

APPENDIX B	Checklists for Commercial & Industrial Applications (Code of Practice: EV Charging Equipment Installation 5th Edition)			
Included with EDIS Certificate Number:				

(Form to be included with forms for certification given to the person ordering the work)

#### Arrangements prior to installation - Commercial and industrial installations

CoF Ref	CHECK	Yes	No	N/A
4.2	Are there any hazardous zones where flammable/combustible gases may be present?			
4.2	Have the boundaries of any hazardous zones been identified?			
4.2	Can the installation be carried out so that the charged vehicle, cable and connectors are outside the hazardous area when charging?			
3.2	Is metering adequate for the intended use and billing model?			
3.3, 8.1.3	Is the existing supply adequate for the additional demand?			
8.1.2	Has the earthing arrangement of the incoming power supply been established? Are the existing earthing and bonding arrangements compliant with BS 7671?			
8.2.3	Is the supply PME (TN-C-S) or a TN-S public supply?			
8.2.3	If PME (TN-C-S), have precautions necessary to prevent danger in the event of an open-circuit neutral been identified and addressed?			
5.1.2, 5.3.3, 8.2.1 and Appendices F, G and H	If a TT earthing system is being provided for the charging equipment, has a simultaneous contact and earthing arrangements assessment been carried out?			
3.6	Has mobile network coverage of the proposed installation location been checked? <i>NOTE: Some EVSE manufactures have specific requirements for the generation of mobile technology</i>			
3.7	Has the installer reviewed the installation instruction provided by the charging equipment manufacturer?			
3.8	Has planning permission been granted for the charging equipment installation?			
3.10	Have the details of the proposed installation been discussed and agreed with the client? Have any necessary repairs to the existing installation been agreed with the client?			
5.6 and 8.5	Has the correct type of RCD been selected in relation to the charging equipment (Type B for Mode 3 or Mode 4 charging equipment, unless the equipment has in-built DC residual current protection then; Type A or Type F may be acceptable)?			

#### Physical installation requirements - Commercial and industrial installations

CoF Ref	CHECK	Yes	No	N/A
4.2	Has the charging equipment been installed outside any hazardous zones when flammable/combustible gases may be present?			
4.2	Have precautions been taken to ensure the charged vehicle, cable and connectors are outside the hazardous area when charging?			
4.3	Has the charging equipment been installed in an optimum location with respect to the intended vehicle parking position?			
4.4	Has the charging equipment been installed in a location to minimize the likelihood of vehicle impact damage?  If no, have protective barriers been provided?			
4.5	Are the main operating controls, displays and any socket-outlets at an appropriate height?  Have the requirement of PAS 1899 been met? Have you made sure there are no changes of level between the vehicle and EVSE controls?			
4.6	Is there sufficient space around the charging equipment open to all equipment doors and covers?			
4.7	Is there sufficient space around the charging equipment for ventilation and cooling purposes?			
4.6	Have all trip hazards been considered and, where possible, avoided?			

4.8	Have any BS 1363 socket-outlets intended for EV charging been labelled as EV connecting points, and checked to see that they are marked 'BS 1363/EV' on the rear in accordance with BS 1363-2?			
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**Electrical installation requirements - General**

CoF Ref	CHECK	Yes	No	N/A
	Prior to installation checklist to hand and satisfactory completed?			
5, 8	Installation design to hand?			
	Design section of electrical installation signed?			
	Pre-work survey of installation carried out, including: <ul style="list-style-type: none"> <li>• rating and condition of existing equipment?</li> <li>• suitability for additional load?</li> <li>• earthing and bonding?</li> </ul>			
	Pre-work tests of installation carried out, including: <ul style="list-style-type: none"> <li>• earth continuity, polarity and insulation resistance?</li> <li>• earth fault loop impedance?</li> <li>• operation of RCDs?</li> </ul>			
	Defects in existing installation identified and notified to the client: <ul style="list-style-type: none"> <li>• those affecting the new installation?</li> <li>• those not affecting the new installation?</li> </ul>			
	Order to repair defects in existing installation affecting the new installation received?			
	Equipment to be worked on isolated?			
	Precautions taken to prevent inadvertent energizing?			
	Installation carried out?			
9	Testing			
9	Electrical Installation Certificate to hand, with preliminaries complete, including signatures for design?			
9	Installation isolated and precautions to prevent inadvertent switching on taken?			
9	Preceding testing, inspection carried out on disconnected installation?			
9	Inspections carried out as per BS 7671 Schedule of Inspections?			
9	Schedule of Inspections completed?			
9	Dead tests carried out as required by BS 7671 prior to energizing, and appropriate parts of the test schedule completed?			
9	Remaining tests carried out as required by BS 7671 after energizing, and appropriate parts of the test schedule completed?			
9	Electrical Installation Certificate completed complete with schedule of inspections and schedule of test results?			
9	Copy of certificates issued to the person ordering the work?			
9	Customer advised in writing of any defects in the electrical installation not rectified?			
9	Competent person scheme provider notified of completion?			
9.3	Correct operation of the charging equipment demonstrated to the client?			
9.4	Client provided with the instruction manual for the equipment and informed of any maintenance requirements?			
11	DNO notification form for the installation submitted via the Energy Networks Association website and, for V2X capability, post-installation notification to the DNO in accordance with G98/G99?			

**Risk Assessment D1 IET Standards**

Installation with PME supply and vehicle charging equipment to be installed outdoors where a TT system is proposed to be adopted for charging equipment only

(Form to be included with forms for certification given to the person ordering the work)

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certificate

Step	Text	Record		
1	<b>Identify the hazards</b>			
	(a) Does the building from which the charging supply is to be obtained have a PME supply?			
	(b) Is the vehicle charging equipment to be installed outdoors?			
	(c) Is a TT system to be adopted for the main installation and vehicle charging equipment			

		<p>Yes/No</p> <p>Yes/No</p> <p>Yes/No</p> <p>If the answer to all three of the above questions is YES, the hazard will be:</p> <p>In the event of an open-circuit neutral in the PME supply system, all conductive-parts connected to the main PME earthing terminal, e.g. any exposed - or extraneous-conductive-parts that may be directly, or indirectly, or otherwise connected to this earthing terminal, may become raised to a dangerous voltage relative to true Earth.</p>
2	<b>Simultaneous contact- decide who might be harmed and how</b>	Any person who can simultaneously touch any conductive-parts or conductor that might be connected to the main PME earth terminal of the building, e.g. a water tap, or metallic gas/water or fuel pipe, or metallic conduit, or item of Class I electrical equipment such as an outside light, switch or socket-outlet, or a boiler flue, or structural steel work, etc., AND the vehicle being charged OR any other conductive-parts or conductor that might be directly or indirectly or otherwise connected to the TT earth terminal of the vehicle charging
3	<p>Simultaneous contact- evaluate the risks and decide on precautions</p> <p>(1) Is it possible to simultaneously touch any conductive-parts or conductor that might be connected to the main PME earthing terminal AND the vehicle being charged OR any conductive-parts or conductor that might be connected to the TT earth terminal of the vehicle charging equipment? NB: All possible locations and positions of the vehicle on charge, and the charging lead and connector, must be considered here.</p>	<p>Yes/No</p> <p>If the answer to the question (1) is <b>NO</b>, retain the following text; if <b>Yes</b>, delete the following text:</p> <p>'THIS RISK ASSESSMENT SHOWS THAT IT IS NOT CURRENTLY NECESSARY TO TAKE ANY PRECAUTIONS TO PREVENT RISK OF SIMULTANEOUS CONTACT BETWEEN ANY CONDUCTIVE-PARTS OR CONDUCTOR THAT MIGHT BE CONNECTED TO THE MAIN PME EARTHING TERMINAL AND THE VEHICLE BEING CHARGED OR ANY OTHER CONDUCTIVE-PARTS OR CONDUCTOR THAT MIGHT BE</p>
	(2) If the answer to question (1) is Yes, can this simultaneous contact be reliably prevented, e.g. by fitting an insulating section into any pipe or conduit, or replacing any item of Class I equipment with Class II equipment, or by providing a permanent barrier or enclosure, or by applying permanent insulation, etc.?	<p>Yes/No</p> <p>If the answers to question 1 and question 2 are both <b>Yes</b>, record here the essential precautions required to prevent the possibility(ies) of simultaneous contact identified by question (2):</p> <p>.....</p> <p>.....</p> <p>.....</p> <p>.....</p> <p>.....</p>
		And
		<p>If the answer to question 1 is <b>Yes</b> and the answer to question 2 is <b>No</b>, retain the following text here (otherwise delete):</p> <p>THIS RISK ASSESSMENT SHOWS THAT IT IS NOT CONSIDERED TO BE SAFE TO PROVIDE A TT EARTHED OUTDOOR VEHICLE CHARGING POINT AT THE CHOSEN LOCATION AND / OR TO CHARGE A TT EARTHED EV AT THE CHOSEN LOCATION. THIS HAS BEEN MADE KNOWN TO THE CUSTOMER IN WRITING.</p>

4	Seperation of earthing system-decide who might be harmed and how	Any person who may be touching the vehicle being charged OR any other conductive-parts or conductor that might be directly or indirectly or otherwise connected to the TT earth terminal of the vehicle charging equipment, under either of the following conditions: (a) buried metalwork connected to the PME earthing system is not adequately seperated from earth electrode(s) or buried metalwork connected to the TT earthing system, in accordance with Table H1; or (b) the potential of the ground on which they are standing is subject to riseof earth potential during a PME neutral conductor fault, as described in Appendix H, Clause H5.
5	Seperation of earthing systems - evaluate the risks and decide on precautions Is adequate seperation of the TT earthing system available, and the risk of return PME touch voltage assessed to be negligible?	Yes/No If the answer to question is <b>NO</b> , retain the following text here (otherwise delete): <b>'THIS RISK ASSESSMENT SHOWS THAT IT IS NOT CONSIDERED TO BE</b>
6	Record your findings and implement them If the precautions are inadequate, is it less of a risk to convert the complete installation to TT?	All precautions required by step 3 completed.  Signature.....
7	Review the assessment and update if necessary	To be reviewed whenever further work is carried out on the installation including any inspection and testing