

UL STANDARDS

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January 28, 2021

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Agenda

1. **UL Standards Overview**
2. **Standards Technical Panel (STP) and Stakeholder Participation**
3. **UL Standards Development Process**
4. **CSDS Overview**
5. **Standards Resources**
6. **UL Standards Activity – Key Alternative Energy Standards**
7. **Questions**



UL Standards Overview



UL COMPRISES TWO DISTINCT ORGANIZATIONS WITH ONE COMMON MISSION

UL Not For Profit (NFP)



Standards

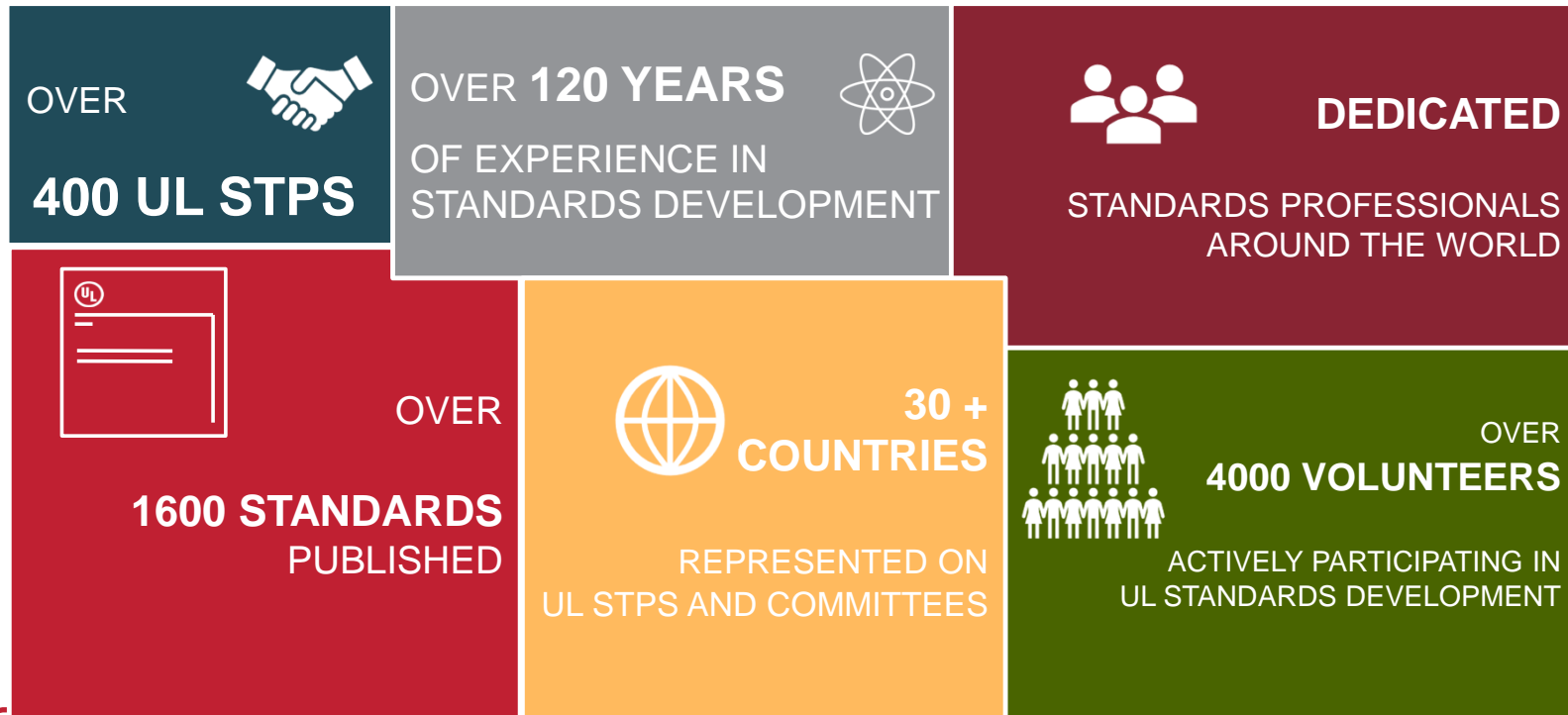
Research
Education
Outreach

UL For Profit



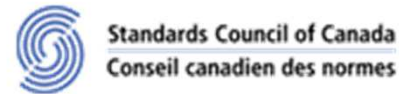
Testing, Inspection & Certification
Software as a Service
Advisory Services

UL Standards – At a Glance



Consensus Standards Development Process

- UL's standards development process is accredited by both ANSI and SCC
- UL standards are developed through Standards Technical Panels (STPs)



UL Procedures for accreditation published as *Regulations Governing ANSI/UL STPs*

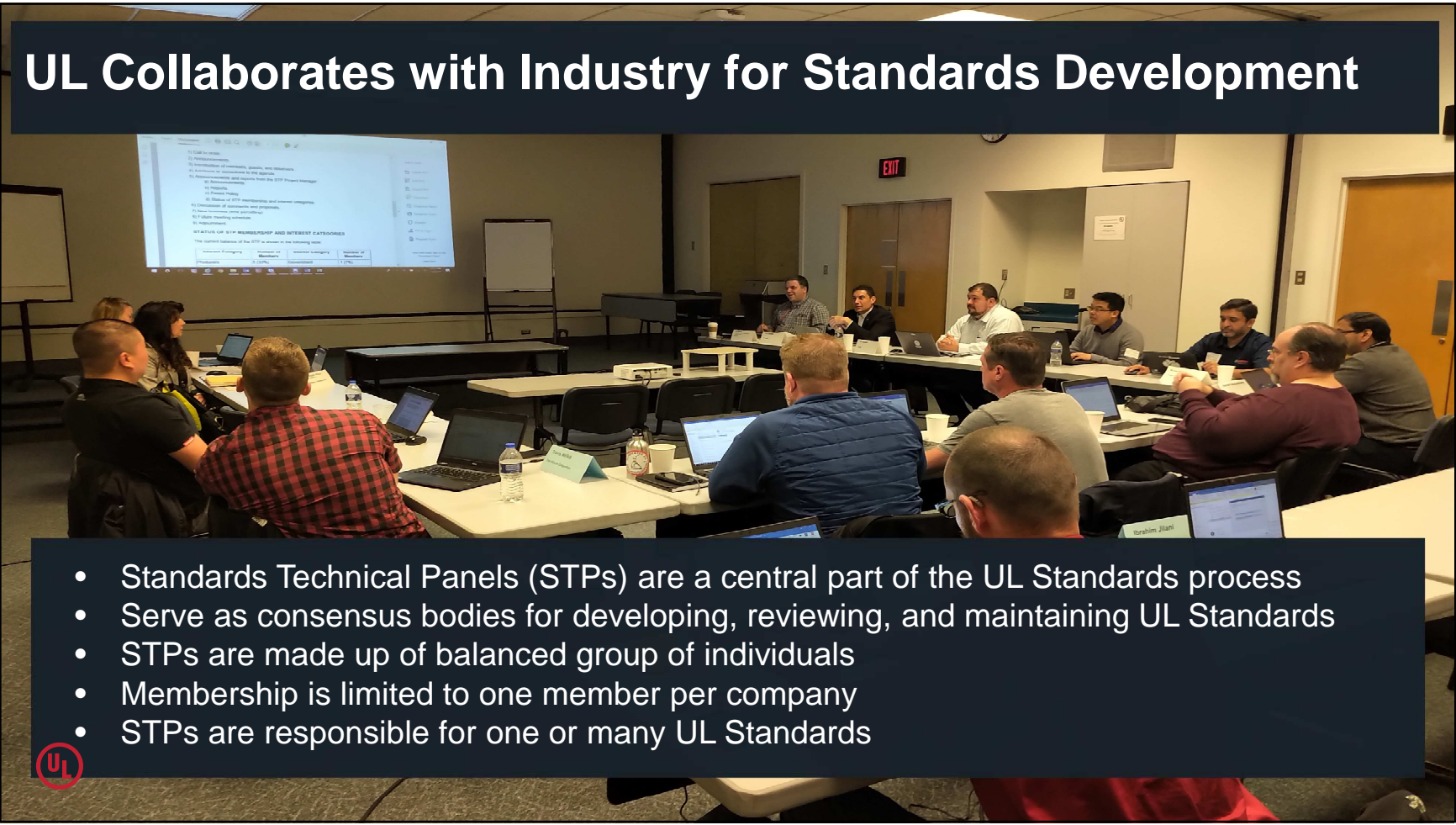
<http://ulstandards.ul.com/develop-standards/stps/stp-regulations/>



Standards Technical Panel (STP) and Stakeholder Participation

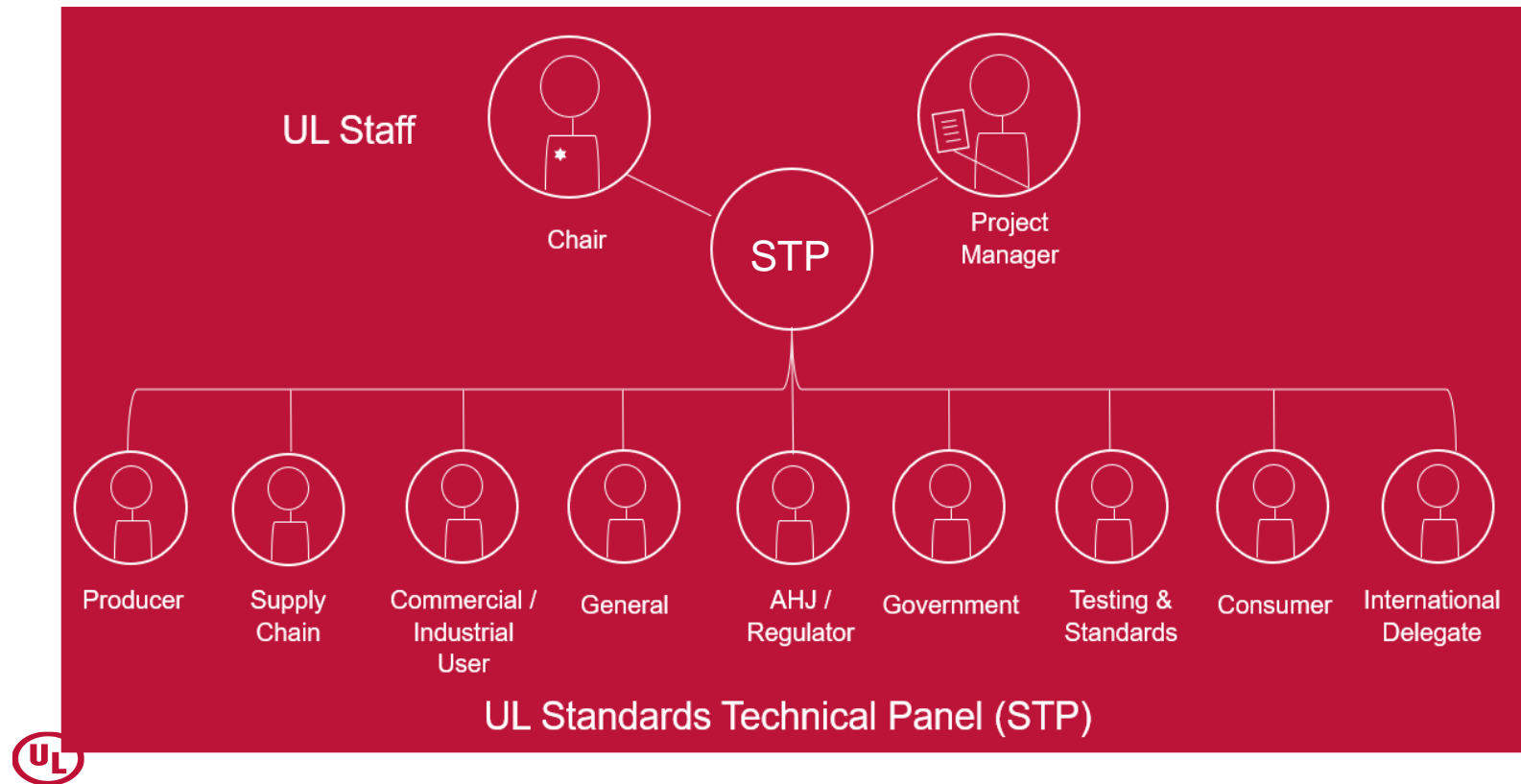


UL Collaborates with Industry for Standards Development

- 
- Standards Technical Panels (STPs) are a central part of the UL Standards process
 - Serve as consensus bodies for developing, reviewing, and maintaining UL Standards
 - STPs are made up of balanced group of individuals
 - Membership is limited to one member per company
 - STPs are responsible for one or many UL Standards



UL Standards Technical Panel (STP)



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Who is on a STP?

- **Producer:** Manufacturer of products, or agents who represent a producer
- **Supply Chain:** Component producer for end-product standard; end-product producer for component standard; installer; distributor; retailer
- **Commercial / Industrial User:** Uses product in commercial or industrial setting
- **General:** Academia; consultants; scientists; attorneys; experts; trade associations
- **AHJ:** Authorities having jurisdiction; city inspectors; those involved in regulation or enforcement of codes/standards at state/local level
- **Government:** Federal Agencies (Ex: CPSC, FDA, EPA)
- **Testing and Standards Organizations:** Organizations that test or certify products
- **Consumer:** Consumer organizations; professional consumers
- **International Delegate:** Individual representing a National Standards Body outside U.S.



What is Balance?

- The goal is for no Interest Group to be over 1/3 (33%)
- Membership may be limited due to balance constraints
- Not all Interest Groups are required to have representation



Expectations of STP Members

- ✓ **Vote** and comment on proposals
- ✓ Participate
- ✓ Help develop proposals to the standard
- ✓ Provide input for comment resolution
- ✓ Participate in Task / Working Groups
- ✓ Attend STP meetings
- ✓ Comply with STP Member Code of Ethics



Stakeholder Participation

- Participation is open to all interested parties
- No membership dues
- 24/7 online access to UL Standards proposals and meeting information via CSDS
- Ways to participate
 - ✓ Submit proposal to revise UL Standard
 - ✓ Review and comment on proposals
 - ✓ Attend STP meeting
 - ✓ Participate in Task Groups
- Comply with STP Member Code of Ethics



Working Groups / Task Groups

- ✓ Play an important role in the UL Standards Development Process
- ✓ STP Chair makes all appointments, including the working group chair
- ✓ Formed to address a specific topic, develop and / or revise proposals
- ✓ Disbanded after the task is complete
- ✓ No balance requirements for Working Groups
- ✓ STP membership is not required for Working Group participation
- ✓ Meetings are normally held via web/conference call
- ✓ Final voting is done by the STP, which is the consensus body



Role of STP Chair and Project Manager

STP Chair

- ✓ Responsible for appointing new members
- ✓ Schedules and presides over STP meetings
- ✓ Provides leadership to the STP
- ✓ Review all submitted proposals
- ✓ Serves as STP process expert
- ✓ Non-voting member

STP Project Manager

- ✓ Assists STP with workflow (proposal to publication)
- ✓ Coordinates activities of STP (proposals, meeting reports and ballots)
- ✓ Maintains STP membership rosters
- ✓ Works closely with the STP chair
- ✓ Serves as STP process expert
- ✓ Non-voting member



UL Standards Development Process



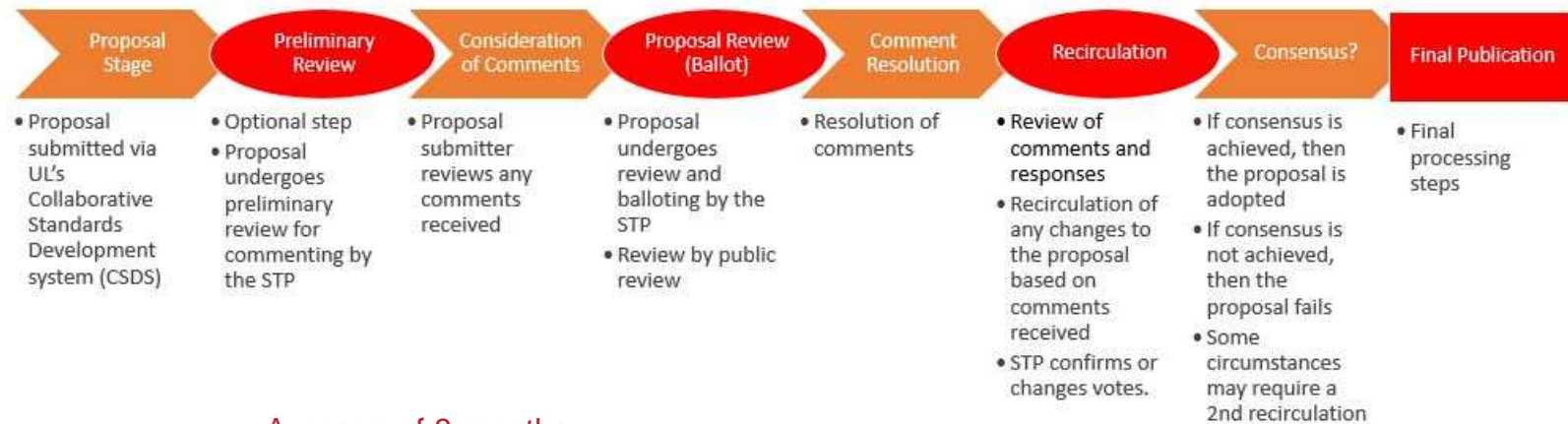
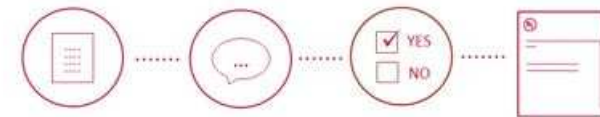
UL Standards Process

- ✓ The UL Standards development process is open and anyone can participate
- ✓ Encourage participation by all stakeholders
- ✓ Anyone can submit proposals to a UL Standard at any time
- ✓ Anyone can comment on proposals, participate in working groups, attend STP meetings
- ✓ STP is the consensus (voting) body
- ✓ Stakeholders are not STP members and cannot vote
- ✓ There is no fee to participate as a STP member or Stakeholder



Stakeholders / Public Review Participants

Process Overview



Average of 8 months

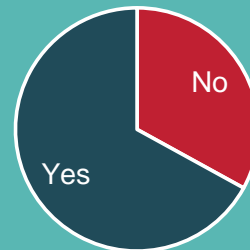


What is Consensus - ANSI

> 50% Returned

Majority ballots returned
(Yes, No, or Abstain)

2/3 Approval



Yes votes by at least 2/3
of those that voted
(excluding abstentions,
negatives without
comment)



STANDARDS DEVELOPMENT PROCESS (VIDEO)

Link to YouTube video on CSDS home page: <https://csds.ul.com/Home/Default.aspx>



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STP Meetings

- Held on as-needed basis
- Meetings are open
- Guests may attend and participate
- Attendance at meetings is not a requirement for STP membership
- No Voting at meetings (balloting done on-line)
- Intended for discussion and consensus building
- Discussion limited to standard issues



CSDS Overview



- ❖ CSDS is UL's web-based tool for participation in UL's standards development process
- ❖ Available 24/7
- ❖ CSDS provides online access for STP meetings, submitting proposals, reviewing proposals, and balloting of UL Standards
- ❖ CSDS is open to anyone interested
- ❖ CSDS can be accessed at:
<https://csds.ul.com>



Apply to be a STP Member

- Proposals ▾
- STP Info ▾
- General Info ▾
- UL Canada ▾
- Links ▾
- Help ▾

UL's Collaborative Standards Development System (CSDS) provides online access for review and submitting information for UL's Standards development process. General access is available for information on STP meetings, submitting proposals, and proposals available.

Current Users:
If you already have a CSDS user account use the Username and Password information provided for you in the "Welcome" e-mail. It is strongly recommended that you change your password after accessing the site.

New Users:
If you would like to submit a Proposal Request or request to attend a meeting, click [Create User Account](#) to create a user account profile.

Login

The Username is typically your email address. The password is case sensitive and must be 8-12 characters long. It must contain at least one number, one uppercase letter, and one lowercase letter.

News Update: [Using Standards to mitigate the spread of COVID-19](#)

Username

Password

[Forgot Your Password?](#)

LOGIN

NOTE: Please make sure that all pop-up blocker and Spyware software is disabled first.

New Feature Available
Follow/UnFollow Standard.
Click [here](#) to find out more.

Standards Technical Panels and Committees are important parts of the process by which its Standards are developed and maintained.
[Apply to be a member today!](#)



CSDS – New Feature to Follow/Unfollow a Standard



CSDS – New Feature to Follow/Unfollow a UL Standard

Follow UL Standards of interest to automatically be added to open and future work areas for that Standard. You'll have the ability to view documents in the work area, submit comments and see comments submitted, view the vote summary (when available), receive email notifications on work area items. You don't have to be an STP member to do this!

Manage the Standards you're following in your My Standards page. Changing the Receive Email from Yes to No will remove you from receiving any email notifications for that Standard, but you will continue to have access to the work areas.

To stop following a standard, select the Unfollow button. You will no longer have access to any work areas for that Standard or receive further email notifications for that Standard.

If you currently participate in a Committee or Standards Technical Panel, you do not need to follow Standards covered by your membership. Follow/Unfollow selections will not override your Committee or Standards Technical Panel access or email notifications.



Creating your CSDS Account

You must have a CSDS account to be involved in any of UL Standards development activities.

Go to <http://csds.ul.com>
Click Create User Account



UL's Collaborative Standards Development System (CSDS)

Proposals STP Info General Info UL Canada Links Help

2020-02-19 10:05:34 PM (CDT)

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The Username is typically your email address. The password is case sensitive and must be 8-12 characters long. It must contain at least one number, one uppercase letter, and one lowercase letter.

Username

Password

[Forgot Your Password?](#)

LOGIN

NOTE: Please make sure that all pop-up blocker and Spyware software is disabled first.

[Want to learn about the changes that](#)

[Standards Technical Panels and](#)

Can't reach the site?

- Make sure the web address is correct.
- Search for this site on Bing

Twitter

Not a CSDS user? Here are items you can access and how to become a CSDS user.

- Use CSDS and Participate in the UL Standards Development process. Don't have an account to access CSDS? Learn how to participate in the UL Standards development process.
- View a list of Proposals for Comment. Not a CSDS user? Request access to review and comment on proposals.
- View Upcoming STP Meetings. A complete list of the upcoming STP Meetings.
- Submit a Proposal Request Login and use the proposal request form. If you do not have a CSDS username and password, create an account so you can submit a proposal request to UL for review.
Procedures for Developing Rationales and Proposals for UL Standards Before you start drafting, refer to this checklist designed to facilitate proposal acceptance and processing.
- Request a New Standard to be Developed Submit a request for a new standard to be developed.
- Learn More About the STP Process. See our help available.

Follow/Unfollow a Standard

The Follow/Unfollow a Standard button is available from:

1) The View Proposals Available, once a Standard is selected

User Home > View Proposals

Proposals Available

Select a proposal from the list below to view the topic summary and/or request access to the proposal work area.

Standard	Name
UL 10B Ed. 10	UL 10B Ed. 10 - Preliminary Review - Opened 2020-11-12
UL 33 Ed. 8	UL 33 Ed. 8 - Preliminary Review - Opened 2020-10-28
UL 142 Ed. 10	UL 142 Ed. 10 - Recirculation - Opened 2020-11-13
UL 142A Ed. 1	UL 142A Ed. 1 - Recirculation - Opened 2020-11-13
UL 144 Ed. 8	UL 144 Ed. 8 - Preliminary Review - Opened 2020-11-13
UL 154 Ed. 9	UL 154 Ed. 9 - Recirculation - Opened 2020-11-20
UL 174 Ed. 11	UL 174 Ed. 11 - Preliminary Review - Opened 2020-10-30
UL 231 Ed. 10	UL 231 Ed. 10 - Proposal Review - Opened 2020-10-23
UL 263 Ed. 14	
UL 299 Ed. 11	

Summary of Topics - Google Chrome

csds-prod-web-app-preprod.azurewebsites.net/CWA/TopicSummary.aspx?...

You may participate in the collaboration around the following document by following the Standard.

+ Follow this Standard

UL 231 Ed. 10 - Proposal Review - Opened 2020-10-23

Summary of Topics

1. Inclusion of 30A and 50A locking and grounding receptacles evaluated for the application



2) Search results for a Standard/Edition number

Proposals ▾ STP Info ▾ General Info ▾ UL Canada ▾ Links ▾ Help ▾

User Home > Search Results

Listed below are all areas you currently have access to for your search on UL 231 Ed. 10 - Standard for Power Outlets

+ Follow this Standard

Work Areas Available

Name	Owner	Status
There were no Work Areas found that matched your search and/or your access permissions. Please try again.		

Meetings Available

Name	Owner	Status
There were no Meetings found that matched your search and/or your access permissions.		

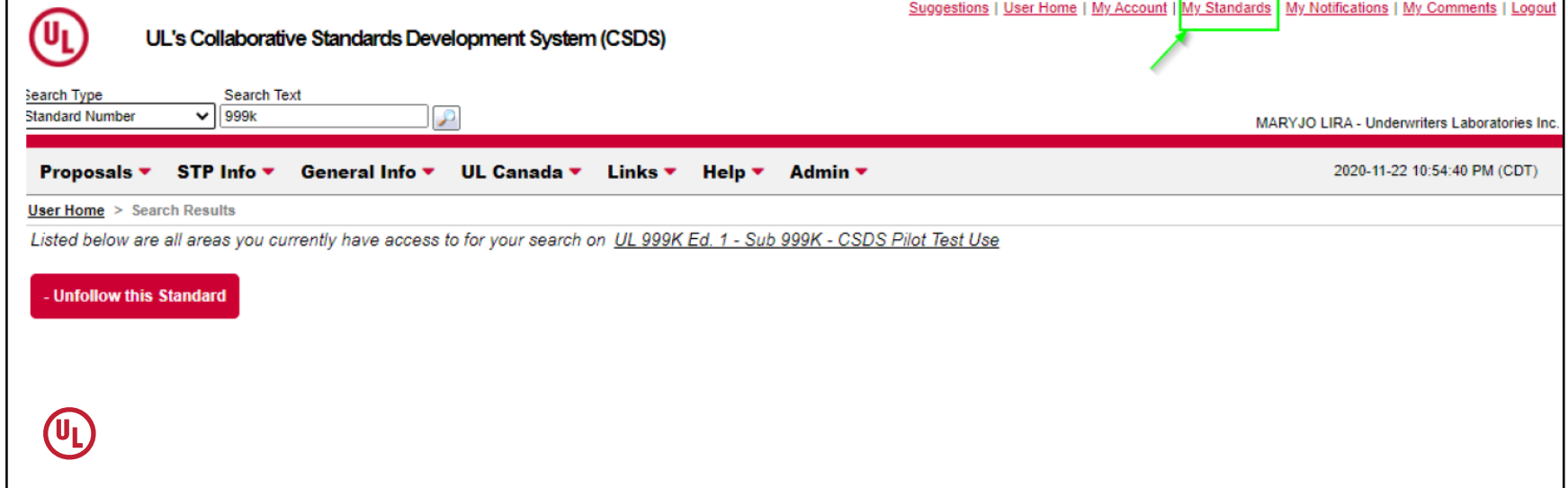
STP Info

STP Number	STP Name	Roster
STP 0231	POWER OUTLETS	View Roster

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My Standards

Once you are logged into CSDS, the My Standards page will provide a list of the Standards you are currently following. A link is available in the upper right corner.



UL's Collaborative Standards Development System (CSDS)

Search Type: Standard Number | Search Text: 999k

[Suggestions](#) | [User Home](#) | [My Account](#) | [My Standards](#) | [My Notifications](#) | [My Comments](#) | [Logout](#)

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Proposals ▾ **STP Info** ▾ **General Info** ▾ **UL Canada** ▾ **Links** ▾ **Help** ▾ **Admin** ▾

[User Home](#) > Search Results

Listed below are all areas you currently have access to for your search on [UL 999K Ed. 1 - Sub 999K - CSDS Pilot Test Use](#)

[- Unfollow this Standard](#)

UL

My Standards page

Your My Standards page has the following features:

- Provides a list of Standards you are following
- Change the Receive Email from Yes to No, by clicking on “Yes”. This will remove you from receiving emails for just that Standard related to CSDS.
- Select the Unfollow button to no longer follow that Standard
- See a history of Standards you’ve followed
- Search your list of Standards that you’re following
- Display Standards you’re following for both UL and ULC CSDS



UL's Collaborative Standards Development System (CSDS)

Search Type: Standard Number Search Text:

Proposals ▾ STP Info ▾ General Info ▾ UL Canada ▾ Links ▾ Help ▾ Admin ▾

User Home > My Standards

My Standards

Standards Standards History

Standards you are following

Follow standards of interest to automatically be added to new work areas for that standard. Changing the Receive Email to No will remove you from receiving any email notifications for that Standard, but you will continue to have access to the work areas.

To follow a standard, use the Standard Number Search, select the Standard #, Ed # (when applicable) and then select the +Follow this Standard button.

It is not necessary to follow standards that are covered by your STP/Committee membership. Follow/Unfollow selections will not override your STP/Committee membership access or email notifications.

To stop following a standard, select the Unfollow button. You will no longer have access to any work areas for that Standard or receive further email notifications for that Standard.

Search Term: Search Export to Excel

	Standard Number	Title	STP	Date Followed	Receive Email
Unfollow	999K	Sub 999K - CSDS Pilot Test Use	999K	09/23/2020	Yes
Unfollow	S554	Standard for Water Based Agent Fire Extinguishers	S500A	09/25/2020	Yes
Unfollow	S527	Control Units for Fire Alarm Systems	S500F	09/25/2020	Yes
Unfollow	60079-27	Fieldbus Intrinsically Safe Concept	60079-27	10/29/2020	Yes

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Standards Resources

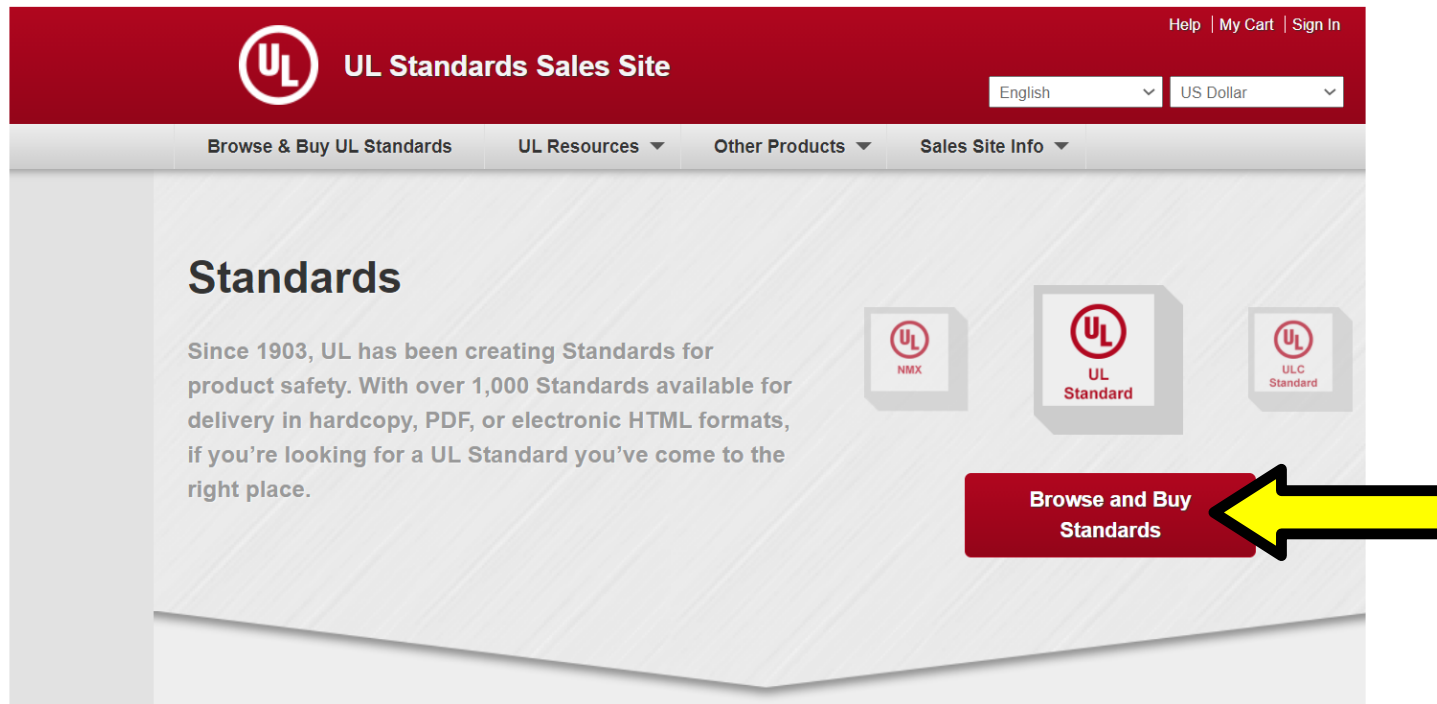


Free Online Access to UL Standards

- UL announced open-access online views of UL Safety Standards in Feb 2019
- Online access free of charge, but Users must register
- View current editions and revisions of UL and ULC Standards for Safety
- Limited to page by page Digital View only
- No ability to download or print the Standard
- Due to copyright restrictions, cannot view IEC/ISO based standards adopted by UL or ULC
- No limit to amount of individuals from an organization
- Visit shopulstandards.com to browse the Standards and access them



Free Online Access to UL Standards



Helpful Links and Resources

More information regarding the STP Process

<https://ulstandards.ul.com/develop-standards/stps/>

The Approved Regulations Governing ANSI / UL Standards Technical Panels

<https://www.ul.com/global/documents/corporate/standards/ApprovedRevisionstoULsAccreditedProcedures.pdf>

General Standards Website:

<http://ulstandards.ul.com/>

Standards Development Process YouTube video:

<https://www.youtube.com/watch?v=PU3apx7gLVU#action=share>

Join a Standards Technical Panel (STP) with the online membership application:

<https://csds.ul.com/STPInfo/ApplicationHomePage.aspx>

Get Update Alerts:

<https://www.shopulstandards.com/>



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- Similar to other SDOs, UL Standards related materials used in whole or in part are protected by domestic and international copyright laws. This material includes:
 - ✓ Standards
 - ✓ Revisions
 - ✓ Proposals
 - ✓ Meeting Reports
- These materials are not permitted to be duplicated, distributed, or used in conflict with the terms set forth in the terms of service.



UL Standards Activity – Key Alternative Energy Standards



STP 1741

STP 1741 (Inverters, Converters, Controllers and Interconnection System Equipment for use With Distributed Energy Resources) covers:

- UL 1741, Inverters, Converters, Controllers and Interconnection System Equipment for use With Distributed Energy Resources.
- UL 62109-1, Power Converters for Use in Photovoltaic Power Systems - Part 1: General Requirements (no current standards activity)
- UL 62109-2 Draft, Power Converters for Use in Photovoltaic Power Systems - Part 2: Particular Requirements for Inverters (not yet published)



STP 1741 - Standards Update

Current Standards activity for UL 1741:

- Held STP meeting in Nov. 2020
- Multiple task groups have been formed to address various industry needs for specific standards proposals.
- 8 proposals went out for ballot on 10/28/20; next step is recirculation

Current harmonization activity for UL 62109-2:

- An International Harmonization Committee (IHC) has been working to develop the US National Differences for inclusion in the Proposed First Edition of the UL IEC-Based Standard UL 62109-2.



STP 2703 - Standards Update

STP 2703 (Mounting Systems, Mounting Devices, Clamping/Retention Devices, and Ground Lugs for Use with Flat-Plate Photovoltaic Modules and Panels) covers:

- UL 2703, Mounting Systems, Mounting Devices, Clamping/Retention Devices, and Ground Lugs for Use with Flat-Plate Photovoltaic Modules and Panels

Current Standards activity for UL 2703:

- Ballot dated 2021-01-08 w/ due date of 2021-02-08
- Ballot dated 2021-01-22 w/ due date of 2021-02-22
- A corrosion task group has been formed to develop proposals for the standard.



STP 3001 - Distributed Energy Generation and Storage Systems

STP 3001 covers:

- UL 3001, Draft Standard for Safety for Distributed Energy Generation and Storage Systems (not yet published)
- UL 3005, Draft Standard for Safety for Distributed Energy Resource Management Systems (not yet published)
- UL 3010, Draft Standard for Safety for Single Site Energy Systems (not yet published)

❖ Note: UL 3010 will cover smaller (residential and light commercial) systems; UL 3001 will cover the larger systems (corporate & university campus, neighborhood, military base, etc.); and UL 3005 will cover the controllers (management system).



STP 3703 – Solar Trackers

STP 3703 covers:

- UL 3703, Standard for Safety for Solar Trackers (no current standards activity)



STP 3741 – Photovoltaic Hazard Control

STP 3741 covers:

- ANSI/CAN/UL 3741, Standard for Safety for Photovoltaic Hazard Control (no current standards activity)
 - The First Edition Standard was published on December 8, 2020 as the American and Canadian National Standard for Photovoltaic Hazard Control



Wind STPs

STP 4143 (Life Time Extension of Wind Turbines) covers:

- UL 4143, Life Time Extension of Wind Turbines (no current standards activity)

STP 6141 (Large Wind Turbine Generating Systems) covers:

- UL 6141, Wind Turbines Permitting Entry of Personnel
 - Ballot dated 2021-01-08 w/ due date of 2021-02-08

STP 6142 (Small Wind Turbine Generating Systems) covers:

- UL 6142, Small Wind Turbine Systems (no current standards activity)



STP 6703

STP 6703 (Connectors for Use in Photovoltaic Systems) covers:

- UL 6703, Connectors for Use in Photovoltaic Systems (no current standards activity)
- UL 9703, Outline of Investigation for Distributed Generation Wiring Harnesses (no current standards activity)
- UL 62852 Draft, Connectors For DC- Application in Photovoltaic Systems - Safety Requirements and Tests (not yet published)



STP 6703 - Standards Update

Current harmonization activity for UL 62852:

- UL is working to develop the US National Differences for inclusion in the Proposed First Edition of the UL IEC-Based Standard UL 62852



STP 7103

STP 7103 (Building-Integrated Photovoltaic Roof Coverings) covers:

- UL 7103, Outline of Investigation for Building-Integrated Photovoltaic Roof Coverings
 - The Proposed First Edition Standard has been sent out to the STP for Preliminary Review and Comment. UL is using the input to update the draft standard before balloting, which is the next step.



STP 8703

STP 8703 (Concentrator Photovoltaic Modules and Assemblies) covers:

- UL 8703, Outline of Investigation for Concentrator Photovoltaic Modules and Assemblies (no current standards activity)
- UL 62108, Concentrator Photovoltaic (CPV) Modules and Assemblies - Design Qualification and Type Approval (no current standards activity)



STP 9540


STP 9540 (Energy Storage Systems and Equipment) covers:

- UL 9540, Energy Storage Systems and Equipment (no current standards activity)
- UL 9540A, Test Method for Evaluating Thermal Runaway Fire Propagation in Battery Energy Storage Systems (no current standards activity)



STP 61730

STP 61730 (Photovoltaic Modules) covers:

- UL 1703, Flat-Plate Photovoltaic Modules and Panels (no current standards activity)
- UL 3730, Photovoltaic Junction Boxes (no current standards activity)
- UL 4730, Nameplate, Datasheet, and Sampling Requirements of Photovoltaic Modules (no current standards activity)
- UL 61215-1, Terrestrial photovoltaic (PV) modules - design qualification and type approval - Part 1: Test requirements (no current standards activity)
- UL 61215-1-1, Terrestrial photovoltaic (PV) modules - design qualification and type approval - Part 1-1: Special requirements for testing of crystalline silicon photovoltaic (PV) modules (no current standards activity)
- UL 61215-1-2, Terrestrial photovoltaic (PV) modules - Design qualification and type approval - Part 1-2: Special requirements for testing of thin-film Cadmium Telluride (CdTe) based photovoltaic (PV) modules (no current standards activity)
- UL 61215-1-3, Terrestrial photovoltaic (PV) modules - Design qualification and type approval - Part 1-3: Special requirements for testing of thin-film amorphous silicon based photovoltaic (PV) modules (no current standards activity)
-  UL 61215-1-4, Terrestrial photovoltaic (PV) modules - Design qualification and type approval - Part 1-4: Special requirements for testing of thin-film CU (In,GA)(S,Se) Based photovoltaic (PV) modules (no current standards activity)

STP 61730 (cont.)

- UL 61215-2, Terrestrial photovoltaic (PV) modules - design qualification and type approval - Part 2: Test procedures (no current standards activity)
- UL 61724-1, Photovoltaic System Performance - Part 1: Monitoring (no current standards activity)
- UL 61724-2, Photovoltaic System Performance - Part 2: Capacity Evaluation Method (no current standards activity)
- UL 61724-3, Photovoltaic System Performance - Part 3: Energy Evaluation Method (no current standards activity)
- UL 61730-1, Photovoltaic (PV) module safety qualification - Part 1: Requirements for Construction
- UL 61730-2, Photovoltaic (PV) module safety qualification - Part 2: Requirements for testing
- UL 62790 Draft, Junction Boxes for Photovoltaic Modules - Safety Requirements and Tests (not yet published)
- UL 62915 Draft, Photovoltaic (PV) modules - Type approval, design and safety qualification – Retesting (not yet published)



STP 61730 - Standards Update

Current Standards activity for UL 61730-1 and 61730-2:

- Multiple task groups have been formed to address various industry needs for specific standards proposals.

Current harmonization activity for UL 62790 and UL 62915:

- UL is working to develop the US National Differences for inclusion in the Proposed First Edition of the UL IEC-Based Standard UL 62790
- An International Harmonization Committee (IHC) has been working to develop the US National Differences for inclusion in the Proposed First Edition of the UL IEC-Based Standard UL 62915



STP 62446

STP 62446 (Photovoltaic Systems - Requirements for Testing, Documentation and Maintenance - Grid Connected Systems) covers:

- UL 62093, Balance-of-System Components for Photovoltaic Systems - Design Qualification Natural Environments (no current standards activity)
- UL 62446-1, Draft Photovoltaic (PV) Systems - Requirements for Testing, Documentation and Maintenance - Part 1: Grid Connected Systems - Documentation, Commissioning Tests and Inspection (not yet published)
- UL 62446-2, Draft Photovoltaic (PV) Systems - Requirements for Testing, Documentation and Maintenance - Part 2: Grid Connected Systems – Maintenance of PV systems (not yet published)



STP 62446 - Standards Update

Current harmonization activity:

- UL is working to develop the US National Differences for inclusion in the Proposed First Editions of the UL IEC-Based Standards UL 62446-1 and UL 62446-2.



CONTACT INFO:

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QUESTIONS?

THANK YOU



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