access websites, and which website to consult if necessary.
- Products should have the following information:
  - o Nominal lamp power;
  - o Nominal luminous flux;
  - o Nominal life time (in hours);
  - o Number of switching cycles before premature lamp failure;
  - o Color temperature;
  - o Lamp mercury content as X,X mg (applicable only to lamps that contains mercury)
- o Information to be made publicly available on free-access websites
- o As a minimum, the following information shall be expressed at least as values:
  - The information specified in 3.5.2.1;
  - Rated wattage (0.1 W precision);
  - Rated luminous flux;
  - Rated lamp life time;
  - Lamp power factor;
  - Lumen maintenance factor at the end of the nominal life;
  - Starting time (as X, X seconds);
  - Color rendering
  - Instructions on how to clean up the lamp debris in case

of accidental lamp breakage (applicable only to lamp that contains mercury);

- Recommendations on how to dispose of the lamp at its end of life (applicable only to lamp that contains mercury).
- Product information requirements for control gears
  - o Manufacturers of control gears shall provide at least the following information on free-access websites and in other forms they deem appropriate for each of their control gear models. That information shall also be affixed in a distinct and durable form to the control gear.
  - o It shall also be contained in the technical documentation

file drawn up for the purposes of conformity assessment in line with the procedure prescribed for Low-Voltage Equipment.

### **Conformity Assessment Procedure**

- Upon the acceptance of the submitted Application, and supporting Technical File, lighting equipment shall be evaluated to meet the specified requirements of U.A.E. Cabinet Order No. 34.
- Samples shall be tested as required to relevant standards of the Lighting Regulation.
- Testing shall be conducted by an ILAC accredited ISO/IEC 17025 laboratory (EEI) and for Electrical Safety under the IECEE scheme by a CTF or CBTL, accompanied

with an in IECEE CB certificate issued by an IECEE NCB.

- On successful review of the Technical File of the representative lighting equipment, Test Reports and accompanying Certificates, the Intertek Notified Body shall issue an ECAS Certificate of Conformity.
- The Intertek Notified Body shall upload a copy of the issued Certificate onto the ESMA product registration database.
- Certificate validity is one (1) year from date of issue.

### **ECAS for Low-Voltage Equipment (LVE)**

The ECAS program covers safety, energy efficiency, and environmental requirements for electrical

## **FURTHER INFORMATION**

### **Scope: Products Covered by this Specific Requirement:**

- This document prescribes the requirement for the safety of electrical and electronic equipment designation for use with a supply voltage between 50 and 1000 volts for alternating current and between 75 to 1500 volts for direct current. The electrical and electronic equipment under this scope is called “Low-Voltage Equipment.”
- This document shall not apply to the products excluded by U.A.E./IEC 60335-1.

### **Regulated Products**

The following ESMA table details the list of electrical and gas appliances to be regulated within the ECAS Program as it relates to placement of these low-voltage items into the UAE market:

- Water Heater
- Extension Cords and Adaptors
- Electric Irons
- Microwave Ovens
- Washing Machines and Clothes Dryers
- Electric Stove
- Refrigerators and Chillers and Freezers
- Room Air Conditioners
- Household Cooking Appliances
- Electromechanical Kitchen Appliances
- Vacuum Cleaners
- Fans & Fan Systems including Air-purifiers
- Appliances for Heating Liquids
- Grass Shears/Trimmers
- Gas Powered Ovens & Cooking Ranges

products, electronic devices, and certain gas products. Intertek has prepared this guidance the ECAS Technical Regulations for Low-Voltage Electrical Equipment (CARL-01) program to assist manufacturers, importers, or agents in understanding compliance obligations, the certification process, requirements for placement of low voltage electrical equipment and appliances into the U.A.E. market, and the penalties associated with non-compliance.

## **Understanding ECAS Technical Regulations for Low-Voltage Equipment (LVE)**

ECAS Technical Regulations for Low Voltage Electrical Equipment detail precise definitions and obligations regarding economic operators for meeting product conformity requirements and procedures.

The articles which form the ECAS Low Voltage Technical Regulation and product conformity guidance have been taken directly from the IECEE CB scheme in that they refer to specific IECEE operational documents as requirements and define manufacturers' obligations for product conformity as Essential Safety Requirements (ESRs) for meeting Low Voltage Equipment requirements.

The Technical Regulations safety objectives for LVE include safety and hazard protection concepts, which include:

- Physical – the essential electrical characteristics of the product are identifiable and have instructions for use (Arabic language to be included), with considerations to be made for the design, manufacturability, and life cycle capability of the product.

- Electrical – adequate protection against electric shock or physical injury via direct or indirect contact.
- Thermal -- the product has been designed to ensure that temperature (excessive heat) arcs, radiation, and electromagnetic influences do not cause harm to individuals, property, or the environment.
- Mechanical – non-electrical hazards such as shock, impact, or other influences that will cause physical harm.
- Construction – the product is designed correctly using suitable materials, electrical insulation, and that all foreseeable misuse conditions are considered.
- Supply -- electrical characteristics of the UAE are considered.

## **Scope: Regulated Products**

ESMA details a list of electrical and gas appliances to be regulated within the ECAS Program as it relates to placement of these low-voltage items into the U.A.E. market.

- Presumption of conformity is achieved by meeting the relevant UAE Standards; however, ESMA also recognizes other international and national standards such as IEC standards and others (such as ISO and EN).
- When a relevant ESMA standard does not exist, or has not been published, ESMA will accept the current issued version of IEC standards or where correlation exists to other standards.
- Intertek will accept test reports and certificates such as IECEE CB or other accredited schemes/programs where correlation/harmonization exists and have a validity period not exceeding three (3) years

from the date of issue (such as G Mark Type Examination Certificates).

- Upon meeting the ECAS requirements, the manufacturer will draw up a Declaration of Conformity, as well as, if applicable, an Importer Declaration of Conformity. Product application and registration is conducted by an ESMA-appointed Notified Body on the applicant submitting a Product Technical File; upon successful conformity assessment, the Notified Body shall upload the Certificate of Conformity onto the ESMA product registration database; such a registration is valid for one (1) year only.
- When all the requirements of the ECAS program are met, the LVE placed upon the market, if a factory inspection is conducted, can bear the Emirates mark.

## **Document Requirements for Certification – Low Voltage Equipment (LVE)**

Applicants are required to submit a Technical File that represents the product and contains the following documents:

- Valid IECEE test report and supporting CB certificate (no older than three (3) years from the date of issue)
- And/or a valid G Mark Type Examination Certificate issued by a GCC GSO Notified Body
- Manufacturer's/Importers Declaration of Conformity
- User's Manual in Arabic and English language
- Valid importers registration Certificate
- Bill of Materials
- Manufacturers risk assessment
- Technical specifications relating to the operation of the product
- Concept of operation

- Engineering and electrical schematic drawings

## ECAS: The Intertek Advantage

In the changing U.A.E. market for electrical and electronic equipment, sub-assemblies, and components as it relates to Energy Efficiency Standards Labelling (EESL), Restriction of Hazardous Substances (RoHS), Electrical Equipment in Potentially Explosive Atmospheres (ECASEx), Lighting Products, and Low Voltage Equipment (LVE), the ability for a manufacturer, importer, or agent to certify that its products

comply with all relevant ECAS standards helps meet corporate sales targets and assures end users that those products comply with performance, safety, and energy standards and are qualified for specific end-use applications. Because specific standards and submission procedures can be very tedious and precise to administer, but are highly critical to a company's growth and sales objectives, manufacturers are advised to avail themselves of a skilled third-party testing organization with expertise in the global standards, testing, and compliance processes to ensure maximum success.

Accredited third-party quality assurance and testing organizations like Intertek take the guess work out of the all-important process of compliance. Intertek's investments in expertise, worldwide locations, and precise and capital-intensive testing equipment ensure consistent testing procedures and accurate results, while our demonstrated expertise in the unique details and current requirements of all industry certification programs and initiatives globally assures manufacturers of the utmost in quality coverage and representation. Along with our relationships with all of the industry's key certifying organizations, our exceptional understanding of and experience with the broad range of products, industries, standards, and testing procedures worldwide proactively support a manufacturer compliance while delivering security and peace of mind to both manufacturers, retailers, and consumers alike. **IAM**

## MARKET ACCESS TO THE UAE THROUGH ECAS AND EQM

The ECAS program scope includes multiple industry sectors from Electrical, Electronic, and Gas Appliances, Machinery, Automotive, Building and Construction, Cosmetics, and Food in the form of issued technical regulations, under the ECAS banner and regulated by the appointed government body, Emirates Authority for Standardization and Metrology (ESMA).

Intertek has been appointed in the UAE as a Notified Body for Low Voltage Equipment (LVE), Energy Efficiency Standards Labelling (EESL), lighting regulation, regulation for restriction of hazardous substances (RoHS) and equipment used in explosive atmospheres (ECAS Ex), Cosmetics, Perfumery and Personal Care Products (TR UAE GSO 1943) and is authorised to issue the mandatory Certificate of Conformity and/or Quality Mark on behalf of ESMA.

Visit our website to download guidance documents on the following ECAS regulations:

- Low Voltage Equipment (LVE)
- Energy Efficiency Standards Labelling (EESL)
- Lighting Regulation
- UAE Regulation for Restriction of Hazardous Substances (RoHS)
- ECAS Ex (Regulation of equipment used in Explosive Atmospheres)
- ECAS for Cosmetics and Perfumery Products

Intertek offers a variety of Conformity Assessment Programmes worldwide to ensure that products are fully tested in a recognized laboratory and a certificate issued before they are shipped to the client country