

# Changes to the Electricity (Safety) Regulations effective from 1 July 2013



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# Changes to the electrical certification regime under the Electricity (Safety) Regulations effective from 1 July 2013

Slide reference number	Text
<b>Introduction</b>	
1	<p>On 1 July 2013, changes to the Electricity (Safety) Regulations are in effect. The Amendments to the Regulations will enhance consumer safety, and streamline certification processes. For example, the updated certification regime will introduce flexibility by allowing practitioners to design their own certificate forms, and store and send them electronically.</p> <p>The Amendments provide for an improved certification process that takes a risk-based approach and emphasises safety and accountability for installation work. This will improve the monitoring of high-risk work and focus attention on the areas that will provide the greatest improvement in safety outcomes.</p> <p>To make the transition to the new regime, the Ministry of Business, Innovation and Employment is working with trade organisations and practitioners to ensure that information is available and any new requirements are clarified on forms and other required documentation.</p> <p>All projects that begin on 1 July 2013 or later will need to comply with the Amendments. Projects that began before 1 July 2013 may conform to the previous regime.</p> <p>As an electrical practitioner, you will need to be familiar with these Amendments and be able to use them in your work and in the way you run your business.</p>
2	<p>Energy Safety, the Electrical Workers Registration Board, and Standards New Zealand have developed this presentation to assist you in understanding and preparing for these changes.</p>

3	We will also update you on new requirements when registering through the Electrical Workers Registration Board, along with changes to AS/NZS 3000 <i>Electrical installations</i> .
4	This presentation will focus on low-voltage work.  It will not cover high-voltage work, work carried out under an employer licence, or installations where maintenance management systems are in place. For more information on changes to these types of work, please refer to Amendments 62, 64, 68, and 74B <sup>1</sup> .
5	This presentation is an update to our September 2011 video on the Electricity (Safety) Regulations.  The September 2011 video and other resources are available on the Energy Safety website.
6	For the purposes of this presentation: <ul style="list-style-type: none"> <li>• the Electricity (Safety) Regulations 2010 will be referred to as the Regulations</li> <li>• the Electricity (Safety) Amendment Regulations 2012 will be referred to as the Amendments</li> <li>• prescribed electrical work or PEW will be referred to as electrical work</li> <li>• AS/NZS 3000 as the Wiring Rules</li> <li>• the Electrical Workers Registration Board as the EWRB</li> <li>• certificate of compliance will be referred to as CoC</li> <li>• electrical safety certificate will be referred to as safety certificate or ESC.</li> </ul>
<b>An overview of changes to the certification regime</b>	
7	The purpose of certification is to record the status of electrical installation work and identify who is responsible for that work.
8	With this in mind, key changes to the Regulations include: <ul style="list-style-type: none"> <li>• extending certification to cover all electrical installation work</li> <li>• dividing electrical work into three categories based on risk, namely: low risk, general, and high risk – these replace the previous categories: ‘work exempted from certification’, ‘work subject to inspection’, and ‘all other work’ – the risk-based approach means low-risk electrical work requires fewer certification requirements than general or high-risk electrical work</li> <li>• clarifying the roles and responsibilities associated with manufacturers’ instructions, suppliers’ declarations of conformity, and certified designs</li> <li>• allowing industry organisations and individuals to produce their own certificates that have the required information on them and are identified by the authentication mark, in addition, certificates may now be electronically stored and transmitted</li> <li>• introducing the requirement for an electrical safety certificate to be issued after connection, in most cases the electrical safety certificate can be incorporated in the certificate of compliance.</li> </ul>

<sup>1</sup> See also FAQ section of the Energy Safety website.

9	You'll need to know what the changes mean for how you certify your work, as well as the work of other practitioners involved in parts of the installation.
10	<p>Let's look at the changes to the Electricity (Safety) Regulations in more detail. This presentation uses the following colours in the slides as a visual guide:</p> <ul style="list-style-type: none"> <li>• blue indicates requirements that have not changed</li> <li>• orange indicates new requirements under the Amendments</li> <li>• green indicates where only the terms or descriptions have changed.</li> </ul>
<b>Risk categories of PEW</b>	
11	<p><b>The Amendments introduce a system of risk categories</b></p> <p>The risk-based approach in the Amendments means that if you are doing low-risk work there are fewer requirements you have to meet than if you are doing general or high-risk work.</p> <p>First, let's look at how the Amendments categorise risk.</p> <p>Amendment 6A defines three categories of electrical work: low risk, general, and high risk as follows:</p> <ul style="list-style-type: none"> <li>• <b>Low risk</b> is defined as the maintenance or replacement of a fitting in an existing installation. It includes maintenance and replacement work on installations that would otherwise be categorised as general or high risk. In other words, maintenance or replacement work in hazardous areas, for example, is considered low risk, not high risk.</li> <li>• <b>General</b> is any work on an installation that is not categorised as low risk or high risk.</li> <li>• <b>High risk</b> includes work on the following: <ul style="list-style-type: none"> <li>– an extra-low or low voltage installation that does not comply with Part 2 of the Wiring Rules</li> <li>– an installation that operates at high voltage, other than high-voltage discharge lighting</li> <li>– a mains parallel generation system</li> <li>– a photovoltaic system</li> <li>– an installation located in a hazardous area</li> <li>– an installation located in a mine, or</li> <li>– an installation for use with electrical medical devices.</li> </ul> </li> </ul> <p>The Amendments have added photovoltaic and mining installations to the list of installations that are designated as high risk. Other high-risk prescribed electrical work includes mains work, work on animal stunning appliances, or meat conditioning appliances.</p>

<b>Requirements of certification by risk and stage category</b>	
<b>12</b>	<p><b>The Amendments extend the requirements for certification</b></p> <p>Certification covers verification that an installation is safe to be connected, and has been extended so that after connection the installation must be certified as safe to use. Certification is also necessary after the completion of maintenance and repairs.</p> <p>To better explain the requirements of certification, we have divided electrical work into three stages:</p> <ul style="list-style-type: none"> <li>• design and installation</li> <li>• verification, including testing, certification, and inspection</li> <li>• completion, including final connection to a power supply.</li> </ul> <p>As noted in the previous section, requirements for certification are also based on whether the work is categorised as low risk, general, or high risk.</p>
<b>13</b>	<p><b>Stage 1 – Design and Installation</b></p> <p>Electrical installation work begins with the determination of a design. In other words, what is needed to ensure the installation is safe, works correctly, and meets customer and client specification. The design might be done by you as the electrician, or by another person such as an electrical engineer, or other electrician.</p> <p>We'll focus on low-voltage installation work, and design of installations under Part 2 of the Wiring Rules.</p> <p>Every low- or extra-low voltage installation must be installed, inspected, and connected in accordance with the Wiring Rules and any relevant companion Standards. See Amendments 59 and 60.</p> <p>Previously, a design needed a declaration of conformity, but from 1 July 2013 you will be required to use certified designs. The exception is when carrying out maintenance or replacement or low-risk work on an existing installation based on its original design.</p> <p>If a design has been completed by another person, you will need to have a copy of the certified design before you begin construction.</p> <p>A certified design provides information on the location of the installation or part installation, and the Standards it complies with. A certified design confirms that the design will result in the installation complying with the regulations and be electrically safe. If you want to know more about certified designs, see Amendment 58.</p> <p>A certified design is mandatory where an installation can only be constructed to the fundamental principles contained in Part 1 of the Wiring Rules, or if the installation operates at high voltage. There are limitations to the application of Part 1 as we'll explain later in this presentation. See Amendments 59 and 60.</p>
<b>14</b>	<p>As part of the design process, particularly if the work is maintenance or replacement, you will also need to decide whether manufacturers' instructions are going to be applied. See Amendment 14A.</p>

15	<p><b>Installation</b></p> <p>The construction of every electrical installation that operates at low voltage or extra-low voltage must comply with either Part 1 or Part 2 of the Wiring Rules. For particular installations, the requirements of companion Standards are also applicable.</p>
16	<p>Remember to check Schedule 2 of the Regulations for the correct edition of the Standard that the installation must comply with. The Regulations allow that low-risk work, such as maintenance or replacements may be carried out in accordance with the Wiring Rules, the original design, or the manufacturers' instructions.</p>
17	<p><b>Stage 2 – Verification</b></p> <p>Once the design and installation has been completed, you will need to verify that the work has been done lawfully and safely. The verification process includes testing, certification, and, where applicable, an inspection.</p> <p>The Amendments introduce levels of testing and certification, depending on the elements of safety that are involved in an installation, and they follow the principles of risk management.</p> <p>For all electrical work, when connecting installations to a power supply, the person making the connection must be satisfied that the testing needed to verify compliance with the Regulations has been done. See Amendment 73A.</p>
18	<p>Most low-risk work can be tested, certified, and connected by the person doing the work. Amendments 63 and 64 state exactly what tests and checks you need to follow to verify the safety of the work carried out.</p> <p>For high-risk work, you must get additional independent checks by an inspector. See Amendment 70 for more information.</p> <p>The multiple earth neutral or MEN system we have in New Zealand is safe only if the polarities of both the supply system and the installation are correct and the connections of the neutral are reliable. Polarity testing and earthing verification are absolutely critical and therefore <i>must be independently repeated</i> by the installer, inspector, and person making a connection to an electricity supply.</p>
19	<p>When it comes to testing, all prescribed electrical work done on a low-voltage installation must be tested according to the Wiring Rules. Where the work has been carried out using a relevant companion Standard, that work must also be tested in accordance with that Standard.</p> <p>The completion of testing must be certified by the person who conducted the testing.</p>

<b>Clarifying roles and responsibilities</b>	
<b>20</b>	<p><b>The roles and responsibilities associated with manufacturers' instructions, suppliers' declarations of conformity, and certified designs have been clarified in the Amendments</b></p> <p>As an electrical practitioner, as of 1 July 2013 when you do any electrical work that involves a fitting or appliance, you may rely on the manufacturers' instructions, suppliers' declarations of conformity, or certified designs. Those who supply these documents are accountable for the information they contain. The documents must be such that, if the fitting or appliance is installed, tested, maintained, and connected according to the directions provided, the installer can be assured that the work complies with the Regulations and will be electrically safe.</p>
<b>21</b>	<p><b>Flexibility has been introduced to allow industry organisations and individuals to produce their own certificates, provided that they meet specified requirements and are identified by the authentication mark</b></p> <p>A few key points about what this change means from 1 July 2013.</p> <ul style="list-style-type: none"> <li>• You will no longer be required to purchase a prescribed certificate of compliance from the EWRB.</li> <li>• You now have the option of designing your own certificate or using a format designed by an industry organisation.</li> <li>• The format for certificates is flexible. For example, certificates can be incorporated into an invoice, as long as each certificate contains the information required by the Regulations.</li> </ul> <p>For more information on making your own certificate, see Amendments 66 through to 68, and the authentication mark in Schedule 7.</p>
<b>22</b>	<p>The role of the certificate of compliance continues under the amended Regulations. The certification records:</p> <ul style="list-style-type: none"> <li>• the parties responsible for the lawfulness and safety of the work carried out</li> <li>• the basis used for determining safety</li> <li>• the suitability of the completed work for connection to an electricity supply.</li> </ul> <p>Under the Amendments:</p> <ul style="list-style-type: none"> <li>• low-risk work may be issued with a certificate of compliance, but there is no obligation to do so</li> <li>• general work is not considered complete until a certificate of compliance is issued for it</li> <li>• high-risk work is not considered complete until a certificate of compliance is issued along with the records of inspection for the work.</li> </ul> <p>Certification must be completed for all general and high-risk work by each of the parties carrying out the work, supported where applicable by certified designs, manufacturers' instructions, and suppliers' declarations of conformity when the certifier is satisfied that:</p> <ul style="list-style-type: none"> <li>• the work has been completed, and tested in accordance with the Regulations</li> <li>• the work and fittings are safe</li> <li>• the safety of the installation as a whole has not been adversely affected.</li> </ul>

<p><b>23</b></p>	<p>A few key points to remember about certificates of compliance.</p> <ul style="list-style-type: none"> <li>• The Amendments specify the content of, and information to be recorded on, a certificate of compliance.</li> <li>• The Amendments allow for multiple signatures on a single certificate of compliance where the work has been done by more than one person. Alternatively, each person can complete their own certificate of compliance for the work they have done or take responsibility for.</li> <li>• The person completing a certificate of compliance can rely on and refer to other certificates of compliance and suppliers' declarations of conformity.</li> </ul>
<p><b>24</b></p>	<p>If any of the prescribed electrical work is high-risk work, that work will require inspection. See Amendments 70 through to 72.</p> <p>The purpose of inspection is to independently verify that work on an electrical installation has been done in accordance with the Regulations and will be electrically safe when enlivened.</p> <p>An inspection must not rely on any testing or certification completed by the installer. Where inspection of the work is required, it must be carried out by an authorised person who has not been involved in the work that is being inspected.</p>
<p><b>25</b></p>	<p>Key points to remember about records of inspection.</p> <ul style="list-style-type: none"> <li>• The person who inspects high-risk work must prepare, sign, and date a record of inspection.</li> <li>• The record of inspection must identify what was inspected.</li> <li>• Following the completion of a record of inspection, the person who has carried out the inspection must lodge the particular details of the installation with the high-risk database maintained by the Ministry of Business, Innovation and Employment. See Amendments 112A and B for more details about the database.</li> </ul>
<p><b>26</b></p>	<p><b>Stage 3 – Completion, including final connection to a power supply</b></p> <p>Once you have completed the design, installation, and verification the next stage of the work is to ensure that it is safely connected to a power supply. See Amendments 73A and B.</p> <p>Connection is the keystone of the safety regime under the Regulations.</p> <p>Connection refers to the work that is the final step that will allow electricity to flow in the installation on which other work has been done, see Amendment 73A subclause 5. It is the last activity in prescribed electrical work that makes the installation alive, or that allows the installation to be made alive by a person, such as a householder who is not an electrical worker, by turning on a mains switch.</p> <p>Note that the replacement of a service fuse is not considered to be connection.</p>

<p><b>27</b></p>	<p>Before connecting to a power supply, you need to be satisfied that the installation is safe to connect, and that the necessary testing, compliance certification, and, where applicable, inspection have been completed. While connecting, you need to verify polarity, protection rating, compatibility with supply and, if the installation is an MEN supply, the existence of an earthing system.</p>
<p><b>28</b></p>	<p>Once your work has been completed and is connected to a power supply, you will need to be satisfied that it is safe and complies with the Regulations. You are required to complete the certification of the work by issuing an electrical safety certificate which states that the connected installation is safe to use. In most cases, the certificate of compliance will incorporate the safety certificate.</p>
<p><b>29</b></p>	<p>‘Safe to use’ means that the installation is electrically safe and complies with the Regulations. This includes any maintenance or alteration work which must be certified that it has not affected any other part of an installation.</p>
<p><b>30</b></p>	<p>Safety certification may be part of the certificate of compliance document or can be a separate certificate. You must include the listed information on your electrical safety certificate:</p> <ul style="list-style-type: none"> <li>• a statement that the installation is connected to the power supply and is safe to use</li> <li>• whether the certificate relates to the whole or specific parts of the installation</li> <li>• the location of the installation</li> <li>• the authentication mark</li> <li>• the date of connection</li> <li>• your signature and the date of completion</li> <li>• your name and registration number.</li> </ul> <p>See Amendment 74A.</p> <p>Electrical safety certification also confirms that prescribed electrical work done on an installation complies with the building code.</p>
<p><b>31</b></p>	<p>Amendment 111A allows you to consolidate the following certificates relating to an installation:</p> <ul style="list-style-type: none"> <li>• certificates of compliance, including any associated record of inspection</li> <li>• safety certificates for the whole or part of the installation.</li> </ul> <p>If you consolidate certificates, you don’t have to repeat the information already on each certificate, and the authentication mark only needs to be included once.</p>

<b>Different formats for certificates</b>	
<b>32</b>	<p>Certificates may now be electronically stored and transmitted</p> <p>Certificates can be in hard copy sent by mail, or stored electronically and sent by email.</p> <p>Certificates can also be attached to other business documentation, such as invoices.</p>
<b>Record-keeping</b>	
<b>33</b>	<p>If you are the person responsible for carrying out the electrical work and issuing a certificate of compliance or record of inspection you must:</p> <ul style="list-style-type: none"> <li>• provide a copy of each certificate of compliance to the person who contracted the work or the occupier or owner of the property where the installation is located – it's important to note that electrical work is not considered complete until a certificate of compliance is received</li> <li>• retain a copy of every certificate of compliance you have issued for 7 years; this can be an electronic copy or hard copy.</li> </ul>
<b>34</b>	<p>If you are requested to, you must provide a copy of the certificate of compliance within 10 working days to any of the organisations or individuals listed in Amendment 74E.</p>
<b>35</b>	<p>For high-risk work, the person who inspected the work must lodge details of the work on a database managed by the Ministry of Business, Innovation and Employment within 20 working days after the date of the record of inspection – see Amendment 74F.</p>
<b>36</b>	<p>If you have issued a safety certificate you must:</p> <ul style="list-style-type: none"> <li>• provide a copy of the safety certificate within 20 working days to the person who contracted the work, or the owner or occupier of the property</li> <li>• retain a copy of the safety certificate for at least 7 years.</li> </ul> <p>If you are requested to, you must provide a copy of the safety certificate within 7 working days to the organisations and individuals listed in Amendment 74G.</p>
<b>37</b>	<p>As you see, the Amendments change the electrical certification regime under the Electricity (Safety) Regulations. The changes enhance consumer safety and streamline the certification process. Be sure to review the Amendments before they come into effect on 1 July 2013 so that you comply with the new requirements.</p>

<b>EWRB</b>	
<b>38</b>	<p>Next, we'd like to update you on changes through the EWRB, including:</p> <ul style="list-style-type: none"> <li>• issuance of limited certificates to trainees based on the amended Regulations</li> <li>• new competency programmes</li> <li>• an update on a review of the EWRB's classes of registration, requirements for registration, and associated limits of work.</li> </ul>
<b>39</b>	<p>The Amendments to the Regulations change the status of trainees and establish specific limited certificate provisions for the EWRB to authorise trainees to engage in prescribed electrical work.</p> <p>To ensure a smooth transition to the new requirements, arrangements have been made with the Skills Organisation for the issuing of limited certificates.</p> <p>You'll find full details on the conditions for limited certificates, supervision procedures, and rules for examinations under 'Rules of the Board' at <a href="http://www.ewrb.govt.nz">www.ewrb.govt.nz</a>.</p>
<b>40</b>	<p>The EWRB has set new competency programmes for the issuing of all classes of practising licences.</p> <p>After 30 April 2013, applicants for all classes of practising licence (including the renewal of practising licences) must complete a competence programme made up of EWRB-approved courses in:</p> <ul style="list-style-type: none"> <li>• electrical safety</li> <li>• basic first-aid and cardio-pulmonary resuscitation.</li> </ul> <p>Applicants for practising licences are expected to have completed their competence programme within 2 years immediately before the date of their application.</p> <p>Applicants for any class of practising licence, including the classes of line mechanic and cable jointer who are engaged on works, must have attended approved courses of instruction in electrical safety and cardio-pulmonary resuscitation within a period of 14 months immediately before the date of application, and an approved course of instruction in basic first aid within a period of 2 years immediately before the date of application.</p> <p>Further details about competency programmes can be found on the EWRB website under 'Training'.</p>

41	In 2012, the EWRB initiated a review of its classes of registration, requirements for registration, and associated limits of work. The EWRB released two discussion papers on the review to give all interested parties the opportunity to comment on those draft decisions. Visit <a href="http://www.ewrb.govt.nz">www.ewrb.govt.nz</a> to learn more about these decisions.
<b>Wiring Rules and companion Standards</b>	
42	We would now like to update you on aspects of the Wiring Rules and companion Standards. Remember, holders of valid EWRB practising licences and trainees who have limited certificates can access NZS and AS/NZS Standards using the Standards New Zealand online library service to view, download and print the latest versions. Or you may purchase Standards directly from Standards New Zealand.
43	<p>The Wiring Rules have two parts:</p> <ul style="list-style-type: none"> <li>• Part 1 contains the scope, application, and fundamental principles</li> <li>• Part 2 contains installation practices.</li> </ul>
44	<p>An installation can be designed to the fundamental principles of Part 1 with some exceptions as specified in Regulation 59 of the Electricity (Safety) Regulations.</p> <p>Part 1 solutions are intended for very limited application and require the following.</p> <ul style="list-style-type: none"> <li>• A specific design by an appropriately qualified and competent person – typically an electrical engineer or consultant.</li> <li>• A signed certified design from the designer that: <ul style="list-style-type: none"> <li>– identifies the supply system with which the installation is compatible</li> <li>– identifies the design and confirms that it complies with Regulation 57</li> <li>– confirms that the design, and the design and verification process, complies with Part 1 of AS/NZS 3000</li> <li>– complies with ISO/IEC 17050 – <i>Declaration of conformity requirements</i>.</li> </ul> </li> </ul>
45	<p>As we covered in the installation section of this presentation, high-risk installations must comply with Part 2 of the Wiring Rules and the relevant companion Standard for that type of installation.</p> <p>Check Schedule 2 of the Electricity (Safety) Regulations for the correct edition of the Standard that should be used.</p>

46	<p>Other high-risk installations can be designed to Part 1 or Part 2 of the Wiring Rules. If a Part 2 solution is used, however, the installations must also comply with the relevant Standards.</p> <p>Check Schedule 2 of the Electricity (Safety) Regulations for the correct edition of the Standard that should be used.</p>
47	<p>Amendment 1 to the Wiring Rules, published in 2009, introduced a New Zealand-only requirement for the installation of 10 milliamp residual-current devices, or RCDs, in primary schools, kindergartens and daycare centres. This requirement was further modified with the publication in 2011 of the New Zealand-only Amendment A which also introduced New Zealand-only requirements relating to the presence or future presence of thermal insulation in domestic installations, and limiting the types of recessed luminaires that can be fitted in domestic installations to specific types.</p>
48	<p>Amendment 2, published in 2012, includes the changes introduced by Amendment A which was then withdrawn. Other significant changes introduced in Amendment 2 include new requirements for gas appliances and gas bottle clearances and to airconditioning and heat pump systems. Significant changes to requirements for hazardous areas have also been introduced. All the changes are summarised in the foreword to the Standard.</p>
<b>Conclusion</b>	
49	<p>As of 1 July 2013, changes to the Electricity (Safety) Regulations come into effect. The changes will enhance consumer safety and streamline the certification process.</p> <p>As an electrical practitioner you must be familiar with these changes and incorporate them into the way you conduct your work.</p> <p>To learn more about the changes, visit the Energy Safety website.</p>