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FEATURED ARTICLE

UL Meets Cybersecurity Challenge in Europe Head On

The growth and scope of cybersecurity challenges across almost every aspect of modern business in Europe calls for local solutions. To meet this need and support local industry, UL is announcing a cybersecurity forum to be held in conjunction with the grand opening of its new cybersecurity laboratory in Frankfurt.

The cybersecurity forum will bring together a range of industry stakeholders including brand manufacturers, research leaders and political guests. Key sessions will focus on emerging threats in cybersecurity, such as side channel attacks that have become well-known through the Meltdown and Spectre vulnerabilities, and management briefings including demos and discussions. In addition to the forum and lab opening events, participants will have the opportunity to network with industry professionals.

"It's absolutely imperative that we – as a global safety science organization – address the issue of cybersecurity in our modern, connected world," said Ingo M. Rübenach, vice president for UL's central, eastern and southern European regions. "Our goal is to help our clients succeed in managing risks inherent to connected technologies, digitalization and cybersecurity. This lets us help them protect their brand reputation in a global marketplace."

The IECEE (IEC system for Conformity Assessment Schemes for Electrotechnical Equipment and Components) has officially acknowledged UL's status as an issuing and recognizing National Certification Body, whereby the UL Frankfurt Cybersecurity Lab performs related cybersecurity services for Europe. In addition to IEC 62443-2-4 recognition, UL is the first certification body worldwide to be

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ALSO IN THIS ISSUE

A Letter From Domenico Chicco

The Appliances industry is evolving, so is UL. Did you know that more than 70% of the IoT devices are vulnerable to attack? Loss of production, exposure of confidential data and reputational damage are some examples of the impact of cyber threats on security. Cybersecurity, the protection of information against unauthorized access, is expanding the definition of safety in the 21st century. UL has listened to the industry and expanded its footprint globally with a center of excellence for testing in the Frankfurt area, specialized in ensuring the security of connected products. A team of ethical hackers that meet all the testing and certification needs of the Appliances and HVAC sector allows UL to offer local quality performance to European manufacturers and simplifies the process, providing test and certification services for a single source and in one context. Stay tuned on the next steps of this UL global journey.

Domenico Chicco
Global Commercial Leader – Appliances Industry

Upcoming UL Education & Training for the Appliances Industry

At UL Knowledge Solutions, our goal is to help you develop safe, useful products that meet and exceed your customers' needs. Here you will find dozens of training courses taught by qualified instructors, both Public Workshops and Online eLearning Courses.

Public Workshops

Designing for Compliance to UL 60730
10/16/2018 Northbrook, IL

Online eLearning Courses

Available Anytime, Anywhere

What Every Retailer/E-tailer Needs to Know About Lithium Based Technology

Transformers: Global Market Access (GMA)/Efficiency per DOE and NRCan

Complimentary Webinar: UL Small Appliance Component Acceptance Alternatives – Manufacturer's Guide

Diagnosing HVAC Lighting and Electrical Surge Failures

ENERGY STAR® Requirements

To view a COMPLETE list of our public workshops and online courses, please visit ***UL.com/appliancestraining***

Navigating Cybersecurity Threats in a Technologically Evolving Industry

Technology often evolves so quickly that it can be difficult to keep pace with every new device and software update, but the world is becoming increasingly connected. Advancements in both technology and convenience mean that nearly everything, from major SCADA systems to consumer products such as smart thermostats, water heaters, appliances and automobiles, is connected to the internet or another network. The global Internet of Things market is expected to reach $457 billion by 2020, growing at a compounded annual growth rate of nearly 30% from 2016 to 2020.

These advancements also are creating new challenges that are growing and evolving with the technology itself, and these challenges affect the water industry at nearly every level. Products and systems are exposed to attack from individual hackers, independent cybercriminal networks, or even nation-state sponsored cyber warfare groups seeking to gain system access for reasons ranging from highlighting their hacking skills to holding systems for ransom. Manufacturers of smart, connected products must work to prevent these products from becoming weak links in larger smart systems (i.e., smart homes, municipalities, etc.), and those maintaining these systems must work to help ensure the continued safe operation of all components.

Although working to safeguard against these digital threats can seem daunting, it does not need to be. Taking a proactive approach while sourcing, designing, manufacturing and using these products and systems can help ensure programs are as safe as possible.

RECOGNIZING RISKS

In the water industry, connected products range from residential smart meters, pumps and remote sensors to components used in water treatment systems, often considered critical infrastructure. Out of the 295 incidents the Industrial Control Systems Cyber Emergency Response Team responded to in the U.S. in 2015, 57% occurred in the critical manufacturing, energy and water industries. Because critical infrastructure serves a central part of everyday life, it remains an attractive target for cyberattacks. Any attack on critical industry could have sweeping negative effects on civilian health, security or economic well-being.

Smart water devices are susceptible to remote attacks from computer hackers through the embedded wireless network used to connect to other devices and networks. It is estimated that 70% of devices are vulnerable to attack, and that by 2018, 66% of networks will have experienced a security breach. Many of these are known software vulnerabilities that can be easily addressed in the product.

Although the associated risk level may vary from one product to the next, and the potential for damage certainly is higher at the municipal level, all products suffer from the same basic vulnerability: the software. As every one of these products and systems relies on software, this can become a significant challenge. By acknowledging the risks and addressing potential issues early on, it is possible to overcome this challenge.

SAFER SOLUTIONS

Security breaches can have catastrophic

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(cover story continued)

UL Meets Cybersecurity Challenge in Europe Head On

acknowledged for the Industry 4.0 standards IEC 62443-3-3 and IEC 62443-4-1. This means UL customers can now take advantage of UL's unique, globally recognized cybersecurity testing, advisory and certification services, and take advantage of the most efficient market access in Germany, across Europe and around the globe.

UL's new cybersecurity facility in Frankfurt offers services to support the connected technologies of today, including the full range of standards-based advisory, testing and certification services. To learn more about UL's work in advancing cybersecurity, please click here.

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Navigating Cybersecurity Threats in a Technologically Evolving Industry

effects, including unplanned downtime, loss of production, harm to assets, and damage to reputation and to living and working environments. These growing cyber concerns prompted the creation of numerous guidance and best practice documents to help product manufacturers and asset owners improve the security of their products and installations. Manufacturers can take proactive steps toward more secure products by following security practices from the earliest phases of the product development cycle to avoid potential delays and increased costs further on in the process.

Many companies turn to off-the-shelf solutions from third-party software providers in an effort to reduce production time and costs, but this practice also increases risk. Many of the most prevalent applications come from trusted third-party developers, but poor processes exist for the selection, implementation and use of this software. Developing robust internal security specifications can help. These requirements should cover all third-party software products, components and vendors. To simplify the process, these specifications should be provided with every request for proposal and vendor agreement. All potential software suppliers should be evaluated to determine if adequate safeguards are in place and routine audits should be conducted to ensure cybersecurity risks continue to be minimized. Additionally, a third-party review of the software can offer peace of mind.

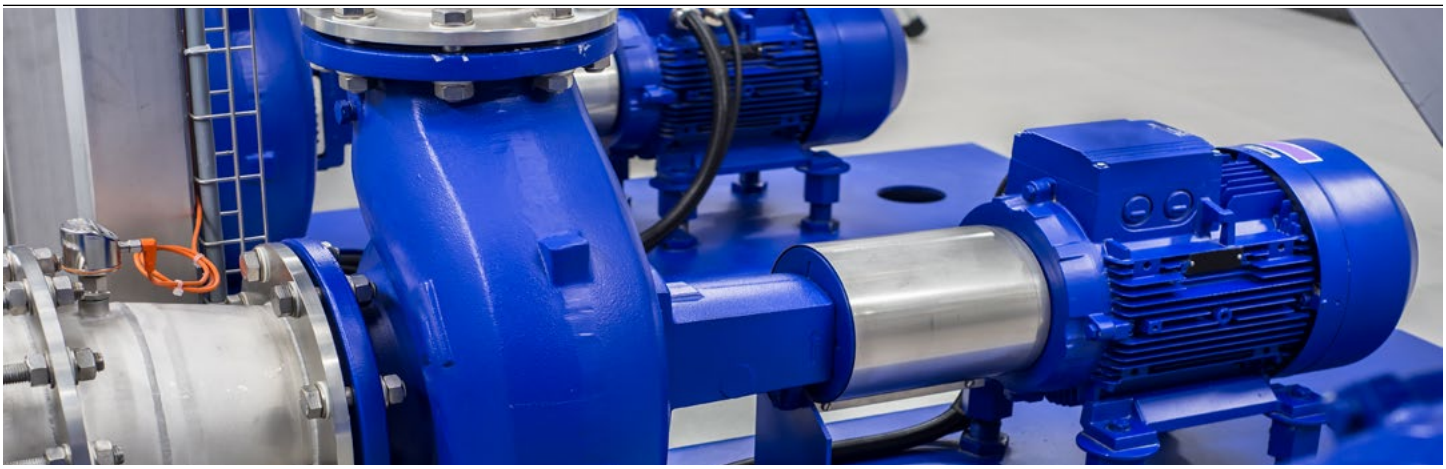
When a secure architecture is designed and built, security risks and vulnerabilities can be detected and assessed in a number of different ways, including penetration testing, source code reviews and threat modeling. After everything has been assessed, internal processes can help ensure smooth operation moving forward. Continuous training of employees is recommended, as human error is frequently a factor. With this training, limiting access also is important. Keeping critical software information on a need-to-know basis helps ensure only necessary parties—vendors and employees alike—have back-end access, decreasing the potential number of paths for a hacker. Finally, remaining current with software updates and patch releases is one of the best ways to keep software running safely, while also keeping security measures up to speed with the evolution of technology.

Manufacturers must understand the inherent risks of their product being connected to the internet or a network and they must recognize mitigation as their responsibility. To mitigate these risks, the product should be designed with best security practices, continually tested for vulnerabilities, even in production, and maintained and patched as updates are made. The product also can be certified by a third-party, which gives the customer or distributor confidence that the representative samples of the product passed a rigorous third-party security evaluation. With hackers and cybercriminals remaining intent on gaining access, product security will remain an evergreen issue and the easiest way to always stay one step ahead is by keeping security on the top of the mind.

As originally published in WQP April 2018.

Spotlight: New UL Solutions in Allentown, PA

UL's lab in Allentown, PA has expanded, building upon UL's core lighting performance business offerings. This includes a wide array of performance testing solutions to service the evolving needs of our clients, including ISTA, IP/IK, salt spray/cyclic corrosion, vibration, thermal shock and more. Whether in a cardboard box, crate, skid or custom design container, packaging helps to ensure the product will arrive at its destination without being damaged. For more information, click here or contact PerformanceSolutions@ul.com



Priming Your Pumps for ENERGY STAR 2.0

By: John Bray, UL Copywriter

ENERGY STAR® certified products are widely recognized by consumers in the U.S. Since 1992, together with partner organizations, this government-backed symbol for energy efficiency has saved over 3.5 trillion kilowatt-hours of electricity and helped to reduce greenhouse emissions.[1] This accomplishment is impressive by any standard and is even more so given that the ENERGY STAR program remains voluntary. In addition to these efforts, consumers are becoming increasingly educated and, as a result, are expecting greater environmental awareness and initiatives from the companies they support. Similarly, many companies are increasingly viewing the ENERGY STAR symbol as a way to demonstrate a commitment to the environment while standing out from the competition.

To remain relevant and effective, ENERGY STAR continues to evolve to address product changes and market demands. In some cases, these updates may be fairly minor. Other times, as with the recently released Pool Pumps Specification Version 2.0, the changes are more significant and can become confusing or even difficult to manage. Regarding pool pumps, this impending change may seem even more confusing as manufacturers seek to also understand both Department of Energy (DOE) and California Energy Commission (CEC) requirements. Fortunately, these changes do not have to become troublesome. A simple reference guide and a quick evaluation of what makes the most sense for your business may be all you need to stay up to date.

Transitioning from 1.1 to 2.0

Many pump manufacturers are familiar with the ENERGY STAR 1.1 requirements. Though there are some similarities in the recently released Pool Pumps Specification Version 2.0, there are important differences in the test parameters. These differences are briefly highlighted below, with DOE included for reference:

Different Speed Requirements:

- ENERGY STAR 1.1 – Tested at maximum, minimum and most efficient speeds.
- ENERGY STAR 2.0/DOE – Tested at maximum, 80 percent of maximum, and low speeds.

Relevant System Curves:

- ENERGY STAR 1.1 – Uses 3 system curves, A, B & C, and tests at each pump curve-system curve intersection.
- ENERGY STAR 2.0/DOE – Uses only system curve C (for weighted energy factor (WEF) calculations).

Energy Factor Calculations:

- ENERGY STAR 1.1 – Energy factor (EF).
- ENERGY STAR 2.0/DOE – Weighted energy factor (WEF), which is based on 80 percent of energy at low speed plus 20 percent of energy at high speed. All values are calculated and reported based on actual/measured values (no interpolation).

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Priming Your Pumps for ENERGY STAR 2.0

Energy Test Point Tolerances:

- ENERGY STAR 1.1 – Test point tolerances are ± 2.5 percent of flow for all pumps.
- ENERGY STAR 2.0/DOE – Test point tolerance is ± 2.5 percent of flow for single-speed and two-speed pool pumps and ± 2.5 percent of total dynamic head (TDH) for multi-speed and variable-speed pumps.

Sample requirements:

- ENERGY STAR 1.1 and 2.0 – Only one pool pump sample is required for both.
- DOE – A minimum of two pumps must be tested. Confidence limit calculations are applied to multiple-sample energy data.

Testing Considerations

In addition to understanding the testing required to earn these various certifications and marks, it is important to understand where the testing must be completed. Similarly, it is also worth considering capabilities, required capacity, and how both aspects can change if multiple certifications are being pursued.

As mentioned earlier and widely known to manufacturers and consumers alike, the ENERGY STAR program is voluntary; however, manufacturers looking to pursue the mark must do so through testing with an independent third-party. Though both DOE and CEC standards are required, both allow for self-declaration. This seems straightforward, but the landscape creates a potentially convoluted environment for manufacturers.

If ENERGY STAR will be pursued at any point and DOE and/or CEC were self-declared, much of that previous testing may need to be redone as the third-party lab responsible for the ENERGY STAR® tests will not be able to use the results. Naturally, these essentially duplicate tests mean additional costs are often incurred, but the advantages of engaging with a third-party testing laboratory extend beyond the financial.

When a third-party lab is used to complete testing for the DOE or CEC marks in addition to ENERGY STAR, this engagement can also significantly reduce lead times as it can be challenging for manufacturers to devote lab time to these tests. Additionally, testing can be combined, allowing you to pursue multiple certifications concurrently. For example, the specialists at UL can work to understand your unique needs, offer guidance regarding requirements for your desired markets, and complete all testing on a schedule that works for you. Finally, turning to an outside lab helps demonstrate to customers a true commitment to the environment.

Before you begin to evaluate your internal lab schedule or reprioritize testing, it might be worth looking at the bigger picture. And when that bigger picture can potentially save you time and money while ensuring that every test is conducted correctly the first time through, it might be time to consider a third-party like UL. We have experts around the globe ready to help guide you through the process, often in your local language. Even if you are not quite ready for certification, UL can become a valuable resource as you prepare to access your target markets and find success for your products.

For more information contact us today, UL.ProductEngineering@ul.com or 641.787.8700.

1. *https://www.energystar.gov/about*

Revised Standard for UL 867, Electrostatic Air Cleaners

By: Barry Karnes, Principal Engineer, Refrigeration Products

UL announces the publication of revisions to the Fifth Edition of UL 867, The Standard for Safety for Electrostatic Air Cleaners. This Standard addresses the safety of portable and fixed (including duct-connected) electrostatic air cleaning equipment. Standard UL 867 is also used to evaluate portable and fixed ion generators. These extensive updates clarify many requirements in UL 867 and provide requirements for constructions that were not previously permitted, such as allowing alternate controls to be evaluated to requirements based on UL 60335-1 requirements and covering USB powered products. Additional methods for complying with many of the present requirements have also been provided, such as those covering alternate motor-protection compliance options and alternate power supplies.

Highlights of the revisions to UL 867 include the following:

- Alternate method for evaluating protective electronic circuits and controls using requirements based on UL 60335-1
- Clarifying and consolidating the Ozone Test requirements
- Addition of requirements applicable to nonmetallic parts
- Addition of rain test and gasket test (outdoor products) requirements
- Providing requirements for minimum circuit ampacity and maximum overcurrent protective service size for products intended to be permanently connected to the electrical supply source
- Addition of Universal Serial Bus (USB) powered product requirements
- Additional and clarifying requirements for:
  - Motor-protection
  - Alternate power supplies
  - Openings located underneath wiring
  - Conversion of cord-connected products into products intended for permanent connection to the electrical supply source
  - Remotely operated products
  - Products located within a concealed building space and intended to be permanently-connected to an electrical supply source
- Clarifying and consolidating requirements covering:
  - Electrical connections
  - Transformers and insulating materials
  - Capacitors
  - Dielectric voltage withstand test
  - Electrical Spacings
- Clarifying test and compliance criteria for:
  - Strain Relief Test
  - Wiring subject to movement
  - Parts that may break and cause injury
  - Product markings

These revisions to the Fifth Edition of UL 867 will be implemented as "Action Not Required" so an industry file review of existing UL Certified electrostatic air cleaners or ion generators will not be necessary.

These revisions became effective upon publication (August 7, 2018), meaning electrostatic air cleaners and ion generators can now be certified to these requirements.

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Revised Standard for UL 867, Electrostatic Air Cleaners

In addition to these revisions to UL 867, the UL product categories covered by UL 867 have been recently updated to distinguish portable products from other (fixed or "dedicated location") products. These UL product categories are as follows:

A) Portable ionizers, fans employing ionizers, and ion generators are covered under the Ion Generators, Portable (OEUA) category.

B) Portable electrostatic air cleaners and fans employing electrostatic air cleaners are covered under the Electrostatic Air Cleaners, Portable (AGHC) category.

C) Fixed ionizers, fans employing ionizers, and ion generators are covered under the Ion Generators, Fixed (OETX) category.

D) Fixed electrostatic air cleaners and fans employing electrostatic air cleaners are covered under the Electrostatic Air Cleaners, Fixed (AGGZ) category.

Power supplies intended for use in electrostatic air-cleaning equipment are covered under the Power Supplies, Electrostatic Air-Cleaning Equipment (QQCH2) category and can also be evaluated using requirements in Standard UL 867.

A number of related products exist, but are covered within the following standards and UL product categories:

Related Product	UL Standard Number	UL Standard Name	UL Product Category Name	UL Product Category Identifier (CCN)
Portable air-filtering appliances	507	Standard for Electric Fans	Air-filtering Appliances, Portable	AEEA
Fixed and stationary air-filtering appliances utilizing mechanical filtration only	507	Standard for Electric Fans	Air-filtering Appliances, Fixed and Stationary	AEDX
Deodorizers intended to be used in treating air by dispersal of chemicals or by scenting the air	283	Standard for Air Fresheners and Deodorizers	Deodorizers and Air Fresheners	EOGX

For technical inquiries regarding portable ion generators or electrostatic air cleaners, please contact Kelvin Tsoi

For technical inquiries regarding fixed ion generators or electrostatic air cleaners, please contact Barry Karnes

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Laundry Appliances – New Editions of UL's Safety Standards UL 2157 and UL 2158

By: Darrin Conlon, Director of Principal Engineers for Appliances, HVAC/R, and Lighting, Distinguished Member of Technical Staff

With the publication of any new edition of a safety standard, users of the standard typically have a few questions: What are the changes to the standard? How will these changes be implemented? And when are these changes effective? It is the intent of this article to answer these important questions.

Major Changes to UL 2157 - Electric Clothes Washing Machines and Extractors:

The new 4th edition of UL 2157, the Standard for Safety for Electric Clothes Washing Machines and Extractors, was published on May 28, 2018. This new edition includes 22 new and revised requirements. The major changes to this standard are as follows:

1. ***Liquid Spillage Test (clause 14.6)***

The purpose of this test is to ensure the product is robust to the following foreseeable user actions:

- Accidental spillage of liquid (i.e. a bottle of bleach, cleaner, etc.) on top of the laundry appliance

And that the following potential failure modes are addressed:

- Electrical shock due to cleaning and/or spillage - evaluation method: current leakage
- Build-up of residue causing arc tracking of electrical components over time due to intermittent cleaning of the product - evaluation method: dielectric strength.

2. ***Glass Loading Door and Lid Test Requirements (clauses 16.3, 26.8, and 26.9)***

A Working Group (WG) of the Laundry Technical Harmonization Committee (THC) met several times to develop a proposal for glass loading door and lid evaluation requirements. During the meetings, it was agreed that testing conducted on glass enclosures should be consistent with the testing of polymeric and metal enclosures. This work resulted in new requirements for glass doors and lids.

3. ***Lithium Button or Coin Cell Batteries used in Wireless Remote Controls with Household Appliances (clause 19.20)***

The National Capital Poison Center (NCPC) has reported an increase in the number of incidents involving small children ingesting small lithium batteries in the "button/coin" configuration. These incidents have led to injury and death due to the generation of hydroxide when the battery is in contact with saliva, causing perforations of the esophagus or other serious physiological damage in as little as two hours. The Pediatrics article "Preventing Battery Ingestions: An Analysis of 8648 Cases" indicates 92 percent of the batteries identified with serious injury or death over the last decade were 20 mm lithium coin cells. UL 4200A, the Standard for Products Incorporating Button Cell Batteries of Lithium and Similar Technologies, was published on February 10, 2015. This new horizontal standard is intended to promote consistency in requirements for appliances that may incorporate lithium or similar button/coin cells.

UL 2157 now includes requirements that reference UL 4200A in the end product standard making UL 4200A a normative requirement.

4. ***Evaluation of Electronic Circuits and Controls (Supplement SD)***

There is now an allowance to evaluate electronic circuits and controls in the end-use application using requirements that have been derived from UL 60335-1. These requirements were originally published as a UL Certification Requirement Decision (CRD).

5. ***Dedicated Receptacle Requirements (clauses 5.1.2.23, 8.2, 9.1.8, 19.9, and Table 17)***

UL 2157 now includes dedicated receptacle requirements for the connection of a pedestal/drawer type washer. These new requirements address supplementary overcurrent protection, input, heating, marking, and instruction requirements.

6. ***Warning Marking and Instruction Related to Washing Water Resistant Clothing (clause 5.4.3)***

Based on field incidents related to household users washing water resistant and water repellant type clothing that has resulted in out-of-balance washing conditions, this proposal is intended to provide a warning marking and instruction to users to prevent the risk of mechanical injury.

7. ***Nichrome Wire Test Revisions (clauses 14.7 and 26.6.3)***

A Joint-Task Group consisting of members of AHAM, UL, and CSA met to align, revise, and clarify the nichrome wire test and polymeric material requirements that appear in several major

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Laundry Appliances – New Editions of UL's Safety Standards UL 2157 and UL 2158

appliance standards and are proposed for inclusion in other appliance standards. These proposed requirements are intended to align with the original intent of the AHAM standard revision proposals for UL 749, UL 858, UL 923, UL 2157, UL 2158, UL 60335-2-24, and UL 60335-2-40.

UL 2157 Implementation and Effective Date: Based on the nature of the new and revised requirements with respect to safety, Action is Required by all manufacturers to bring presently UL 2157 Certified products into compliance with the 4th edition of UL 2157 by the effective date of April 7, 2021.

Major Changes to UL 2158 - Electric Clothes Dryers:

The new 5th edition of UL 2158, the Standard for Safety for Electric Clothes Dryers, was published on April 6, 2018. This new edition includes 15 new and/or revised requirements. The major changes to this standard are as follows:

1. ***Component Requirements (clause 21)***

Appendix A was deleted, and the component requirements are now included in the body of the standard to promote consistency in their application. With respect to Clause 21.13.3.5, UL will be applying the following decision, which is documented in the UL 2158 CRD dated 2017-12-21:

"21.13.3.5 The secondary function control (Clause 17.6.2), door interlock (Clauses 17.1.2, and 17.7.1 (b) and 17.7.2),door lock (Clauses 17.7.1(a)), electronic braking means (Clause 17.7.1(b)), motor overload protection (Clause 21.7), temperature-limiting devices, combination temperature-regulating and -limiting devices, and any control relied upon for compliance with the abnormal operation testing of Clauses 16, 28.14, or 28.15 are considered and shall be tested and evaluated as protective controls."

2. ***Fire Containment Test Revisions (clauses 16.6 and 16.7)***

The standard now includes refinements to the Fire Containment Tests (FCT) that are intended to decrease testing variability. These new/revised requirements provide further clarity to the FCT requirements. These revisions were developed by a Working Group of the Laundry Harmonization Committee.

3. ***Lithium Button or Coin Cell Batteries used in Wireless Remote Controls with Household Appliances (clause 21.23)***

UL 2158 now includes requirements that reference UL 4200A in the end product standard making UL 4200A a normative requirement. See additional information in Item 4 above for UL 2157.

4. ***Clothes Dryer Surface Temperature (clause 10.10 and Table 3)***

Advanced research into temperature limits for touchable surfaces as well as further consideration for children and vulnerable people have caused CENELEC to adopt and the International Electro-technical Commission (IEC) to propose new surface temperature limits. We reference the work conducted by the IEC TC 61 MT 4 on Surface Temperatures and IEC Guide 117. Furthermore, gas clothes dryers have surface temperature requirements while some standards for electric clothes dryers do not. To bring greater harmonization of the standards, UL 2158 now includes surface temperature requirements.

5. ***Dedicated Receptacle Requirements (clauses 6.1.2.36, 9.2, 10.1.7, 21.10)***

UL 2158 presently allows stacked clothes dryers to have a dedicated receptacle for the connection of a clothes washer. However, additional requirements have been added to address the use of a dedicated receptacle. These new requirements address supplementary overcurrent protection, input, heating, marking and instruction requirements.

6. ***Dryer Exhaust Duct Power Ventilator Installation Warning Instruction (clause 6.2.3.9)***

The installation of a dryer exhaust duct power ventilator may affect a dryer's ability to comply with the UL 2158 fire containment tests due to the likelihood of greater airflow through the dryer or continued airflow after the internal dryer blower ceases to operate. This may result in greater intensity fires that spread from the clothes dryer to the building structure. The installation instruction requirements for clothes dryers have been revised to add a warning about the use of dryer exhaust duct power ventilators on household clothes dryers.

7. ***Nichrome Wire Test Revisions (clause 16.8)***

A Joint-Task Group consisting of members of AHAM, UL, and

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Energy Performance Testing: Not Only For Household Appliances

By: Elena Finocchi, Program Manager Performances, Appliances & HVAC

Hotel/Restaurant/Café (also known as HORECA, a commercial term used to identify the food service industry) is confirmed as a steady growth sector for 2017. In Europe about 36% of total family food consumption is spent outside the home, with significant differences between countries (e.g. Germany 30%, UK 47.6% and Ireland 59%).

Within the Horizon 20/20 program, the aim of the climate-energy package is to drive consumers to a more environmentally friendly attitude. The hope is that this program will lead to purchasing more energy efficient products as a way of reducing energy demand and saving customers money on energy bills. The introduction of an energy labelling program for Professional Equipment also helps in this effort by enabling restaurateurs to better estimate energy costs and make more environmental friendly decision.

Since 2016 the following European Regulations on Energy Efficiency Measurement have been issued:

- Commission Delegated Regulation (EU) 2015/1094 of 5 May 2015 supplementing Directive 2010/30/EU of the European Parliament and of the Council with regard to the energy labelling of professional refrigerated storage cabinets;
- Commission Regulation (EU) 2015/1095 of 5 May 2015 implementing Directive 2009/125/EC of the European Parliament and of the Council with regard to eco-design requirements for professional refrigerated storage cabinets, blast cabinets, condensing units and process chillers.

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Laundry Appliances – New Editions of UL's Safety Standards UL 2157 and UL 2158

CSA met to align, revise, and clarify the nichrome wire test and polymeric material requirements that appear in several major appliance standards and are proposed for inclusion in other appliance standards. These proposed requirements are intended to align with the original intent of the AHAM standard revision proposals for UL 749, UL 858, UL 923, UL 2157, UL 2158, UL 60335-2-24, and UL 60335-2-40.

UL 2158 Implementation and Effective Date: Similar to UL 2157, based on the nature of the new and revised requirements with respect to safety, Action is Required by all manufacturers to bring current UL 2158 Certified products into compliance with the 5th edition of UL 2158 by the effective date of October 7, 2021 (this is similar to that done for an industry file review).

The full Summary of Requirements for UL 2157 and UL 2158 is accessible here.

After clicking on the above link, you can use the "Effective Date Information & Summary of Requirements" section on the left-hand side of the webpage to search by standard number to locate the applicable documents.

If you have questions related to the above, desire training related to these new editions of UL 2157 and UL 2158, or would like to open a Preliminary Investigation project to learn more about these changes and how they affect your UL Certified laundry appliances, please contact Darrin Conlon at (631) 546-2872 or Darrin.Conlon@ul.com.

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Energy Performance Testing: Not Only For Household Appliances

Products under scope are professional refrigerated storage cabinets and counters intended for the storage of foodstuffs or animal feed in non-household environments such as commercial kitchens, hospitals, canteens, preparation areas of bars, bakeries, ice-cream shops, institutional catering and similar. Commercial Refrigerators such as fridges or vending machines used for the storage and display of food, beverages and Ice cream in shops and supermarkets are excluded from this regulation.

Following the same principle as the one for household appliances, the energy label for professional products indicates the product class within an energy efficiency scale, settled by regulation; the class is defined by an Energy Efficiency Index (EEI) that is the relationship within the product energy consumption, calculated by laboratory tests, and its volume. Lower numbers indicate a higher energy class.

To stimulate energy awareness, contribute to innovation in energy efficiency and enable the industries which develop and produce the most energy efficient products to gain a competitive advantage, energy efficiency index limits have been set: since July 2016, when the regulations came into force, three different limits were set and the most restrictive will be effective from July 2019. Product with an energy index above this limit cannot be sold in the market.

Each energy label should be clearly visible on the product and will provide the following important information: the company/trade mark, the model, its energy efficiency class, the annual energy consumption in kWh, the net volume in liters of chilled and frozen compartments and the climate class (3, 4 or 5) together with the associated ambient temperature and relative humidity.

In this market framework, with a lack of testing capacity in the market as a result of the growing demand from manufacturers and the huge investment needed for the chamber that small producers can't afford, UL found an opportunity to better serve the industry by building a new dedicated climatic chamber in the Gavirate Laboratory (In Gavirate, Italy) in which we will be able to perform testing.

As professional appliances have to work in higher stress environments than domestic appliances, the new testing room was designed with horizontal air flow and parameters of power, temperature, air circulation speed and humidity to guarantee the right testing condition. An ambient temperature range 10°C to 45°C , humidity up to 85 and more than 100 temperature sensors, dedicated electrical parameters, humidity and light sensors allow us great flexibility in testing all types of professional cabinets.

During the test, we simulate real-life use and measure the product's energy consumption, as required by the standard, while keeping the required internal temperatures in each compartment in the declared climatic conditions. To simulate food loading, we equipped the chamber with more than 500kg of test packages and a dedicated modular doors and drawers opening rig that automatically opens the product during testing.

UL's experienced engineers will support our partners performing tests according to identified standards or to personalized performance tests defined together with customers to evaluate specific needs.

As per above European Regulation requirements, we will enlarge our laboratory scope to the European test method EN 16825, Refrigerated storage cabinets and counters for professional use, classification, requirements and test conditions. We will also be able to conduct tests according to the following North America Standards for Commercial equipment (NA standards do not differ within Professional/ Commercial products):

- Mandatory DOE requirements – Uniform test method for the measurement of energy consumption of commercial refrigerators, freezers, and refrigerator-freezers 10 CFR Part 431 Subpart C;
- Voluntary ENERGY STAR® Program Requirements For Commercial Refrigerators and Freezers – Eligibility Criteria Version 4.0.

Our new chamber will give UL the flexibility to fulfill a demand for different markets (Europe & North America) on additional appliances categories (professional and commercial) easing global market access for our customers and strengthening our position on major domestic appliances.

Global Market Access Corner:

UL maintains a global presence and a focus on helping customers access markets around the world that matter most to them. With unmatched technical expertise, a worldwide network of CB testing laboratories and localized staff who can offer services and expertise in the local language, we deliver technical assessments and reports that cover the latest editions of applicable international standards.

Our Global Market Access team is prepared to help you achieve compliance with new requirements and works diligently to remain aware of updates and revisions. For more information or to contact our experts, visit our Global Market Access site at ul-certification.com.

UL Thailand Lab Grand Opening

By: Kongpob Rattanakornkun, Thailand Regulatory Program Expert

UL, a global safety science organization, officially opened a new laboratory in Samut Prakan, Thailand. The new facility features cutting-edge testing equipment and will serve as UL's regional hub for testing appliances, heating, ventilation and air conditioning (AHVAC) equipment across diverse industries. Keith Williams, UL CEO & President, and Sajeev Jesudas, President of UL International, joined more than 40 government officials and representatives from local industry associations and customers for the grand opening ceremony.

UL is expanding its presence in Thailand and ASEAN as the AHVAC industry continues to rapidly develop in the region. Bolstered by world-leading economic growth, demand for AHVAC safety and energy efficiency testing services in ASEAN has continued to surge over the years. With its strategic presence in Thailand, the second largest economy in Southeast Asia, and a highly skilled engineering team, the new laboratory will enable UL's customers to gain rapid access to global markets through safer, superior products.

The new laboratory is located at 888 Moo 5, Samrong Nua, Muangsamutprakan, Samut Prakan 10270, Thailand.

Test Facilities of UL Thailand Lab:

UL's Thailand lab is equipped with cutting-edge equipment and instrumentation:

- 10 & 5 Ton Test Chambers for HVAC products (Ability to do VRF testing and multiple testing)
- Washing Machine Test Chamber
- Flammable Refrigerant Leakage Testing Apparatus
- Test Room for Ingress Protection Testing, Lock Rotor Testing, Material Testing, Electrical Testing and Mechanical Testing

The above equipment and instrumentation are applicable to residential and commercial air conditioners, washing machines, tumble dryers, refrigerators, freezer and motor compressors.

UL Thailand Lab Accreditation;

In August 2018, UL Thailand received the official laboratory accreditation certificate (TIS17025-2548) from Thai Industrial Standards Institute (TISI). UL also received the CBTL certificate, which accepts the UL Thailand lab to operate as a CB Testing Laboratory under the responsibility of National Certification Body (NCB) UL-DEMKO under the IECEE CB Scheme.

How UL can help:

UL Thailand can conduct safety and energy efficiency testing and offer services to provide access to the following markets:

- ASEAN: Thailand, Singapore, Malaysia
- Middle East: G-Mark, Saudi Arabia, UAE, Kuwait*
- Other: Australia, New Zealand, Europe, North America*, Canada*

**Only Safety Testing*

Contact point:

Underwriters Laboratories (Thailand) Limited.
888 Moo 5, Samrong Nua, Muangsamutprakan,
Samut Prakan 10270, Thailand.
P: +66 2106 9600
E: sales.th@ul.com

Singapore: UL is accredited as a Water Efficiency Labeling Scheme Certification Body

By: Chian Haw YONG, ASEAN Global Market Access Lead

In addition to existing Singapore Safety Mark certifications, NEA registration and IMDA approval services, UL Singapore can now issue the mandatory Water Efficiency Labeling Scheme (WELS) Certificate of Conformity (CoC) and register client products into the PUB WELS certified product database. This provides timely, hassle-free services to customers requiring Singapore market access.

The WELS certification operates under ISO/IEC 17067 Type 1a scheme, and UL is an accredited product Certification Body (CB) for the following products:

Product Description	Test Standard Number	Description
Domestic Clothes Washing Machine	i) Clause 8.6 of IEC 60456 Edition 5.0 (2010-02), or (ii) Clause 11 of BS EN 60456 (2005)	Paragraph 1(4) and 4 of Annex 1A of WELS Guidebook dated 4 May 2018
Domestic Dishwashers*	(i) Clause 8.2 of BS EN 50242:2016/ BS EN 60436:2016 or (ii) Clause 8.2 of IEC 60436:2015	Paragraph 1(5) of Annex 1A of WELS Guidebook dated 4 May 18.

** In effect from October 1, 2018*

Additional information:

1. Local representative (importer or distributor) is required
2. UL has ILAC accredited labs that conduct testing and issue test reports to the above standards
3. There is no expiry on WELS certification. Manufacturer/local rep is responsible to inform CB when there are changes/ modifications to product design/construction

How UL can help

UL helps washing machine and dishwasher manufacturers access the Singapore markets by providing testing and certification services and registering customers' regulated products to authority certified product databases.

Middle East: Mandatory ECAS Mark Implementation in the UAE

By: Elena Andreula - EMEA Regulatory Program Expert

The Emirates Authority for Standardization and Metrology (ESMA) has introduced a mandatory implementation of the ECAS Mark.

As per ESMA Board of Directors Decision Number 78 of 2017, all ECAS certified products shall bear the ECAS Mark indicating conformity of the products to the UAE Product Certification Scheme.

Exceptions are:

- Perfumes
- Tobacco products
- Energy Drinks
- Products carrying other acceptable marks for the UAE market (for example G-Mark, EQM mark)

Deadline implementation for LVE product category:

- September 1, 2018 for incoming products (separate label or part of nameplate/main product label)
- January 1, 2019 for existing in the Market (separate label or part of nameplate/main product label
- January 1, 2020 for all products, incoming and existing (part of nameplate/main product label, no ECAS logo printed as separate adhesive label permitted)

After obtaining Certificate of Conformity (CoC), the ECAS Mark of Conformity will be transferred electronically by notified bodies to companies after the signing of the usage policy for the ECAS Mark of Conformity.

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Middle East: Mandatory ECAS Mark Implementation in the UAE

Copies of label artwork should be stamped by notified bodies with the corresponding CoC number for traceability.

The mark shall be placed conspicuously at the front of the product or at the bottom left away from other marks.

How UL can help

UL is an approved body to issue the UAE's Conformity Assessment Scheme (ECAS) with ESMA.

We will assess your products for compliance with both ECAS or Emirates Quality Mark (EQM) Certification Scheme.

For more information on the Regulated Products List, please visit the ESMA website or contact our experts.

These updates are for information purposes only and are not intended to convey legal or other professional advice.

Saudi Arabia: Update on categories and implementation dates for SASO IECEE Recognition Certificates

By: Federico Picco, Saudi Regulatory Program Expert

The new SASO IECEE Recognition Certificate is the recently introduced Saudi National Conformity Certificate issued based on a valid CB Test Certificate and CB Test Report.

It guarantees that certified appliances are compliant with the standards of the IEC Conformity Assessment Schemes for Electrotechnical Equipment and Components (IECEE), while also taking into consideration the Saudi National Differences. The SASO IECEE Recognition Certificate will be valid for one year and requires annual renewal.

It is currently mandatory for the following product categories:

Product Category	Implementation date
Mobile phones	February 15, 2018
Mobile chargers	
(adaptors & cables, wireless, power banks)	
Mobile USB cables	
Mobile batteries	August 1, 2018
Water pumps	
Dishwashers	
TVs	
Laptops	
Smartwatches	

The implementation date for the following product categories, soon to be introduced by Saudi Metrology and Quality Organization (SASO), has not yet been officially announced, but SASO shared a tentative date:

Product Category	Implementation date
Tablets	December 1, 2018 (unofficially announced by SASO)
PV panels (solar panels)	
Luminaires and lamps	

To gain access to the Saudi market, the SASO Certificate of Conformity (CoC) is still mandatory for in-scope product categories, and the SASO IECEE Recognition Certificate is a mandatory pre-requisite for the obtainment of SASO CoC.

How UL can help

As a Notified Certification Body (NCB), UL supplies testing and certification expertise and, with Arabic speaking staff, we can offer localized expertise regarding SASO's processes, on-line systems and requirements. UL also provides accepted templates for manufacturer's and importer's Declaration of Conformity required to obtain certification.

GSO Countries: Changes Required for Cooking Appliances

Understanding the potential impact of a new IEC 60335-2-6 amendment

By: Pesconi Paola, Gulf Conformity Marking Program Expert

To access markets in GCC Standardization Organization (GSO) member states, a valid Gulf Type Examination certificate is mandatory for electrical household cooking appliances (ovens, microwaves, hobs, and cookers).

As the GCC Standardization Organization (GSO) continues their activity to unify and harmonize regulations throughout the GCC countries, member states are continuing to implement regular surveillance at customs and in the market. To meet regulation requirements, it is important to keep certificates active and valid by regularly checking registration on the GSO certificate tracking system (on-line registration system), updating as needed if changes occur and checking if current standards editions are still acceptable.

Gulf Type Examination certificates are usually based on CB Test Reports and Certificates, since GSO standards are harmonized with the latest editions of IEC standards (with a 2 year transition period). This means the publication of a new IEC standard edition or amendment has an impact on certificates already issued for market access to GSO countries.

Cooking appliances were recently affected by the publication of amendment 1 to IEC 60335-2-6 sixth edition on May 2018. Considering the 2 years transition period, certificates issued according to the previous edition are only valid until May 28, 2020. To maintain the possibility of exporting to these countries, manufacturers need to communicate to the Notified Body their intention to update the certificates involved. The Notified Body will evaluate the impact of the new standard on the products to define reviews necessary for the update.

Validity of certificates can be easily checked using the QR code of the Gulf Conformity Tracking System (GCTS). It can be found on each Gulf Type Examination Certificate and on the products.

Sample of Gulf Conformity Tracking Symbol for Products

How UL can help

In addition to the ongoing work of our Global Market Access team, UL is actively participating in a GSO Notified Bodies Cooperation Group for LVE Regulation and can offer expert advice to help determine if your product is in scope. UL Notified Bodies can deliver G-Mark certificates in an effective, reliable way to help eliminate risks during surveillance at customs or in the market.

Learn more about UL's G-Mark Services here.

These updates are for information purposes only and are not intended to convey legal or other professional advice.

By: Joe Musso / UL Standards Program Manager

Standards Corner

Click here for Standards information

Register for "What's New" to receive e-mails twice a month indicating the new published UL Standards, Outlines, and Proposals.

STP 325 – DOOR, DRAPERY, GATE, LOUVER, AND WINDOW OPERATORS AND SYSTEMS – A set of 11 new proposals were circulated for ballot in July 2018, with voting and comments due September 4.

STP 507 – ELECTRIC FANS – Standards work in this area remains active. Several proposals recently completed the standards process, and were published August 15, 2018. A series of new proposals, including updating references to component standards, a static load test for ceiling insert fans with tab mounting means, and ceiling fan blade edge requirements will be circulated for STP ballot in September.

In addition, the task group formed to continue work on a proposal submitted from the CPSC to include a new thermal condition performance test for unattended fans, continues to make progress. CPSC is leading the task group, which is working toward development of a proposal for consideration by the STP and public.

SAVE THE DATE: The next STP 507/705 Meeting will be February 26, 2019, in Clearwater Beach, FL.

STP 749 – HOUSEHOLD DISHWASHERS – The STP ballot of the proposed new (11th) edition concluded in May 2018, with the initial ballot failing to reach consensus. Comment resolution has been completed, and recirculation of the resulting changes to the proposed new edition opened August 17, with a closing date of October 1.

STP 867 – ELECTROSTATIC AIR CLEANERS – An STP ballot of 22 wide-ranging proposal topics closed in May 2018, with all topics reaching consensus. A minor change to one topic was recirculated in July, and the final revisions for all 22 topics were published August 7.

STP 923 – MICROWAVE COOKING APPLIANCES – A new proposal intended to address the potential risks associated with handling hot food and beverage items by young children in connection with microwave oven usage was circulated for STP ballot August 3, 2018, closing September 17. This proposal is the result of a task group that worked very hard to get to this point, carefully considering information available on this topic. A separate proposal to add requirements for smart-enabled microwave ovens was circulated for STP ballot in April 2018. The proposal reached consensus but with several comments. Comment resolution is ongoing, with recirculation targeted for Q3 2018.

STP 1017 – VACUUM CLEANERS, BLOWER CLEANERS, AND HOUSEHOLD FLOOR FINISHING MACHINES – A new revision cycle is underway. The technical harmonization committee (THC) met in July 2018 to finalize the draft proposals prior to passing along to the SDOs for processing. The next step will be to circulate the document for review by the consensus bodies and public. This is targeted for Q4 2018.

STP 2157 – ELECTRIC CLOTHES WASHING MACHINES, EXTRACTORS, AND DRYERS – editions were published for UL 2157 (May 28, 2018) and UL 2158 (April 6, 2018). A call for proposals was issued August 2018 in preparation for the next revision cycles.

STP 2595 – GENERAL REQUIREMENTS FOR BATTERY-POWERED APPLIANCES – The new (3rd) edition of UL/CSA 2595 has been developed and was circulated for preliminary STP review, with a June closing date for comments. The new edition will integrate, update, and clarify a number of requirements, related to maximum rated voltages, use of general purpose batteries, general conditions of test requirements, normal charging of lithium-ion systems, power switches, and products powered or charged by universal serial bus (USB) power sources. A significant number of comments were received and are currently under review. It is anticipated that the STP ballot will open in the 4th quarter of 2018.

STP 60335-2-8 – HOUSEHOLD & SIMILAR ELECTRICAL APPLIANCES, PART 2: PARTICULAR REQUIREMENTS FOR SHAVERS – The proposed new (6th) edition was circulated for STP ballot in April 2018, with an early June closing date. The document reached consensus with no comments and was published June 25.

Tradeshows & Webinars

Contact UL industry experts if you'd like to setup an in-person meeting at any of the listed tradeshows or if you have any general questions. We're here to help!

The Green Industry & Equipment Expo 2018
October 17-19, 2018
Louisville, KY

Learn more >

AHRI Annual Meeting 2018
November 11-13, 2018
Tucson, AZ

Learn more >

International Pool, Spa & Patio Expo 2018
October 31 – November 2 ,2018
Las Vegas, NV

Learn more >

Canadian Pool & Spa Conference & Expo
December 3-6, 2018
Niagara Falls, Ontario

Learn more >

On-Demand Webinars:

Keep up with the Changes to Prop 65
Significant changes will be implemented to California's Prop 65 regulation. These changes will impact labelling and warnings required for Prop 65, and companies that sell or ship products to California will need to make changes to their labels and internet retail platforms.

Click here to view recording >

UL 325 External Entrapment Protection Devices
During this free webinar you will hear from experts about the latest requirements in UL 325 for external entrapment protection devices, as used in door and gate systems

Click here to view recording >