From:	[redacted]
To:	Sunnica Energy Farm
Subject:	Further Comments on Published Written Consultations - Claire Mills - Interested Party Ref: 20030250 - Re: EN010106: Sunnica Energy Farm
Date:	24 January 2023 11:26:26
Attachments:	Claire Mills - ID Ref No. 20030250 Follow-up to WR - 23 January 2023 .docx EN010085-000975-Cleve Hill - 11.4.1 Electrical Safety.pdf

Dear Sir,

I have pleasure in attaching my further comments on the Published Written Consultations and would appreciate it if you would kindly acknowledge receipt.

Please also find attached a pdf document to which I refer in my comments dated 23 January 2023.

Kind regards,

Claire Mills

Claire Mills Date: 23 January 2023 IP No: 20030250

Re: Deadline 5 Submission 17th Jan 2023

The reason for my issuing this follow-up report is my strong belief that the absolute overriding concern in terms of approval for this NSIP MUST be for public safety above anything else. If the ExA cannot guarantee this, then the proposal should not be allowed to proceed.

I have read the published items and wish to comment on the paper by Alan B Smith where he gives the up-to-date position regarding the Liverpool BESS fire and the actions of Merseyside Fire and Rescue Service referred to as "MFRS".

It is noted that a BESS fire occurred in September 2020 at Carnegie Road Liverpool and the MFRS reports were not in the public domain until March 2022.

This is in itself disturbing but there appears a catalogue of failures and Mr Smith's report concludes that the cause of the fire has still not been identified by MFRS.

It also confirms under item No (9) point 1 Item 4 that the MFRS report itself in its own Significant Incident Report states:

"*MFRS Operational Risk Information Available for responding crews specific to this site and the hazards associated with BESS was inadequate*."

In addition to the firefighting and first response responsibilities of MFRS it seems that the administration and leadership of this regional fire service has fostered a culture of hiding the truth.

The evidence here is the fact MFRS will not allow Mr Smith to have all relevant papers applicable to the developer, Orsted, and the fact that for 14 weeks MFRS allowed Orsted to alter their report to suit the agenda of the developer.

This really is a shocking revelation in that the public are being denied the truth concerning an explosion and fire which was the first BESS incident in the UK.

Orsted has reputational damage to consider which would naturally be highly detrimental to its business viability so of course it would want an opportunity to see any such report from a selfish commercial perspective. But how on earth can this have been allowed when the report by MFRS should have been totally independent? If the amendments made by Orsted were purely for the purpose of technical accuracy, then surely there is no reason for Mr Smith and the British public to be denied access to all papers between the organisations as there should be nothing to hide.

This makes it very important as regards item No 13 in Mr Smith's paper that even at this late stage, Suffolk and Cambridgeshire fire authorities should be invited by the ExA to become interested parties. In view of what happened in Liverpool, lessons have to be learnt, technical information has to be shared and those 2 chief fire officers cannot avoid their responsibility. This is too important an issue for them not to be included and consulted at this stage of the process.

In addition to the Academic papers that have been part of the Sunnica application on BESS and the risks involved that have been supplied, it is critical for the ExA to take note of what has actually happened in a real live situation with the Liverpool BESS incident in 2020.

I note that BESS risks are being debated in Parliament with a second reading in March this year and that the Liverpool Fire has been mentioned in those speeches.

This demonstrates that nationally BESS risks are of public concern. Until the cause of the Liverpool fire is known and all documents disclosed to the public, in accordance with the remarks of the Station Manager Incident Investigation Team MFRS Feb 2022:

"*All Recommendations made by the MFRS reports on management and regulation of BESS sites should be considered, and prior to any future proposal.*"

This of course includes Sunnica.

In reading the Planning Inspectorate information sent out in the last 3 months I cannot find evidence that Sunnica, as the Applicant, has supplied an independent outside report on Electrical Safety Regulations and Standards.

I refer to the PDF attached which was supplied by the Applicant for the Cleve Hill Solar Farm in August 2019.

As Sunnica would be a generator under Electricity Safety, Quality and Continuity Regulations 2002 ("ESQCR2) it is important they provide evidence that they are complying with ESQCR and also International regulations that apply.

Finally, I refer to an article in The Times dated 30th December 2022 headed "Electricity exports to Europe soar as wind and solar power increase".

Britain exported more electricity to Europe than ever before this year while wind and solar generation hit all-time highs, according to the first analysis of the year's power mix.

This puts a big question mark over Sunnica stating their "Need" in their DCO application.

I would like the ExA to take into consideration please my remarks on BESS risks.

Thank you.

Claire Mills

23rd January 2023

From: [redacted]
To: Cleve Hill Solar Park; [redacted]
Cc: [redacted]
Subject: EN010085 - Cleve Hill Solar Park - The Applicant"s Deadline 3 Submission (email 6 of 7)
Date: 01 August 2019 23:20:11
Attachments: [redacted]

Dear Hefin,

EN010085 - Cleve Hill Solar Park - The Applicant's Deadline 3 Submission (email 6 of 7)

Please find attached the Applicant's Deadline 3 submission.

Please do not hesitate to get in touch if you have any queries.

Kind regards,

Mike

Michael Bird

[redacted]

Arcus
1C Swinegate Court East
3 Swinegate
York
YO1 8AJ

[redacted]

CLEVE HILL SOLAR PARK

OTHER DEADLINE 3 SUBMISSIONS
WRITTEN REPRESENTATION BY THE APPLICANT ON ELECTRICAL SAFETY REGULATIONS AND STANDARDS

August 2019
Revision A

Document Reference: 11.4.1
Submitted: Deadline 3

[redacted]

CLEVE HILL
SOLAR PARK

1 INTRODUCTION AND SUMMARY

1.1 This document comprises a written representation by Cleve Hill Solar Park Ltd ("the Applicant") in relation to the regulations and standards that would govern the construction and operation of the proposed solar array and energy storage facility which is the subject of a DCO application ("Cleve Hill Solar Park").

1.2 As can be noted from the written representation, there is a wide and exhaustive range of obligations that the Applicant would be under in terms of safety when constructing and operating the Cleve Hill Solar Park. Given the importance of these obligations, they bring criminal liability for any breach.

1.3 In addition, the Cleve Hill Solar Park must be constructed in accordance with internationally recognised standards for electrical installation, in order to meet the requirements of National Grid for connection. A summary of the applicable standards are set out below.

2 LEGISLATION

2.1 The Health and Safety at Work Etc. Act 1974 ("HSWA")

2.2 Section 2 of the HSWA provides that an employer owes "general" health and safety duties in respect of the risks arising from its undertaking to its employees, listing matters that the duty extends to include, such as provision and maintenance of plant and systems or work that are safe and without risks to health. There is no definition of "employer" under the HSWA, however, section 53 defines "employee" as "*an individual who works under a contract of employment*", the implication being that the party on the other side of the contract is the employer. In this case, the Applicant does have employees under a contract of employment and hence is an employer under the HSWA.

2.3 This duty is extended[1] to apply broadly to third parties such as members of the public. In this case therefore that includes a duty to ensure the safety of local residents living near Cleve Hill Solar Park.

2.4 In addition to the obvious moral imperative to comply with health and safety law, the duties imposed are subject to an enforcement regime and failure to comply can be treated harshly. A breach of a health and safety duty is a criminal offence punishable by an unlimited fine[2]. Secondary liability also exists for individual directors, officers and managers if a breach of duty is attributable to their "*consent, connivance or neglect*"[3]. An individual convicted of an offence is liable to an unlimited fine and/or a maximum of 2 years imprisonment.

2.5 Following the introduction by the Sentencing Council of the Definitive Sentencing Guideline for Health and Safety Offences and Corporate Manslaughter in 2016 the fines being imposed on organisations has increased significantly even in cases where there has been no injury or death to anyone.

2.5.1 The nature of the duties

2.6 Sections 2 and 3 of the HSWA create absolute duties qualified only by what is reasonably practicable. What is or is not reasonably practicable is not prescribed and will depend on the nature of the circumstances in any individual case. It is a narrower term than what is physically possible[4]. It will usually involve consideration of:

a. The nature of the risk;

b. The foreseeable risk of injury;

c. The gravity of the injury; and

d. Balancing the risk against the sacrifice needed to reduce it further.

2.7 Importantly, the duty requires an employer to ensure against the "risk" of harm and not actual harm[5].

[1] Section 3 of the HSWA
[2] Section 33(1)(a) and Schedule 3A of the HSWA
[3] Section 37(1) of the HSWA
[4] Edwards v National Coal Board [1949] KB704
[5] R v Board of Trustees of Science Museum [1993] 3 ALL ER 853 CA

2.8 These general health and safety duties are not prescriptive; i.e. they do not set out a rigid set of requirements that a duty holder must comply with. However, they exist in parallel with associated regulations that often do set out specific technical legal requirements – in this case the safety of electrical installations.

2.9 Compliance with the general duties and associated regulations is policed by the Health and Safety Executive ("HSE"). The HSE has draconian enforcement powers that are not dependant on bringing criminal prosecutions. For example, where an HSE inspector considers that a duty holder has not complied with its obligations s/he may issue an enforcement notice to either stop a particular activity or requiring changes to be made to meet any perceived risk that the HSE considers has not been managed appropriately; it is a criminal offence not to comply with the requirements of these enforcement notices.

2.9.1 The assessment of risk

2.10 Additional, concurrent duties of risk assessment are set out in regulations. Of particular relevance to the issues here are the Management of Health and Safety at Work Regulations 1999. These would apply throughout the operational lifetime of the facility.

2.11 Regulation 3(1) of the Management Regulations requires a suitable and sufficient assessment of the risks to the health and safety of affected employees and of third parties – such as local residents - arising out of or in connection with the way that the facility is operated.

2.12 **Design risks and the Construction (Design and Management) Regulations 2015 ("CDM")**

2.13 CDM sets out the duties on all those involved in a construction project. This includes the construction "Client", "Designers" and the "Principal Contractor" responsible for actual construction.

2.14 The definition of who is a designer is very wide. It is defined as[6]:

"any person (including a client, contractor or other person referred to in these Regulations) who in the course or furtherance of a business—

(a) prepares or modifies a design; or

(b) arranges for, or instructs, any person under their control to do so,

relating to a structure, or to a product or mechanical or electrical system intended for a particular structure, and a person is deemed to prepare a design where a design is prepared by a person under their control;

2.15 On this definition, the Applicant would be a designer of the Cleve Hill Solar Park.

2.16 CDM requires consideration to be given to issues of design during the early stages of an evolving project.

2.17 The key duties of a designer are[7]:

"When preparing or modifying a design the designer must take into account the general principles of prevention and any pre-construction information to eliminate, so far as is reasonably practicable, foreseeable risks to the health or safety of any person—

[6] Regulation 2 CDM
[7] Regulations 9(2) and (3) CDM

(a) carrying out or liable to be affected by construction work;

(b) maintaining or cleaning a structure; or

(c) using a structure designed as a workplace.

(3) If it is not possible to eliminate these risks, the designer must, so far as is reasonably practicable—

(a) take steps to reduce or, if that is not possible, control the risks through the subsequent design process…. "

2.18 Further specific duties are in place in relation to the construction of project in relation to ensuring that sufficient steps are in place to prevent the risk of injury due to fire[8], and that suitable and sufficient fire fighting equipment, detecting and alarm systems are provided[9].

2.19 In summary, all those involved in the development and design of the facility are required to consider the safety of the overall design as the project evolves. A failure to comply with these obligations is again a criminal offence punishable by an unlimited fine with potential secondary liability for individuals.

2.20 **Regulatory Reform (Fire Safety) Order 2005 ("FSO")**

2.21 The FSO provides that any person who has some level of control in premises must take reasonable steps to reduce the risk from fire and make sure people can safely escape if there is a fire. Premises is very broadly defined, to include "*any place*", such as "*any installation on land*"[10]. Therefore the Cleve Hill Solar Park would fall within its remit.

2.22 Article 8 places a duty on the person in control of the premises to take such general fire precautions as may be reasonably necessary to ensure that employees and the premises are safe. Underneath the general duty are specific requirements including for fire risk assessment of the premises on an ongoing basis[11], institution of fire prevention measures[12], installation of fire fighting and detection equipment[13], maintenance of the premises[14], and provision of staff safety training[15].

2.23 The provisions of the FSO are enforceable by the fire and rescue authority for where the premises are situated, in this case Kent and Medway Fire and Rescue Authority. Enforcement is undertaken by inspectors appointed by the enforcement authority, who have wide powers including to enter premises and make any inquiry as is necessary to ascertain that the premises are compliant with the FSO[16]. The ultimate penalty for breach of the fire safety duties under the FSO is criminal prosecution with a penalty of a fine and up to two years imprisonment.

2.24 **The Building Regulations 2010 ("BR")**

2.25 The construction of most buildings requires compliance with the BR, which set minimum standards for design and construction.

[8] Regulation 29 CDM
[9] Regulation 32 CDM
[10] Article 2 FSO
[11] Article 9 FSO
[12] Article 11 FSO
[13] Article 13 FSO
[14] Article 17 FSO
[15] Article 21 FSO
[16] Article 27 FSO

2.26 The Building Act 1984 gives the Secretary of State power to approve and issue documents containing practical guidance with respect to the requirements contained in the BR. These are known as "Approved Documents" and are aimed broadly at safety. Approved documents A (Structure), B (Fire Safety), and P (Electrical Safety) are relevant to Cleve Hill Solar Park.

2.27 The effect of the BR is that approval must be sought from the local authority or privately appointed approved inspector prior to construction and sign off achieved by that inspector or local authority following completion of works to confirm compliance with the relevant approved documents standard. If this is not obtained, the local authority have enforcement powers under section 36 of the Building Act 1984 to require rectification of non-compliant works. Additional to this, the local authority have power to seek an injunction to stop construction works taking place, or pursue a criminal prosecution where works have been completed.

2.28 **Electricity Safety, Quality and Continuity Regulations 2002 ("ESQCR")**

2.29 The ESQCR provide safety standards for electricity generators, suppliers and distributers, aimed at protecting the general public from danger. The Applicant would be a generator under the ESQCR.

2.30 Specifically, a generator has a duty to ensure that its equipment is constructed, installed and protected, used and maintained to prevent danger[17] (which is defined to include danger to health and life from fire or explosion)[18], including in relation to substations[19], which have a specific requirement to minimise fire risk[20].

2.31 The ESQCR provides for inspections by the Secretary of State to confirm compliance, with the ultimate penalty being criminal prosecution for any breaches.

[17] Regulation 3 ESQCR
[18] Regulation 1(5) ESQCR
[19] Regulation 11 ESQCR
[20] Regulation 11(d) ESQCR

3 SAFETY STANDARDS

3.1 The Cleve Hill Solar Park battery storage installations must be undertaken in accordance with certain international and UK standards in order to meet the requirements of National Grid, as network operator.

3.2 The background for the respective standards organisations are set out below. The Applicant provides this information as compliance with recognised international and national standards and guidance for the design for the Cleve Hill Solar Park will give assurance to interested parties that it is not only fit for purpose, but more importantly safe.

3.3 **The Standards Bodies**

3.4 Below is a brief summary of the three standards bodies that set standards relevant to the Cleve Hill Solar Park infrastructure:

a. The International Electrotechnical Commission ("IEC") is an international standards organization. IEC standards cover a wide range of technologies from power generation, transmission and distribution to home appliances and office equipment, semiconductors, fibre optics, batteries, solar energy, nanotechnology and marine energy. The IEC also manages four global conformity assessment systems that certify whether equipment, system or components conform to its International Standards.

b. The Institution of Engineering and Technology ("IET") is a multidisciplinary professional engineering institution. The IET was formed in 2006 from two separate institutions: the Institution of Electrical Engineers (IEE), dating back to 1871, and the Institution of Incorporated Engineers (IIE) dating back to 1884. In the United Kingdom, the IET has the authority to establish professional registration for the titles of Chartered Engineer, Incorporated Engineer, Engineering Technician, and ICT Technician, as a licensed member institution of the Engineering Council.

c. British Standards Institution ("BSI") is the independent national body responsible for preparing British Standards. It presents the UK view on standards in Europe and at the international level. It is incorporated by the Royal Charter.

3.5 **The Relevant Standards**

3.6 Each of the IEC, IET and BSI have published standards which relate to all or part of Cleve Hill Solar Park.

3.6.1 Electrical installation

3.7 In relation to the whole electrical installation, this will be undertaken in accordance with IET BS7671 18th edition. This standard is co-published by IET and BSI.

3.8 BS 7671:2018 applies to the design, erection and verification of electrical installations. It is used as a standard for various regulations that apply to safety of electrical installations as a standard for compliance.

3.8.1 Energy storage

3.9 The Applicant would highlight that the energy storage component will be constructed in accordance with the following IEC standards:

a. 62933-2-1:2017 – Electrical energy storage (EES) systems - Part 2-1: Unit parameters and testing methods - General specification

b. 62933-1:2018 – Electrical energy storage (EES) systems - Part 1: Vocabulary

c. TS 62933-3-1:2018 – Electrical energy storage (EES) systems - Part 3-1: Planning and performance assessment of electrical energy storage systems - General specification

d. TS 62933-4-1:2017 – Electrical energy storage (EES) systems - Part 4-1: Guidance on environmental issues - General specification

e. TS 62933-5-1:2017 – Electrical energy storage (EES) systems - Part 5-1: Safety considerations for grid-integrated EES systems - General specification

3.9.1 Panels, inverters and transformers

3.10 There are several standards relevant to the solar panels, inverters and transformers. This list is extensive, and are set out in Part 1 of the Appendix to this representation. Part 2 of the Appendix provides a list of the relevant guidance documents that the Applicant can draw upon when constructing and installing this infrastructure.

Appendix

Part 1: Standards

1. BRE NSC, Planning Guidance for the development of large-scale ground mounted solar PV systems, 2013
2. BS 5839-6:2013, Fire detection and fire alarm systems for buildings. Code of practice for the design, installation, commissioning and maintenance of fire detection and fire alarm systems in domestic premises
3. BS 6626:2010, Maintenance of electrical switchgear and contra/gear for voltages above 1 kV and up to and including 36 kV. Code of practice
4. BS 7430:2011, Code of practice for protective earthing of electrical installations
5. BS 7671 :2008+A3:2015, Requirements for Electrical Installations. IET Wiring Regulations
6. BS EN l 990:2002+A1 :2005, Eurocode. Basis of structural design
7. BS EN 1991, Eurocode 7: Actions on structures
8. NA to BS EN 1991-1-3:2003, UK National Annex to Eurocode 1. Actions on structures. General actions. Snow loads
9. NA to BS EN 1991-1-4:2005+Al:2010; UK National Annex to Eurocode 1. Actions on structures. General actions. Wind actions
10. BS EN 50178:1998, Electronic equipment for use in power installations
11. BS EN 50272-1:2010, Safety requirements for secondary batteries and battery installations. General safety information
12. BS EN 50272-2:2001, Safety requirements for secondary batteries and battery installations. Stationary batteries
13. BS EN 50464-1+Al :2012, Three-phase oil-immersed distribution transformers 50 Hz, from 50 kVA to 2,500 kVA with highest voltage for equipment not exceeding 36 kV. General requirements
14. BS EN 50464-2-1:2007, Three-phase oil-immersed distribution transformers 50 H2 from 50 kVA to 2,500 kVA with highest voltage for equipment not exceeding 36 k\ Distribution transformers with cable boxes on the high-voltage and/or low-voltage side.
15. BS EN 50464-2-2:2007, Three-phase oil-immersed distribution transformers 50 Hz, from 50 kVA to 2,500 kVA with highest voltage for equipment not exceeding 36 kV. Distribution transformers with cable boxes on the high-voltage and/or low-voltage side. Cable boxes type 7 for use on distribution transformers meeting the requirements of EN 50464-2-7
16. BS EN 50464-2-3:2007, three-phase oil-immersed distribution transformers 50 Hz, from 50 kVA to 2,500 kVA with highest voltage for equipment not exceeding 36 kV. Distribution transformers with cable boxes on the high-voltage and/or /ow-voltage side. Cable boxes type 2 for use on distribution transformers meeting the requirements of EN 50464-2-1
17. BS EN 50464-3:2007, three-phase oil-immersed distribution transformers 50 Hz, from 50 kVA to 2,500 kVA with highest voltage for equipment not exceeding 36 kV. Determination of the power rating of a transformer loaded with non-sinusoidal currents
18. BS EN 50464-4:2007+Al:201 l, Three-phase oil-immersed distribution transformers 50Hz, from 50 kVA to 2,500 kVA with highest voltage for equipment not exceeding 36 kV. Requirements and tests concerning pressurised corrugated tanks
19. BS EN 50521:2008+Al:2012, Connectors for photovoltaic systems. Safety requirements and tests
20. BS EN 50522:2010, Earthing of power installations exceeding 7 kV AC

21. BS EN 50539-11:2013+A1:2014, Low-voltage surge protective devices. Surge protective devices for specific application including de. Requirements and tests for SPDs in photovoltaic applications
22. PD CLC/TS 50539-12:2013, Low-voltage surge protective devices. Surge protective devices for specific application including de. Selection and application principles. SPDs connected to photovoltaic installations
23. BS EN 50541-1:2011, Three phase dry-type distribution transformers 50 Hz, from l00 kVA to 3, 150 kVA, with highest voltage for equipment not exceeding 36 kV. General requirements
24. BS EN 50541-2, Three phase dry-type distribution transformers 50 Hz, from 700 kVA to 3,750 kVA, with highest voltage for equipment not exceeding 36 kV. Determination of load ability of a transformer loaded with non-sinusoidal current
25. BS EN 50618:2014, Electric cables for photovoltaic systems (BT(DE/NOT)258)
26. BS EN 60076-1:2011, Power transformers. General
27. BS EN 60076-11 :2004, Power transformers. Dry-type transformers
28. BS EN 60947-1:2007+A2:2014, Low-voltage switchgear and control gear. General rules
29. BS EN 60947-2:2006+A2:2013, Low-voltage switchgear and control gear. Circuit breakers
30. BS EN 60947-3:2009+Al:2012, Low-voltage switchgear and contra/gear. Switches, disconnectors, switch-disconnectors and fuse-combination units
31. BS EN 61140:2002+Al:2006, (IEC 61140:2001), Protection against electric shock. Common aspects for installation and equipment
32. BS EN 61557-2:2007, Electrical safety in low voltage distribution systems up to 1,000 v a.c. and 1,500 V d.c. Equipment for testing, measuring or monitoring of protective measures. Insulation resistance
33. BS EN 61557-8:2015, Electrical safety in low voltage distribution systems up to 1,000 v a.c. and 1,500 V d.c. Equipment for testing, measuring or monitoring of protective measures. Insulation monitoring devices for IT systems
34. BS EN 61557-9:2015, Electrical safety in low voltage distribution systems up to 1,000 V a.c. and 1,500 V d.c. Equipment for testing, measuring or monitoring of protective measures. Equipment for insulation fault location in IT systems
35. BS EN 61936:2010-1:2010+Al:2014, Power installations exceeding l kV o.c. Common rules
36. BS EN 62109-1:2010, Safety of power converters for use in photovoltaic power systems. General requirements
37. BS EN 62109-2:2011, Safety of power converters for use in photovoltaic power systems. Particular requirements for inverters
38. BS EN 62020:1999, IEC 62020:1998, Electrical accessories. Residual current monitors for household and similar uses (RCMs)
39. BS EN 62271-200:2012, High-voltage switchgear and control gear. AC metal-enclosed switchgear and control gear for roted voltages above l kV and up to and including 52 kV
40. BS EN 62305-1:2011, Protection Against lightning. General principles
41. BS EN 62305-2:2012, Protection against lightning. Risk management
42. BS EN 62305-3:2011, Protection against lightning. Physical damage to structures and life hazard
43. BS EN 62305-4:2011, Protection against lightning. Electrical and electronic systems within structures
44. BS EN 62446:2009, Grid connected photovoltaic systems. Minimum requirements for system documentation, commissioning tests and inspection
45. CEI 14-4, Power transformers
46. CEI 14-8, Dry power transformers
47. CENELEC HD 464 51:1988, Dry-Type Power Transformers

48. IEC 60269-6:2010, Low-voltage fuses - Part 6: Supplementary requirements for fuse links for the protection of solar photovoltaic energy systems
49. IEC 60694:1996, Common specifications for high-voltage switchgear and contra/gear standards
50. IEC 60726:1982+Al:1986, Dry-type power transformers
51. IEC 61215:2005, Crystalline silicon terrestrial photovoltaic (PV) modules - Design qualification and type approval
52. IEC 61646:2008, Thin-film terrestrial photovoltaic (PV) modules - Design qualification and type approval
53. IEC 61701:2011, Salt mist corrosion testing of photovoltaic (PV) modules
54. IEC 61724:1998, Photovoltaic system performance monitoring - Guidelines for measurement, data exchange and analysis
55. IEC 61730-1:2004+AMD1:2011+AMD2:2013, Photovoltaic (PV) module safety qualification - Part 1: Requirements for construction
56. IEC 61730-2:2004+AMD1:201 l, Photovoltaic (PV) module safety qualification - Part 2: Requirements for testing
57. IEC 62716:2013, Photovoltaic (PV) modules -Ammonia corrosion testing
58. IEC 62804, System voltage durability qualification test for crystalline silicon modules
59. IEC 62930, Electric cables for photovoltaic systems
60. IET Code of Practice for Electrical Safety Management, 2013
61. IET Guidance Note 3: Inspection & Testing, 2015
62. IET Guidance Note 8: Earthing & Bonding, 2015

Part 2: Guidance

1. CIBSE Guide K, Electricity in buildings, 2004
2. CITB-Construction Skills, Solar panel installation - What you need to know to work safely (GSOOl), 2014
3. The Distribution Code and the Guide to the Distribution Code of Licensed Distribution Network Operators of Great Britain, Issue 25, 2014
4. ENA Engineering Recommendation (ER) G5/4, Planning Levels for Harmonic Voltage Distortion and the Connection of Non-Linear Equipment to Transmission Systems and Distribution Networks in the United Kingdom, 2005
5. ENA Engineering Recommendation (ER) G59/3, Recommendations For The Connection Of Generating Plant To The Distribution Systems Of Licensed Distribution Network Operators, 2014
6. ENA Engineering Recommendation (ER) G81, Framework for design and planning, materials specification and installation and record for Greenfield low voltage housing estate installations and associated, new, HV/LV distribution substations. Part 1: Design and Planning, Part 2: Materials Specification, Part 3: Installation and Records, 2008
7. ENA Engineering Recommendation (ER) G81, Part 4: Framework for Design and Planning of Industrial and Commercial Underground Connected Loads up to and Including 11 kV, 2008
8. ENA Engineering Recommendation (ER) G81, Part 5: Framework for Materials Specification for Industrial and Commercial Underground Connected Loads up to and Including 17 kV, 2008
9. ENA Engineering Recommendation (ER) G81, Part 6: Framework for the Installation and Records of Commercial and Industrial Underground Connected Loads up to and Including 11 kV, 2008

10. ENA Engineering Recommendation (ER) G81, Part 7: Framework for Contestable Diversionary and Reinforcement Underground and Overhead Works not Exceeding 33 kV and HV/LV Distribution Substations, 2008
11. ENA Engineering Recommendation (ER) G83/2, Recommendations for the Connection of Type Tested Small-scale Embedded Generators (Up to 76A per Phase) in Parallel with Low-Voltage Distribution Systems, 2012
12. ENA Engineering Recommendation (ER) 534, A Guide for Assessing the Rise of Earth Potential at Substation Sites, 1986
13. ENA Engineering Recommendation (ER) 536, Procedure to Identify and Record "Hot" Substations, 2007
14. ENA Technical Specification (TS) 12-23, Polythene protection tape for buried electricity supply cable, 2013
15. ENA Technical Specification (TS) 12-24, Plastic ducts for buried electric cables, 2014
16. ENA Technical Specification (TS) 35-1, Distribution Transformers (from 76 kVA to 2,000 kVA), Part 7 Common clauses, Part 2 Ground mounted transformers - not close coupled, Part 3 Ground mounted transformers - close-coupled, Part 4 Pole mounted transformers, 2014
17. ENA Technical Specification (TS41-24, Guidelines for the Design, Installation, Testing and Maintenance of Main Earthing Systems in Substations, 2009
18. ENA Technical Specification (TS) 41-36, Switchgear For Service Up To 36 kV. (Cable and Overhead Conductor Connected), 2012
19. ENA Technical Specification (TS) 41-37, Port 1: Switchgear for Use on 66 kV to 132 kV Distribution Systems (Common Clauses), 2004
20. ENA Technical Specification (TS) 41-37, Port 2: GIS Switchgear for Use on 66 kV to 732 kV Distribution Systems, 2004
21. ENA Technical Specification (TS) 41-37, Port 3: Circuit-breakers for Use on 66 kV to 132 kV Distribution Systems, 2004
22. ENA Technical Specification (TS) 41-37, Port 4: Disconnectors and Earthing Switches for Use on 66 kV to 732 kV Distribution Systems, 2004
23. ENA Technical Specification (TS) 97-1, Special backfill materials for cable installations, 1997
24. EU Directive 2012/19/EU, Waste Electrical and Electronic Equipment Directive (WEEE)
25. EU Regulation 548/2014, Eco-design requirements for small, medium and large power transformers
26. Health and Safety Executive, HSG85, Electricity at work: Safe working practices
27. Health and Safety Executive, HSG230, Keeping electrical switchgear safe, 2013
28. Health and Safety Executive, HSR25, Memorandum of guidance on the Electricity at Work Regulations 1989: Guidance on Regulations, 2007
29. Health and Safety Executive, INDG 163 (rev4), Risk assessment. A brief guide to controlling risks in the workplace, 2014
30. Health and Safety Executive, INDG372 (rev l), Electrical switchgear safety. A guide for owners and users, 2013
31. MCS O12 (1.2), Product Certification Scheme Requirements - Pitched Roof Installation Kits, 2013
32. National Joint Utilities Group (NJUG) Volume 1, Guidelines on the Positioning and Colour Coding of Underground Utilities' Apparatus (Issue 8), 2013