

## Method specific scope items – Commercial Lighting (Clause 9.4 of the ESS Rule)

Requirement	Audit Procedure	Audit Tier
Energy savings must be calculated in accordance with the ESS Rule.	1. Check that the number of ESCs has been correctly calculated (i.e. undertake re-calculation). Where the Commercial Lighting Calculation Tool has been used, check that the correct version has been used.	1
Appropriate evidence must be available to support inputs to the energy saving calculations.	2. Check that energy savings calculations have been carried out correctly, by checking the following: <ol style="list-style-type: none"> <li>evidence provided to support the parameters used in the energy savings calculations (i.e. entered in the Commercial Lighting Calculation Tool, or the ACP's own calculation tool),</li> <li>use of valid Lamp Circuit Power (<b>LCP</b>) values in accordance with Table A9.2 or A9.4 of the <i>Energy Savings Scheme Rule of 2009 (ESS Rule)</i> or, for Emerging Lighting Technologies (<b>ELTs</b>), in accordance with the List of Accepted Products on <a href="#">TESSA</a> or otherwise approved by the Scheme Administrator<sup>a</sup>,</li> <li>that the correct Annual Operating Hours (<b>AOH</b>) for each area have been applied in accordance with the appropriate Building Code of Australia (<b>BCA</b>) classification and appropriate evidence has been gathered,</li> <li>use of correct default lighting operating factors in accordance with Tables A10.1, A10.2, A10.3, A10.4, A10.4A, A10.5 and A10.6 of the ESS Rule (including Asset Lifetime, AOH, control multiplier and air conditioning multiplier<sup>b</sup>),</li> <li>where control multiplier B from table A10.4A was used (multi-power mode lighting), check that the correct LCP low power was used,</li> <li>where the Switched Maintained Emergency Luminaire or Un-Switched Maintained Emergency Luminaire space type has been used, the existing lighting End-User Equipment is an Un-Switched Maintained Emergency Luminaire, and</li> <li>that the baseline energy consumption (i.e., the use of either Equation 7 or Equation 8 of the ESS Rule) has been determined following the correct assumptions specified in Equation 6 of the ESS Rule.</li> </ol>	2
Application of Regional Network Factor	For implementations after 15 April 2016, check that the correct Regional Network Factor has been used in accordance with Table A24 of the ESS Rule.	1
ESC Conversion Factor	Check that the correct ESC conversion factor has been applied.	1

<sup>a</sup> In some cases the Scheme Administrator may approve the LCP for the lighting products that were removed as part of the upgrade.

<sup>b</sup> Note that the air conditioning multiplier was amended in the 28 April 2017 ESS Rule change.

Requirement	Audit Procedure	Audit Tier
Activities delivered through third parties must comply with <i>ESS Notice 01/2013 (V3.0) – Minimum requirements of conduct (Minimum Requirements)</i>	Review: <ol style="list-style-type: none"> <li>the contractual relationship between ACP and installers</li> <li>the ACP's process for the training of installers (see below for additional information)</li> <li>the register of installers, and</li> <li>the documented customer service procedures.</li> </ol>	1
For each implementation the original energy saver must have: <ul style="list-style-type: none"> <li>been the purchaser, and</li> <li>paid a net amount of at least \$5 (excluding GST) per MWh of energy savings (which was not reimbursed or credited by anyone, including the ACP or another party).</li> </ul>	<ol style="list-style-type: none"> <li>Review tax invoices and payment records held by ACPs and their contractors.</li> <li>Check payment was made before the ESCs were registered (or before the ESCs were audited in the case of a pre-registration audit).</li> <li>Check that the purchaser paid for the lighting upgrade, such as checking a certified copy or extract from a sales ledger</li> <li>Conduct additional verification checks directly with purchasers by obtaining verbal or email confirmation from the purchaser that:               <ol style="list-style-type: none"> <li>they have made the co-payment, and</li> <li>where a reimbursement or credit of any kind was made or offered, that this did not, and will not, reduce the net amount paid by the purchaser below the \$5 per MWh minimum co- payment.</li> </ol> </li> </ol> <p>Note: For the purposes of this item, verbal or email confirmation of payment from the Purchaser may be sufficient. However, where the Purchaser advises that no payment was made, or that a credit or rebate was offered, the auditor should request documentation or any additional information necessary to establish the net amount of any reimbursement or credit made or offered. If the auditor is unable to obtain the necessary verification, the auditor will need to note the circumstance and expand the sample to ensure the coverage is consistent with the requirement.</p>	1  2 Subset of Tier 2
The lighting upgrade must have been performed by a person authorised to carry out electrical wiring work under section 14(1) of the <i>Home Building Act 1989 (Home Building Act)</i> .	Check: <ol style="list-style-type: none"> <li>the authorised person's tradesperson certificate and/or electrician licence was valid at the implementation date,</li> <li>that a Certificate of Compliance for Electrical Work (<b>CCEW</b>) has been completed for each implementation (and includes the details of the work completed, and is signed and dated by the licensed electrician). Also refer to <i>ESS Notice 04/2019</i>,</li> <li>that the authorised person is included in the ACP's register of installers, and</li> <li>compliance with minimum training requirements – as stipulated in the Minimum Requirements.</li> </ol>	2

Requirement	Audit Procedure	Audit Tier
For implementations on or after 20 March 2017, the ACP (or installer) must have provided the purchaser with: <sup>c</sup> <ul style="list-style-type: none"> <li>the Commercial <i>Lighting Fact Sheet</i> at the commencement of the lighting upgrade, and</li> <li>a completed <i>Commercial Lighting Post Implementation Declaration</i> upon completion of the lighting upgrade.</li> </ul>	<ol style="list-style-type: none"> <li>Check that the Commercial Lighting Fact Sheet has been provided to the purchaser at the commencement of the lighting upgrade.</li> <li>Check that the Commercial Lighting Post Implementation Declaration was completed upon the completion of the lighting upgrade.</li> </ol>	2
Confirmation of number and type of products or equipment	<ol style="list-style-type: none"> <li>Compare products and equipment details described in purchase documents (invoices and/or purchase requisitions) or signed Nomination Forms (if applicable) to products and equipment currently installed. For instance, by comparing the number and type of lamps, Nominal Lamp Power (<b>NLP</b>), ballast transformer type, lighting control systems, heating and cooling systems.</li> <li>For the 'Original End-User Equipment' reconciliation, check records authorising the removal of old or obsolete End-User Equipment with records detailed in signed Nomination Forms or other supporting evidence like a disposal or recycling receipt or a certificate from a program such as 'Fluorocycle' or equivalent.</li> <li>Check the lighting diagram meets ESS requirements.</li> </ol>	2
	<ol style="list-style-type: none"> <li>Physically examine purchased or installed products and equipment (where possible).</li> <li>Check that End-User Equipment installed resembles the lighting diagram.</li> <li>Check that new Maintained Emergency Luminaire is either: <ul style="list-style-type: none"> <li>Un-Switched, or</li> <li>Switched with a control system listed in Table A10.4 or A10.4A.</li> </ul> </li> </ol>	3
Disposal of End-User Equipment	<ol style="list-style-type: none"> <li>Check that End-User Equipment has not been re-used or re-sold.</li> <li>For projects with an implementation date on or after 15 May 2016, check that: <ul style="list-style-type: none"> <li>End-User Equipment for projects in a Metropolitan Levy Area (with a postcode listed in Table A25 of the ESS Rule) has been recycled, and</li> <li>recycling evidence has been obtained.</li> </ul> </li> </ol>	2
Correct determination of Asset Lifetime for Lighting Upgrades (Table A10.1 of the ESS Rule)	Check that the Asset Lifetime has been determined as per Table A10.1 of the ESS Rule.	2

<sup>c</sup> Refer to the [Commercial Lighting](#) page for information about our requirements

Requirement	Audit Procedure	Audit Tier
If the product is an Emerging Lighting Technology (ELT), it must meet the requirements of ESS Rule and the Scheme Administrator's published requirements.	<ol style="list-style-type: none"> <li>1. Confirm that the equipment was accepted by the Scheme Administrator and was on the List of Accepted Products on <a href="#">TESSA</a> at the time of ESC creation.</li> <li>2. Check that for implementations undertaken on or after 1 June 2014, no T5 Adaptors or LED Tubes (in a retrofitted luminaire) were installed.</li> <li>3. Check that equipment used meets the requirements of clause 9.4.1(f) of the ESS Rule for implementations after 1 July 2015.</li> <li>4. Where a project has been implemented on or after 6 April 2016<sup>d</sup> confirm that the Scheme Administrator has not ceased acceptance of the ELT.</li> <li>5. Ensure any register of ELTs being kept by the ACP is periodically updated.</li> </ol>	2
BCA section 4.4	Check the requirements of the BCA Part 1 section F4.4, Safe Movement have been met.	
NLP must be demonstrated in accordance with the Evidence Manual	Check whether the evidence requirements in the Evidence Manual have been met in relation to lamp type, NLP, lamp quantities, lighting control systems and air conditioning.	2
The Illumination Power Density (IPD) achieved after the lighting upgrade is equal or less than the maximum IPD for each space, as defined in Part J6 of the BCA	Review the IPD calculations.	2
Service levels must not be reduced - the lighting characteristics and upgrades at the sampled project sites must meet or exceed the recommendations of AS/NZS 1680, or another benchmark approved by the Scheme Administrator.	<p>Review documented evidence</p> <ol style="list-style-type: none"> <li>1. Test light meter readings using the procedures recommended by AS/NZS 1680 (e.g. excluding daylight, and taking readings at recommended spacing and height above the floor). If it is not possible to exclude daylight when taking readings, light meter readings should be taken with the lights on and then with the lights off and report the difference between the two as an approximation of the 'daylight excluded' lighting levels.</li> <li>2. Check that lighting surveys have been carried out using a calibrated lux meter and accurate measurement methodology.</li> <li>3. Check for maintained illuminance by ensuring that the maintenance cycle adopted provides for an average illuminance which does not fall below the recommended or required maintained illuminance.</li> <li>4. Check for uniformity of illuminance by ensuring the work place allows for a particular task, or series of tasks, to be performed anywhere within the space, without alteration to the lighting.</li> </ol>	2 3

<sup>d</sup> Refer to our [Commercial Lighting](#) page for information about our requirements

## Specific issues to be checked for versions of the ESS Rule

Requirement	Audit Procedure
ESS Rule effective from 31 July 2018	Changes effective from 1 November 2018: <ul style="list-style-type: none"> <li>• Addition of a requirement that maintained emergency lighting must be replaced by maintained emergency lighting equipment.</li> <li>• Introduction of a cap on the LCP/NLP of high bay metal halide and mercury vapour lamps removed as part of a lighting upgrade. The cap applies to indoor lighting only.</li> <li>• Updates to Asset Lifetime values to reflect the changes to the lighting market in NSW.</li> <li>• A number of new definitions and amendments have been included to support and clarify changes throughout the method.</li> </ul>
ESS Rule effective from 30 March 2020	<ul style="list-style-type: none"> <li>• Clause 11.11: General transitional arrangements apply if the implementation date of a project is on or before <b>29 March 2020</b>.</li> <li>• Changes specific to the Commercial Lighting method include:               <ul style="list-style-type: none"> <li>- Updates to space types, annual operating hours and building/space types, annual operating hours and building/space groups in Table A10.2 in Schedule A.</li> <li>- Inclusion of new BCA Class 10a in Table A10.3 in Schedule A.</li> <li>- Update to the 'Maintained Emergency Lighting' space type to 'Un-Switched Maintained Emergency Luminaire' and 'Switched Maintained Emergency Luminaire'.</li> <li>- Update to the definition of Maintained Emergency Luminaire to align with the updated standard AS/NZS 2293.1.</li> <li>- Changes to the licensed electrician requirement to align it with the requirements under section 14(1) of the Home Building Act.</li> </ul> </li> </ul>