



Recommendations & Guideline

for CSA Z462, 2015 Electrical Safety Change Management

The latest edition of the CSA Z462 Workplace Electrical Safety Standard just published. The 2015 edition includes new content and several changes including a realignment to focus on risk assessments related to energized electrical work tasks. Do you have a plan to address the changes?

The obvious questions are:

- What are the differences compared to the previous Standard?
- What are the impacts of these differences on our organization?
- When should we train our workers on the updated Standard?
- How will the updated Standard alter our current work methods and procedures?
- What safety related documentation needs to be updated?

- Who is going to create the new material required for compliance to the updated Standard?
- How will we know if we're compliant to the updated Standard?

This article will help explain the necessary steps for change management resulting from the release of a new Standard. All employers covered by the scope of these Standards will be expected to update their existing Electrical Safety Program documentation, create new content as necessary and train their workers. This will be a burden for many employers without sufficient resources and subject matter knowledge. As such you'll need effective change management with a clear direction, defined goals and objectives using a project management based approach.

The priority upon which you begin to answer these questions is typically based on the factors that influence your decisions. This may be your level of knowledge on the subject matter. Perhaps it's a relationship you have with a training vendor whose advice is to start training immediately. Another factor may be fiscal policy and budgetary restrictions. The most obvious question as per above is when should you train your workers on the updated Standard? The answer is you're not immediately required to train all of your workers to the updated 2015 edition of CSA Z462.

The best advice is to first update your documented electrical safe work practices, your Electrical Safety Program, before training your workers. Otherwise your current

documentation will not support the requirements of the updated Standard including the need to complete a Risk Assessment Procedure; that will include completing arc flash and shock risk assessments. Workers who are trained on the new 2015 edition before employers update their Electrical Safety Program could return to work without adequate supporting documentation to allow them to perform their jobs. Training on new industry terminology would be lost and forgotten if workers are not reinforcing this knowledge on the job and in the field.

A simple strategy should be created for effective change management to successfully review, adopt and adapt to the 2015 changes.

Step-by-Step plan for 2015 Electrical Safety Change Management

1. Review existing safety management system and Electrical Safety Program documentation to complete a gap analysis to the new requirements of CSA Z462-2015. Perform an internal or external documentation audit.
2. Make all necessary changes to your existing documentation and add new content to comply with the 2015 Standard. This process should be done using an Electrical Safety Steering Committee (ESSC) with all documented changes and new Electrical Safety Program content approved by the ESSC and management.
3. Review existing arc flash and shock PPE and all other electrical specific tools and equipment. Repair, recondition or replace if necessary. Evaluate new arc flash PPE technology for adoption and use by your workers (i.e. true colour faceshields, ultralightweight suits, etc.).
4. Train workers on the new CSA Z462, 3rd Edition, 2015 Standard. Interim training on the 2015 Changes can be used for Qualified Electrical Workers recently trained on the 2012 Standard (full training within 1-2 years). Ensure all workers including Non-Electrical Workers have been adequately trained on how to assess equipment condition as normal vs. abnormal and have minimum level arc flash and shock awareness.
5. Train workers on your updated Electrical Safety Program and safety management system. Ensure all workers have obtained training on the new 2015 edition of CSA Z462 as a prerequisite. Follow up with the workers to ensure they are using the new work methods as they perform work.
6. Full internal or external electrical safety audit. Review report and make necessary changes for continuous improvement. Internal Electrical Safety Audit including documentation and field work should be performed annually. An external audit is recommended on 3-year intervals.

What are some of the changes in the CSA Z462, 3rd Edition, 2015 Standard that I need to know about?

- Broader inclusion of the concept of “Risk Assessment” consistent with Occupational Health & Safety Management System Standards and related risk assessments Standards.
- The priority of the requirement for development of an Electrical Safety



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- Program has been emphasized. The Electrical Safety Program should include a requirement for electrical equipment maintenance.
- New definitions to clarify the difference between hazard and risk. This further aligns CSA Z462 with other safety Standards such as CSA Z1000 and CSA Z1002.
- The Prohibited Approach Boundary for shock has been deleted.
- The Restricted Approach Boundary voltage ranges have changed, 208V and 240V now have a defined Restricted Approach Boundary of 12 inches.
- All references to a Hazard/risk category (HRC) are deleted. Hazard/risk category 0 was deleted.
- The existing Hazard/risk category Table Method has been replaced with a new Arc Flash Hazard Identification Table and Arc Flash PPE Category. There is no Arc Flash PPE Category 0.
- The new Risk Assessment Procedure requires that:
 - o Electrical hazards are identified.
 - o Risk is assessed.
 - o Implement risk control according to a hierarchy of methods.
- Arc Flash Hazard Analysis is now called Arc Flash Risk Assessment.
- Shock Hazard Analysis is now called Shock Risk Assessment.
- Normal operation of energized electrical equipment is now included and identified as:
 - o The equipment is properly installed;
 - o The equipment is properly maintained;
 - o All equipment doors are closed and secured;
 - o All equipment covers are in place and secured; and
 - o There is no evidence of impending failure.
- Clarity is provided on the requirement for an Energized Electrical Work Permit.
- Clarification was added that either the incident energy analysis method or the Arc Flash PPE Category Method, but NOT both, may be used on the same piece of equipment for selection of the arc flash PPE.



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Please note:

- *Not all of the changes to the new 2015 edition of CSA Z462 are presented here. Refer to the CSA Z462-2015 Standard for all of the changes and updates.*
- *You are cautioned to consult CSA Z462-2015 prior to making any changes in any safe work practices that are established.*
- *Opinions expressed by the authors are personal technical opinions. You are advised to consult the Canadian Standards Association for specific formal interpretation.*