

This document summarises the CIBSE comments on PAS 2030. Due to the BSI comment process, these comments have to be submitted using an online tool. This document sets out the complete set of comments. Text in italics refers to the location in the tool where the comment was entered.

Comments fall into two categories – general comment on the document as a whole, and specific comments on particular clauses of the PAS. In addition, wherever possible and appropriate, CIBSE has offered alternative wording, and this is identified after the comment under the sub heading “Proposed Change”. Wherever proposed changes are offered, the text is marked up using strikethrough for deleted text and underline for new text.

General Comments

To go in at the very top of the contents menu bar on the BSI Drafts Commentary site

Comment 1

CIBSE feel that the PAS introduces requirements which will impose significant bureaucratic and financial burdens, which in many cases, particularly for small projects, will significantly increase their costs. Whilst we understand the intention of the PAS, and of the requirement that all Green Deal installers follow it, there needs to be careful consideration of the balance of compliance costs, which will tend to exclude smaller installers, and the need to ensure sufficient detail in the document to achieve successful outcomes from the installations – meeting the Golden Rule, that the cost is met from reduced energy bills, requires that this stuff actually works.

It is perhaps worth quoting from the Health and Safety Executive on their review of the CDM Regulations. They say:

Background to CDM 2007 Regulations

Construction remains a disproportionately dangerous industry where improvements in health and safety are urgently needed. The improvements require significant and permanent changes in dutyholder attitudes and behaviour. Since the original CDM Regulations were introduced in 1994, concerns were raised that their complexity and the bureaucratic approach of many duty holders frustrated the Regulations' underlying health and safety objectives. These views were supported by an industry-wide consultation in 2002 which resulted in the decision to revise the Regulations.

Perhaps this sentiment should be noted in respect of PAS 2030

Comment 2

There is very little mention of achieving real energy performance in practice. It is (rightly) focussed on installation practice but where does it say “ensure that the installation of equipment achieves a minimum efficiency at full and part load”? Yes it does say in places ‘commission the equipment so that it works properly’ but there needs to be much more emphasis on meeting performance targets (the manufacturers quoted efficiencies at full and part load and the minimum efficiency standards in the Non Domestic Building Services Compliance Guide).

Clause 4.11 refers (partially) to commissioning requirements, but only to following specified processes. It says nothing about commissioning the installation to work properly and effectively, to meet

performance requirements. Meeting the Golden Rule requires the installed system to perform, not just to have been installed according to an approved process.

Foreword, final paragraph.

Comment on this section:

This appears to say that if the document is put forward for adoption as a full British, European or International Standard the PAS will be withdrawn. This is clearly not going to be the case, as DECC will require it to remain in place until a British Standard covering the same scope has been and adopted. This paragraph should read that if the PAS is adopted as a British etc Standard then the PAS will be withdrawn.

Proposed Change:

“This draft PAS is not to be regarded as a British Standard, European Standard or International Standard. In the event that this PAS is ~~put forward to form the basis of~~ adopted as a full British Standard, European Standard or International Standard, ~~it~~ the PAS will be withdrawn.”

Throughout the document the user is referred to Statutes and Regulations, etc. with which they are expected to comply. Such participants have a legal duty to comply and should, as part of their competency, be aware of the relevant requirements. Indeed, it is part of the BSI rubric on all standards and PAS that compliance with the standard or PAS does not confer immunity from legal obligations, for the very obvious reason that the drafters of a standard cannot foresee all the circumstances in which it might be applied, and the legal requirements that may be relevant in every case.

Moreover, some 65 column inches of the Annexes, which is very nearly 10%, in section [letter].1 and [letter].7 are given over to very similar NOTES referring to duties to comply with Building, Gas Safety and Water Regulations and the Wiring Regulations. This material should form a clause in its own right. It is not NOTE material, but should be a required element of the core text. This should clearly say that installers (and others involved) have a legal duty to comply with all the relevant Statutes and Regulations, as well as a professional obligation through duty of care to follow the relevant Codes of Practice, etc.

Proposed Change:

Insert a new clause in the core text.

4. Statutory requirements

All installation work undertaken under the scope of this PAS shall comply with:

- i. the current Gas Safety (Installation and Use) Regulations or equivalent applicable in the jurisdiction in which the installation is being carried out. The Gas Safety (Installation and Use) Regulations or equivalent have requirements relating to both technical gas safety standards, qualification and supervision of persons carrying out gas work, and notification of such work to Gas Safe Register and to local building control officials.
- i. the current Building Regulations or Standards applicable in the jurisdiction in which the installation is being carried out. In particular, compliance in relation to the following aspects is highlighted: workmanship; materials; structural stability; fire safety; resistance to moisture; sound insulation, hot water safety, heat producing appliances, conservation of fuel and power and electrical safety. Further guidance on the requirements of the Building Regulations in England and Wales is provided in Approved Documents A-P and Workmanship and Materials,

and in the Domestic and nondomestic compliance guides. Further guidance on the requirements of the Building Standards in Scotland is provided in the Domestic Technical Handbook and Non-Domestic Technical Handbook. Further guidance on the requirements of the Building Regulations in Northern Ireland is provided in Technical Booklets C-V.

- ii. the current Water Supply (Water Fittings) Regulations or Water Byelaws or equivalent applicable in the jurisdiction in which the installation is being carried out.
- iii. the current edition of the Institution of Engineering and Technology (IET) Wiring Regulations (BS7671).

Note: Clauses 4-7 will need to be renumbered.

Further comment on the references to regulations:

It may be considered desirable/helpful to list relevant Statutes, Regulations, Codes, etc. at the end of the document. However, this needs to be done in such a way that it is clearly informative, and that the possibility of changes to listed documents, or the introduction of new requirements, and the need to consult the most up to date versions is clearly stated in the text.

Proposed Change:

Insert a list of references to Regulations and Codes of Practice

Introduction, para 1

Comment on this section:

The Introduction says that “This PAS provides a specification for the installation of energy efficiency measures in existing buildings.” Is this accurate? Does it contain everything that is needed for such an installation under any circumstances? A number of the Annexes appear to cover the competences required of individual operatives, but not the installation standards.

The final line of the paragraph refers to customer expectations. However, this may not actually be true of the document – we comment elsewhere on the absence of performance measurements to establish whether the installation delivers the improvements anticipated.

Introduction, para 3 second use of the PAS

Comment on this section:

Currently reads “will be using this PAS to as a good practice...”

Proposed Change:

Delete “as a” and insert “provide”

Introduction, para 4

Comment on this section:

Is this really primarily intended for the installer? This PAS will have a significant impact on the contracts between GDPs and Installer businesses, and will also be highly relevant to the certification bodies that accredit installer businesses.

Introduction, NOTE, para 4

Comment on this section:

"There will be no official relationship between the installer and the customer." There may not be a contractual relationship. But the installer is sending employees to carry out work on a home or property that has an owner and occupants. If they do not manage the relationships properly then it will be a recipe for disaster. Research carried out for the EPSRC funded CALEBRE project has already shown that householders want people they know and trust to work on their homes. If they are required to use accredited installers then they will either not bother with the Green Deal, or they will demand very high standards of customer care from the installers. Just saying "there is no official relationship" is unrealistic. Who in BSI will take the press enquiry from the Daily Mail on this one?

Proposed change

Delete the final sentence of the note.

Scope

Comment on this section

It is not clear that the document actually works as a generic standard for energy efficiency installation, that happens to support the Green Deal. If that is the case then there needs to be explicit identification of the Green Deal specific elements.

Proposed change

Para 1 line 3

Delete "microgeneration" and insert "generation"

Para 2

Comment on this section

Para 2 under Scope says nothing about anything that is done to ensure that the measures installed are commissioned or that they meet customer expectations.

There is very little mention of achieving real energy performance in practice. It is (rightly) focussed on installation practice but where does it say "ensure that the installation of equipment achieves a minimum efficiency at full and part load". Yes it does say (elsewhere) commission the equipment so that it works properly but there needs to be much more emphasis on meeting performance targets (the manufacturers quoted efficiencies at full and part load and the minimum efficiency standards in the Non Domestic Building Services Compliance Guide, for example). This theme runs right throughout the document.

Para 3

Comment on this section

Para 3 under Scope starts 'This PAS is constituted of core ...' And there is frequent use of the term "entity". This is hardly "crystal mark" language, nor is it user friendly for the average installer of these systems.

Proposed change

This PAS contains core requirements for the installation of energy efficiency measures, which should be met by any installer claiming conformance with the PAS or seeking accreditation as an installer under the Green Deal. In addition, Annexes set out additional requirements by product category.

Para 5

Comment on this section

Delete the reference to Annex AA (and delete the Annex) as this is amply covered in the HSE Approved Code of Practice for Construction Design and Management.

Terms and Definitions

Comment on this section

Some statements are difficult to understand e.g. clause 3.1; 'accreditation', defines the term in a form which the vast majority of readers would find meaningless – those in the accreditation and certification fields might also swallow hard.

[Chris, you can enter this para as the comment on each of the three terms, please]

A word search reveals that the terms "accreditation" (3.1) "accreditation body" (3.2) and "accredited certification body" do not appear anywhere in the text. All three terms should therefore be deleted.

3.1 accreditation

Proposed change

Delete this term

3.2 accreditation body

Proposed change

Delete this term

3.4 accredited certification body

Proposed change

Delete this term

Comment on this section

3.8 energy efficiency measure (EEM) says that it is a

"pre-planned action undertaken to improve the thermal performance of a building by saving or generating energy".

This is just plain unscientific nonsense. Putting a PV array on a roof does nothing for the thermal performance of the building. Nor does installing a new boiler. The only measures that improve thermal performance are those in Annexes H to P.

Proposed Change

"pre-planned action undertaken to improve the thermal performance of a building or to increase the energy efficiency of heating or lighting equipment or to install equipment to generate electricity or hot water from renewable sources".

3.9 installer

Comment on this section

"Entity" is not a word used in the construction sector. Its not at all clear what it means, either.

Proposed change

Delete “Entity” and insert “business”.
[also applies to 3.15 and 3.16]

3.17; ‘surveyor’

Comment on this section

In clause 3.17; ‘surveyor’, is identified as a ‘person who has satisfactorily completed an installer designated training programme so as to be capable of assessing the suitability of buildings for installation of specified energy efficiency measure(s).’ The Annexes A-Z, later in the document, stipulate a very wide range of competences for the ‘surveyor’ that are not necessarily relevant to the particular measures. These two areas alone lead to a number of questions, where the answers are not discernible in the document. Examples are:

Is the surveyor independent of the installer, or a member of the installer’s staff?

How does one ensure that an installer’s ‘designated training programme’ is comparable/compatible with those of his competitors and what are the criteria for such programmes?

Is it intended that installers have an in-house training programme, or will they nominate an out-of-house programme? If surveyors are independent can they ‘cherry pick’ from the available training programmes?

Is a surveyor expected to be capable of assessing buildings for all of the measures listed in the Annexes?

How do the surveyors relate to Green Deal Advisors, who will be expected, at the very least, to be qualified energy assessors?

Section 4

Comment on this section

Many in the industry would be more likely to recognise the term “Method Statement” for what is covered in section 4. That also ties in with the HSE approach under CDM.

Section 4 reads like a good practice manual for any kind of system project (green deal measures/elements being one of the systems). The Section simply describes what any good installer should do for every project. In the real world one accepts that not every installer does everything according to the book on every project and for small installers, say 1 to 20 employees, and on small projects the complete gamut is unrealistic. One could question whether the level of detail is necessary (Good installers will know what should be done and ‘cowboys’ won’t care.)

Whatever level of detail is finally included it is the view of CIBSE that attempting to split the document into domestic and non-domestic requirements would not be advantageous, due to the very wide grey area between the two. A split would require a definition of the boundary, and there are enough unavoidable difficult questions to address with this PAS to allow a distraction over the definition of domestic and non-domestic properties.

Design is mentioned in Section 4 and, for the measures listed in the PAS, the degree of design work will vary considerably. In some situations the ‘design’ may be done by the installer, the product supplier, the product supplier/installer, or a specialist designer (consultant). It is very unlikely to be provided by the GDP – clause 4.3, first item listed (despite the fact that the detailed role of GDPs has not been fully detailed) – see also clause 4.13 reference to the GDP. There does seem to be a significant gap in terms of the requirements relating to the design of energy efficiency measures.

Proposed Change

Rename Clause 4 “Method Statement”

4.2.1 Obtaining the design specification

Comment on this section

The text says that for Green Deal installations, the specification comes from the GDA. Fine. Then it says that otherwise (for non GD installations?) the specification comes from the “relevant EEM specifier”. But the definition of EEM specifier is clearly tied in to the Energy Act and Green Deal (see 3.16) So this does not work.

Proposed change

Delete 4.2.1 final sentence and also delete the definition of EEM specifier, as this is the only occurrence in the text and it is therefore redundant

Comments on this section

Clause 4.13 ‘Installation control’ might well be identified as the need for a Method Statement, which is actually made up of clauses 4.1 to 4.12 and clause 4.14. This might usefully go as an introductory paragraph to the whole of clause 4, method statement.

Comments on this section

Clause 4.12 ‘Handover’ refers to work outside the remit of the Green Deal (there is also an earlier reference) and requests such installers to follow the PAS requirements. The principle is sound, but why step beyond the Green Deal projects? In the paragraph prior to this reference, the Green Deal installer is asked to obtain handover instructions from the GDP. Surely the installer should be complying with the provision of handover information list given for the non-Green Deal installer?

The final paragraph on p7 talks of physical viewing of the installation ‘including, where appropriate, demonstrations of the operation of ...’. There has to be some mention that such viewing/demonstration should be made to the maintenance personnel, facilities managers or, in the case of domestic systems, the owner/user – to others it will be meaningless.

Finally, since any Green Deal energy efficiency measure involves the installation of a controlled service or element, the works falls under the requirements of the Building Regulations. These require the provision of a building logbook. There is much doubt about this, or perhaps just plain evasion, and it would be worth spelling this out in the section.

Proposed Change

The handover process shall include the handover of the building logbook for the measure or measures installed, and an explanation of the contents of the logbook. The installer shall explain to the customer that the logbook is a requirement of the Building Regulations, and that they may be asked to supply a copy if they sell the freehold on the premises or sell or assign the lease on the premises.

4.12 Handover, 4th main para

Comment on this clause

It is surely not the intention, but this as written implies that it is OK for the installer not to have a clue about the measures and their behaviours prior to installation, as long as they mug up on it prior to handover.

Clause 5.2.1 'Undertaking the survey' refers to the installer using a surveyor for a pre- installation survey and one returns to the question of where the surveyor resides in the overall Green Deal structure.

Clause 5.2.2 'Safety monitors. Why should the surveyor need to get involved with existing CO, or other, monitors?

Clause 5.4.3 'Internal feedback' calls for corrective action to be documented, with reasons for the action. It's another example of good practice, which should be carried out. How is one supposed to find out if it isn't done?

Clause 5.6 'Process control'. Note 1 talks of the installer deciding the level of competence of those capable of signing off documentation. This is an open door to variable standards.

Clause 5.7.1 'Procedure'. Note; as written too much latitude is permitted in terms of percentage audits, be more explicit.

Clause 5.8 'Installation process records'. Shouldn't this be in Section 4? Items a) through h) are mentioned, but not identified against the items.

Sections 6 'Service provision' and 7 'Claims of conformity' may be considered necessary for completeness, but will be seen by many as an additional bureaucratic and financial burden.

Annexes – General Comment

Comment on this section

Some 65 column inches of the Annexes, which is very nearly 10%, in section [letter].1 and [letter].7 are given over to very similar NOTES referring to duties to comply with Building, Gas Safety and Water Regulations and the Wiring Regulations. This material should form a clause in its own right. It is not NOTE material, but should be a required element of the core text. This should clearly say that installers (and others involved) have a legal duty to comply with all the relevant Statutes and Regulations, as well as a professional obligation through duty of care to follow the relevant Codes of Practice, etc.

And why can't the other common sections of the Annexes e.g. 'Current competency', 'Competence ratio' etc. be brought together 'up-front', rather than being repeated

Proposed Change:

Insert a new clause in the core text.

4. Statutory requirements

All installation work undertaken under the scope of this PAS shall comply with:

- i. The current Gas Safety (Installation and Use) Regulations or equivalent applicable in the jurisdiction in which the installation is being carried out. The Gas Safety (Installation and Use) Regulations or equivalent have requirements relating to both technical gas safety standards, qualification and supervision of persons carrying out gas work, and notification of such work to Gas Safe Register and to local building control officials.
- ii. The current Building Regulations or Standards applicable in the jurisdiction in which the installation is being carried out. In particular, compliance in relation to the following aspects is highlighted: workmanship; materials; structural stability; fire safety; resistance to moisture; sound insulation, hot water safety, heat producing appliances, conservation of fuel and power and electrical safety. Further guidance on the requirements of the Building Regulations in England and Wales is provided in Approved Documents A-P and Workmanship and Materials, and in the Domestic and nondomestic compliance guides. Further guidance on the requirements of the Building Standards in Scotland is provided in the Domestic Technical Handbook and Non-Domestic Technical Handbook. Further guidance on the requirements of the Building Regulations in Northern Ireland is provided in Technical Booklets C-V.
- iii. The current Water Supply (Water Fittings) Regulations or Water Byelaws or equivalent applicable in the jurisdiction in which the installation is being carried out.
- iv. The current edition of the Institution of Engineering and Technology (IET) Wiring Regulations (BS7671).

Note: Clauses 4-7 will need to be renumbered.

Further comment on the references to regulations:

It may be considered desirable/helpful to list relevant Statutes, Regulations, Codes, etc. at the end of the document. However, this needs to be done in such a way that it is clearly informative, and that the possibility of changes to listed documents, or the introduction of new requirements, and the need to consult the most up to date versions is clearly stated in the text.

Annex A ‘Condensing Boilers, Natural Gas-Fired and Liquefied Petroleum Gas-fired (Domestic and Non-domestic).

Comment on this section

A.2 ‘Surveyor competence requirements’ refers to Table A.2 which then refers to the surveyor’s competence requirements which are listed under A.3 ‘Operatives threshold competence requirements’. A.3 appears to detail operative competence. This means that the surveyor for a condensing boiler must be a Gas Safe Registered installer, in effect. And will such a surveyor meet the competence requirements for cavity wall insulation, and loft insulation too? That could be a common package to install.

Proposed Change

Rather than the competences in A.3 , in which it is certainly not clear that there is anything about condensing boilers that the surveyor would benefit from in terms of his competence in the field of such boilers, an awareness of the content of the documents listed in A.1 would be much more relevant. The requirements for the surveyor’s competency for this measure need to be far more explicit.

Comment on this section

All gas-fired condensing boiler electrical work must be undertaken by “**operatives**” who meet the competence requirements as stated in Table 4a or 4b (as applicable) of the IET Electrotechnical

Assessment Specification for use by Certification And Registration Bodies (January 2012 version or later subsequent version) as applicable to the scope of work being undertaken. This implies all **operatives** installing electrical work have to be qualified to this level. This is not the case. Only the Qualifying Supervisors are required to be qualified to this level, the operatives have to be competent to carry out the work but not necessarily qualified. There may also be an issue that those who are competent persons under Part P of the Building Regulations, or, for boilers, under Part J of the Building Regs may find that they are competent to meet the requirements of the Building Regulations, which address Health and Safety and Conservation of Fuel and Power, but are excluded by this table from installing boilers for the Green Deal. This is perverse and an unwarranted barrier to trade, and an unreasonable business burden. If an installer is competent under gas safe register rules, then they should be deemed competent under the PAS.

Proposed comment

Delete “All gas-fired condensing boiler electrical work must be undertaken by “**operatives**” who meet the competence requirements as stated in Table 4a or 4b (as applicable) of the IET Electrotechnical Assessment Specification for use by Certification And Registration Bodies (January 2012 version or later subsequent version) as applicable to the scope of work being undertaken. Insert “All gas-fired condensing boiler electrical work shall be undertaken by electrically competent **installers** registered with an appropriate government approved scheme provider. i.e. Part P MCS Scheme provider in England and Wales, or registered with an industry approved scheme such as the NICEIC, ECA or SELECT

Comment on this section

The first sentence in A.3 under ‘Competence required’ needs rewriting – it’s currently meaningless.

Proposed Change

It is difficult to propose a change when the original is incomprehensible to the commentator.

Comment on this section

A.4 ‘Current competency’ describes a Utopian and unnecessary situation, which would be a bureaucratic and financial nightmare. This will never get through a regulatory impact assessment.

Proposed Change

Current competency should align fully with the requirements of the Gas Safe Register and competent persons schemes, no more, no less.

Comment on this section

A.5 ‘Competence ratio’

Again, the note on complying with the Gas Safety Regs is repetitive. Any registered gas installer knows that the Gas Safe Register rules trump a PAS! And the Register will produce guidance on this in their communications to installers, which will be written in language that those installers understand, and are likely to read.

Proposed Change

Fourth line should read A.2, not U.2. Delete Note 2

Comment on this section

A.6 Handover information

This section could be significantly simplified if the common text was to be placed in clause 4.12 and this only picked up things that really are measure specific.

Proposed Change

Transfer the common text on handover from Annex [letter].6 to clause 4.12, Handover.

Delete Verbal and insert oral. Verbal includes written, oral does not. If it does not matter whether it is written or oral why distinguish. If it does matter, do not leave a loophole.

Table A.1 needs to be modified to take into account the above comments and similar clarifications or simplifications should be applied to subsequent Annexes.

Comment on Section (Annex B)

Much of Annex B repeats Annex A. Surely Annex A & B can be combined - perhaps with an extra column in the Table, to cover the requirements for all boilers in one Annex.

Proposed Comment

Merge Annex A & B

Annex C 'Heating Controls'. Table C.1 'Measure: Specific requirements for heating controls'. 'Product category' – Thermostatic Radiator Valves (TRVs), Programmers, Room Thermostats, Cylinder Thermostats. Why aren't control valves included – they are an integral part of many heating control systems, for 'area' control and zoning?

Proposed Change

Add control valves after Thermostats

C.2 and C.3 manage to avoid any mention of controls documentation and training relevant to competence in this area. BSRIA and CIBSE both provide suitable documents, which should be referenced.

Add:

Where relevant to the type of installation being undertaken, the requirements or guidance given in:
Controls for End Users: A guide for good design and implementation (BCIA 1/2007)
CIBSE Guide H – Building Controls Systems (for non-domestic projects)
CIBSE Knowledge Series KS05 - Making Buildings Work

C.3 Immediately after the bullet points it reads 'In additional all heating' – correct to 'addition'.

Annex D 'Under-floor Heating'. Table D.1 'Product category' – Under-floor Heating (wet systems). Is electrical under-floor heating politically incorrect, even if it's powered by renewable energy sources?

The contrary view is that underfloor heating for refurb is most unlikely to meet the Golden Rule, so if the costs of getting accredited to install are more than a trivial sum it will not happen.

Review the inclusion of electrical underfloor heating (which may be more cost effective in some situations).

Annex E 'Flue gas Recovery Devices'. Table E.1 'Measure: (!) Specific requirements for flue-gas recovery devices'

E.2 and E.3. What is there in E.3 which would assist the surveyor's competency in the field of flue-gas recovery (a repeated refrain from earlier Annexes)? Reference to BS 5440 (from F.1) would be more useful than anything mentioned in E.3.

Annexes H-N & P

The document is far too large and should be condensed to a quarter to make it more useable and accessible. There is a huge amount of duplication from one appendix to another due to lots of standard clauses which could be brought together. Maybe one appendix saying "meet all these general standards and regulations" might help.

Proposed Change

Surely the insulation annexes (H - N & P) could be merged into fewer annexes?

Commissioning – needs to go in against 4.11

The idea that commissioning can be undertaken without measuring the performance of the installations is totally unfounded. The only way that anyone can say that they have successfully and effectively commissioned any of the fixed building services systems described in the PAS is to measure their performance and verify that it satisfies the design specification. If there is no design specification, then the installation cannot be described as having been commissioned. Under the Green Deal the performance matters – because meeting the Golden Rule depends upon the measures delivering the performance.

The Building Regulations (note, the Regulations, not the Approved Documents, which are guidance) require fixed building services systems to be commissioned. The approved guidance, as notified by the Secretary of State, is CIBSE Commissioning Code M, and so it should be included as the standard for commissioning.

Insert in 4.11 "All fixed building services systems shall be commissioned in accordance with CIBSE Commissioning Code M."

Annex S

S.1 should refer to the Society of Light and Lighting for non domestic work, as this is the industry standard statement of best practice.

Insert "Society of Light and Lighting Code for Lighting"

Version 1

S2 Surveyor - Route(s) to competence.

- 1) Level 3 NVQ Diploma in Installing Electrotechnical systems and equipment (building structures and the environment) (if non-domestic, with additional evidence of relevant core experience, knowledge and understanding of lighting, and evidence of CPD).
- 2) The Qualified Supervisor of a company registered as a Member of a Competent Person Scheme or Member of a UK recognised industry certification scheme in accordance with the Electrotechnical Assessment Scheme (EAS) document.
- 3) Formal electrical apprenticeship/training in line with the requirements of the Electrotechnical Assessment Scheme (EAS) document for a Qualified Supervisor and/or the Electrotechnical Certification Scheme (ECS) Gold card at Electrician or Approved Electrician.

S3 Operative Specialist - Route(s) to competence.

- 2) The QS of a company registered with Member of a Competent Person Scheme or Member of a UK recognised industry certification scheme in accordance with the Electrotechnical Assessment Scheme (EAS) document.
- 3) Formal electrical apprenticeship/training in line with the requirements of the Electrotechnical Assessment Scheme (EAS) document for a Qualified Supervisor and/or the Electrotechnical Certification Scheme (ECS) Gold card at Electrician or Approved Electrician.

S5 Competency ratio

Not sure why this is included and should be deleted but is ok if it is a standard entry in all annex's

Version 2 should be deleted but S6 may be worth importing into version 1

Annex T

T.1 should refer to the Society of Light and Lighting for non domestic work, as this is the industry standard statement of best practice.

Insert "Society of Light and Lighting Code for Lighting" Version 1

T2

- 2) The QS of a company registered with Member of a Competent Person Scheme or Member of a UK recognised industry certification scheme in accordance with the Electrotechnical Assessment Scheme (EAS) document.
- 3) Formal electrical apprenticeship/training in line with the requirements of the Electrotechnical Assessment Scheme (EAS) document for a Qualified Supervisor and/or the Electrotechnical Certification Scheme (ECS) Gold card at Electrician or Approved Electrician.

T3

Operative threshold

- 2) Formal electrical apprenticeship/training in line with the requirements of the Electrotechnical Assessment Scheme (EAS) document for a Qualified Supervisor and/or the Electrotechnical Certification Scheme (ECS) Gold card at Electrician or Approved Electrician.

Operative specialist

2) The QS of a company registered with Member of a Competent Person Scheme or Member of a UK recognised industry certification scheme in accordance with the Electrotechnical Assessment Scheme (EAS) document.

3) Formal electrical apprenticeship/training in line with the requirements of the Electrotechnical Assessment Scheme (EAS) document for a Qualified Supervisor and/or the Electrotechnical Certification Scheme (ECS) Gold card at Electrician or Approved Electrician.

Version 2 in these two annexes should be deleted.

The comment submitted on 21 October on this clause is very pertinent. Installers will have to be accredited under the Green Deal. For Green Deal installations this clause will be overwritten by the Code of Practice or the installer certification rules, so this clause should not address Green Deal conformity claims, But it should address the need for someone who wishes to claim conformity to be able to provide documentary evidence that the installation complies with the specification issued under clause 4 and that it is performing within the expected performance parameters. Without this, installers should not be able to sign off the work.

Insert in 7.1

f) The reference number of the specification for the specific installation

g) Evidence that the installation has been installed and commissioned in accordance with Building Regulations or Standards applicable at the site of installation, and details of the measured performance of the installed measures.