

What's New December 2017

Contents

Content Common to CAWS and BG 56 Based Specifications

- Section 1. Summary
- Section 2. Details of Work Section Updates & Audits
- Section 3. Schedules
- Section 4. Detail Changes to Reference Documents

A full record of the content revisions can be obtained within the report that is produced when you run the update routine on your user specifications.

Detailed PDF guidance documents can be found by clicking on the 'Sustainability' or 'Technical Design Guides' icons in the 'Guidance' toolbar.

Unless stated otherwise, section or clause guidance is accessed via the right-hand window.

Content Common to CAWS and BG 56 Based Specifications

| Section 1 | Summary |
|---|---|
| Detailed Technical Guidance | <p>New or enhanced existing guidance:</p> <ul style="list-style-type: none"> • Section and clause guidance for new section Building Systems Integration • Guidance added to Part 2 clause for performance testing referencing CSA TM 10 • Addition of new guidance on safety cabinet classes <p style="text-align: right;"><i>See Section 2 for details</i></p> |
| Work Section Updates | <p>Key points:</p> <ul style="list-style-type: none"> • All existing central control / BMS sections updated and enhanced in line with latest standards and practices • Addition of new Building Systems Integration section that combines functions from building/facilities/energy management, control and security systems into a common supervisory control and reporting head-end • Mechanical Testing and Commissioning section enhanced to provide more clarity and improvements to text regarding the application of standards, in addition to the inclusion of further standards • Emergency lighting section updated to align with new BS 5266-1:2016 and introduce clauses for integration and software / QA • General updates to sections for cables, wiring • Pressurisation plant booster sets / expansion vessels and isolation valve clauses are also updated • Sections for fuel storage / distribution updated and enhanced • Two schedules updated: Heat Interface Units and Surface Trace Heating <p style="text-align: right;"><i>See Section 2 for further details and Section 3 for details of schedules</i></p> |
| Standards and Regulations Updates (only significant standards listed here) | <p>Some significant documents covered by the update include:</p> <ul style="list-style-type: none"> • BESA UK HIU Test Regime Technical Specification for heat interface units and Soakaway design BRE Digest 365 • Commissioning Specialists Association TM 10 - Site performance testing of heating and cooling coils • CSA standards TM 18 and TM 19 for PICV function and commissioning / thermal balancing of HWS and CWS systems • OFTEC standards for oil tanks as options <p>Some significant standards covered by the update include:</p> <ul style="list-style-type: none"> • BS EN 62626-1 for enclosed switch-disconnectors outside the scope of IEC 60947-3 (which was removed from some clauses) <p style="text-align: right;"><i>See Section 4 for details of all changes to British Standards</i></p> |

Content Common to CAWS and BG 56 Based Specifications

Section 2 Details of Work Section Updates & Audits

Refer to separate 'CAWS - BG 56 NES Master Content Reference Document' for details of the corresponding BG 56 part/section to the following CAWS section references.

Central Control / Building Management System – W60

- Work section reviewed and updated in line with latest standards and practices.
- In Clause 100.040, dead bands have been removed and added to Guidance.
- Clause 300.010 has been updated to reflect latest standards, with standards BS EN ISO 13850 and BS EN 61511-1; BS EN ISO 16484-2 and BS EN ISO 16484-3 added.
- Fine tuning and seasonal commissioning added to Clause 300.020.
- Clause 300.050 set to strike-through, as compressed air controls not often used at present.
- Clause 300.100 for electromagnetic compatibility extensively updates to refer to current EMC standards and align with Work Sections A13 and A64.
- Clause 300.130 expanded to reflect more systems that might be integrated in modern buildings.
- Clause 310.020 updated with latest standards and legislation, including:
 - The Electrical Equipment (Safety) Regulations 2016
 - The Construction Products Regulations 2013
 - The General Product Safety Regulations 2005
 - BS EN 60204-1 where the Supply of Machinery (Safety) Regulations 2008 apply
- Clause 310.030 revised to permit alignment with the Electricity Safety, Quality and Continuity Regulations 2002 (as amended) and BS 7671.
- Clause 310.070 has been extensively updated to account for the various modern time synchronisation methods, and alignment with Work Section W23.
- Clause 310.080 has been updated to include for modern IT security (and security management) approach, and reference has been made to the IET Code of Practice for Cyber Security in the Built Environment.
- Clause 310.090 has been updated to align with other NES Work Sections on software, with references to standards BS ISO/IEC 26513, BS ISO/IEC 26514, BS ISO/IEC 12207, BS ISO/IEC/IEEE 15288 and BS EN ISO 9001 added.
- BS EN 547-series and BS 7671 requirements for maintenance gangways have been added to the accessibility requirements in Clauses 310.095 and 340.050.
- Operator workstation concept replaced with client / server throughout, principally the following:
 - 310.110
 - 310.115 (new clause)
 - 310.120
 - 310.130
 - 310.140
 - 310.250
- Clause 310.110 updated to include for modern storage and backup systems (cloud, or network storage in the form of NAS or SAN). Title changed to "Client / Server - Operational Characteristics"
- New Clause 310.115 added for server equipment.
- Clause 310.120 has changed title to "Client Display Equipment", and extensively updated and modernised. Printer requirements are moved to a new Clause 310.125, and updated.
- Clause 310.130 title changed to "Systems Monitoring and Logging Functions".
- Clause 310.140, title changed to "Graphical User Interfaces", and reference made to relevant standards BS EN 61082-1, BS EN 60073, ISO7000, ISO 7000/IEC 60417-series, IEC 60617, ISO 14617-series, BS 1553 (parts 1, 2 and 3), BS 1635, BS 4737-5.2 and BS EN 1861.
- Clause 310.150 title changed to "User Interface – Help and Assistance"
- Clause 310.160 change to "Integration with Third-Party Management Software"
- Clause 310.170 changed to "System Alarms", and references included to BS EN 62682 and EEMUA Publication 191 Alarm Systems: A Guide to Design, Management and Procurement.
- Reference to prEN 13646 in Clause 310.230 replaced by reference to BS EN 63044.
- Bumpless transfer capability has been added to Clause 310.340.

Content Common to CAWS and BG 56 Based Specifications

Section 2 Details of Work Section Updates & Audits

- Safety standards for control interlocks have been added to Clause 310.350.
- References to field controllers have been changed to simply "controllers" in Clause 310.370.
- Reference to broadband in Clause 310.450 has been changed to ADSL.
- Clause 310.460 for communications protocols has been updated to take into account current standards.
- Clause 310.615 has been renumbered to Clause 310.505 for consistency.
- Standards have been clarified in Clause 310.555.
- Clause 310.805 updated to incorporate ball valves, and Clause 310.810 deleted accordingly.
- Clause 320.050 has been updated to take into account current standards for separation distances (BS 7671 and BS EN 50174-series). Table 7 has been deleted as the reference standards now contain separation distance recommendations.
- Relevant standards have been added to Clause 310.100 (BS EN 63044-series, BS EN 61439-series, BS EN 60204-1, and BS 7671). Reference to prEN 13646 has been removed from this clause, and minor corrections made in the requirements.
- PICVs added to Clause 320.190.
- Clauses 320.220 and 320.230 have been updated to reflect current standards and practices.
- Clauses 320.270 to 330.320 have been updated to reflect current interface standards.
- Clause 330.350 has been updated to include requirements for control panel materials, internal wiring and termination practices, environmental protection/IP rating, power supply, along with relevant standards.
- Mounting options updated to reflect latest standards in Clause 330.460.
- Configuration management requirements added to Clause 340.150.
- Clause 360.030 updated to align with Work Section A37.
- The following Clauses have been deleted:
 - Clause 100.041 (duplicates Clause 100.040)
 - Clause 300.131 (duplicates Clause 300.130)
 - Clause 310.040 (no longer necessary following the updates to EMC requirements in Work Sections A13 and A64, in the September 2017 Release)
 - Clause 310.020 (no longer necessary)
 - Clause 310.105 (no longer necessary)
 - Clause 310.310 (no longer necessary)
 - Clause 310.320 (no longer necessary)
 - Clause 310.810 (requirements now included in Clause 310.805)
 - Clause 360.011 (duplicates Clause 360.010)

Central Control / Building Management System (Self-Contained Specification) – W69

- Work section reviewed and updated in line with latest standards and practices.
- In Clause 100.040, dead bands have been removed and added to Guidance.
- Clause 200.010 has been updated to reflect latest standards, BS EN 13850 and BS EN 61161-1, BS EN ISO 16484-2 and BS EN ISO 16484-3 added.
- Fine tuning and seasonal commissioning added to Clause 300.020.
- Clause 210.060 extensively updates to refer to current EMC standards and align with Work Sections A13 and A64.
- Clause 210.040 is updated with latest standards and legislation, including:
 - The Electrical Equipment (Safety) Regulations 2016
 - The Construction Products Regulations 2013
 - The General Product Safety Regulations 2005
 - BS EN 60204-1 where the Supply of Machinery (Safety) Regulations 2008 apply
- Clause 210.050 revised to permit alignment with the Electricity Safety, Quality and Continuity Regulations 2002 (as amended) and BS 7671.
- Clause 210.090 has been extensively updated to account for the various modern time synchronisation methods, and alignment with Work Section W23.

Content Common to CAWS and BG 56 Based Specifications

Section 2 Details of Work Section Updates & Audits

- Clause 210.100 has been updated to include for modern IT security (and security management) approach, and reference has been made to the IET Code of Practice for Cyber Security in the Built Environment.
- Clause 210.110 has been updated to align with other NES Work Sections on software, with references to standards BS ISO/IEC 26513, BS ISO/IEC 26514, BS ISO/IEC 12207, BS ISO/IEC/IEEE 15288 and BS EN ISO 9001 added.
- BS EN 547-series and BS 7671 requirements for maintenance gangways have been added to the accessibility requirements in Clauses 210.120 and 1400.050.
- 'Operator workstation' concept replaced with 'client' / 'server' throughout, principally the following: Clause 300.000, 300.010, 300.020, 300.030, 300.040, 300.050, 300.060 and 300.070. As a result, new Clause 310.015 added for server equipment, and requirements for printer separated out to new Clause 300.025.
- Clause 300.110 updated to include for modern storage and backup systems (cloud, or network storage in the form of NAS or SAN). Title changed to "Client / Server - Operational Characteristics"
- New Clause 300.015 added for server equipment.
- Clause 300.020 has changed title to "Client Display Equipment", and extensively updated and modernised. Printer requirements are moved to new Clause 310.125, and updated.
- Clause 300.040, title changed to "Graphical User Interfaces", and reference made to relevant standards BS EN 61082-1, BS EN 60073, ISO7000, ISO 7000/IEC 60417-series, IEC 60617, ISO 14617-series, BS 1553 (parts 1, 2 and 3), BS 1635, BS 4737-5.2 and BS EN 1861.
- Clause 300.050 title changed to "User Interface – Help and Assistance"
- Clause 300.070 changed to "System Alarms", and references included to BS EN 62682 and EEMUA Publication 191 Alarm Systems: A Guide to Design, Management and Procurement.
- Reference to prEN 13646 in Clause 400.060 replaced by reference to BS EN 63044.
- Added CIBSE Guide H and BSRIA AG7/98 for control strategies in Clause 600.010.
- Bumpless transfer capability has been added to Clause 600.020.
- Safety standards for control interlocks have been added to Clause 600.030.
- References to field controllers have been changed to simply "controllers" in Clause 600.020, 600.040, 600.050, 600.070 and 700.010.
- Reference to broadband in Clause 700.020 has been changed to ADSL.
- Clause 700.030 for communications protocols has been updated to take into account current standards.
- Clause 800.095 has been renumbered to Clause 800.025 for consistency.
- Standards have been clarified in Clause 800.075.
- Clause 1000.010 updated to incorporate ball valves, and Clause 1000.020 deleted accordingly.
- Removal of BS EN 62626-1 from clauses 1200.070 and 1200.070, as the standard is not appropriate for these clauses.
- Clause 1500.105 has been updated to take into account current standards for separation distances (BS 7671 and BS EN 50174-series). Table 7 has been deleted as the reference standards now contain separation distance recommendations.
- Mounting options updated to reflect latest standards in Clause 1300.010.
- Configuration management requirements added to Clause 1400.110.
- Clause 1700.030 updated to align with Work Section A37.
- The following clauses have been deleted:
 - 210.080 (no longer necessary)
 - 800.095 (now 800.025)
 - 1000.020 (requirements now incorporated in Clause 1000.010)

Building Systems Integration – W61

This new section permits the specification of a Building Systems Integration system that integrates a number of functions from various building management, facilities management, control, security, energy management, etc. sub-systems into a common supervisory control, information management and reporting head-end.

Content Common to CAWS and BG 56 Based Specifications

Section 2 Details of Work Section Updates & Audits

Packaged Booster Sets & Expansion Vessels in Hot & Cold Water Systems – S10, S11, S12, B20

- General update of clauses to provide more clarity on the application of standards referred to.
- Standards / other guidance references clarified and / or added:
 - BS 6144
 - BS EN 13831
 - BS 6920
- General clauses below amended:
 - S10:300.060
 - S11:300.080
 - S12:200.095
 - B20:300.220
- New clauses added:
 - B20:300.221 renumbered as 300.222 and new clause 300.221 for expansion vessels added
 - S12:200.094 (expansion vessels)

Compressed Air – S30 / S31

General update of terminology for safety valve types plus references to standards BS EN ISO 4126-4 and BS EN ISO 4126-7 added in Part 3 clauses.

Natural Gas – S32

Reference to withdrawn Gas Safe TB140 on ventilation in commercial kitchens removed and more detailed text added reference to IGEM/UP19 on interlock devices with gas appliances added to Clause 310.035.

Fuel Oil / Diesel & Petrol Supply & Storage Tanks / Gas Supply – S40, S41, T32, T41, T42

- General update / rationalisation of clauses covering fuel storage tanks to provide more clarity on standards and types / materials of construction of tanks.
- Standards / other guidance references clarified and / or added:
 - BS 779-5 (above ground steel)
 - BS EN 13341 (above ground thermoplastic)
 - BS EN 12285 (below ground steel)
 - OFS T100 (OFTEC above ground plastic)
 - OFS T200 (OFTEC above ground steel)
 - BS EN 13121 (above ground GRP)
 - BS EN 976 (below ground GRP)
 - BS 5410 (oil firing code of practice - Parts 1&2)
 - BS EN 12514 (safety requirements and tests for equipment)
 - BS EN 161 and BS EN 13611 (gas valves)
 - HSE guidance documents HSG 176, HSG 140 and PM 75
 - BS EN 13352 (automatic tank content gauges)
 - BS EN 13616 (tank overfill prevention devices)
 - BS EN 13160 (leak detection)
 - OFTEC - OFS E101 (non-electrically operated fire safety valves)
 - BS EN ISO 23553 (automatic oil shut off valves)
 - BESA TR/20 Part 10 (installation and testing of pipework systems – oil)
- General Clauses below amended:
 - S40:300.005, 310.110, 320.010
 - S41:300.005, 300.020, 300.030, 300.040, 300.045, 300.050 (heating options for residual grades of oil enhanced), 300.060, 300.070 (fire valves), 310.010, 310.020
 - T32:200.024, 200.058, 200.060
 - T41:200.040, 300.060 (isolating valves), 300.060 (gas solenoid valves)

Content Common to CAWS and BG 56 Based Specifications

Section 2 Details of Work Section Updates & Audits

- T42:300.050, 300.060
- New clauses below added:
 - T41:200.042 (oil supply)
 - S40:310.115 (below ground steel tanks), 310.016 (cathodic protection buried tanks), 310.108 (GRP tanks), 310.042 (fire valves)
 - S41:310.005 (general safety requirements and tests)
- General Clauses removed:
 - T41:300.070 (gas valves now covered by 200.035)
 - S41:300.010, 300.015, 300.080
 - T32:200.065 (now incorporated into 200.060)

Pressurisation Units for Closed Heating and Cooling Systems – T10, T32, T60, T69, B20

- General update of clauses to provide more clarity on the application of standards referred to.
- Standards / other guidance references clarified and / or added:
 - BS 7074 (Parts 1&2)
 - BS EN 12828 (design work)
 - BS EN 13831
- Removed standard DIN 4807 (butyl bag).
- Clauses below amended:
 - T10:310.070 and T32:200.105 (range of application of BS EN 13831 for expansion vessels added)
 - B20:400.211
- Removed Clause T32:200.100.

Central Plant for Chilled Water Systems – T60 / T69

Text amended in pressurisation plant clauses to correctly describe BS 7074-3 as the text was potentially misleading. Reference to BS EN 13831 for expansion vessels added in T60 310.120 & T69 200.075 (range of application of BS EN 13831 for expansion vessels added).

Smoke & Heat Control / Car Park Ventilation – U14, U13, Y30

- Clause U13:310.015 for ductwork system enhanced / corrected and new clause U14:310.080 for smoke extract ductwork system added to reference standards below.
- Minor amendments in Part 2 clauses 230.130, 230.140 and 230.150 for fire and smoke control dampers to reflect the standards below.
- Standards / other guidance references clarified and / or added:
 - BS EN 1366 (fire resistance tests)
 - BS EN 13501-4 (fire classification)
 - BS EN 12101-8 (smoke and heat control dampers)
- Reference to BS EN 13501-3 changed to Part 4 of standard in Y30.3079 and Y30.3089 for smoke dampers.

Dust Collection – U20

Reference to ACOP L5 on COSHH added to Clause 300.050 (referring to dust hazard assessment).

HV Supply / Distribution / Public Utility Supply – V11

Added BS EN 13575 to metering standards in Clause 300.090.

Wind Power Systems – V14

Corrected references to BS EN 60034-1 in Clauses 310.015 and 310.016.

Content Common to CAWS and BG 56 Based Specifications

Section 2 Details of Work Section Updates & Audits

Emergency Lighting – V40

- The work section has been checked against latest standards and practices following the publication of BS 5266-1:2016. Clauses 300.010 and 310.025 have been updated to align with the new standard.
- Clause 300.030 has been added to specify requirements for integration (for example, with BMS, SCADA or fire alarm systems). Along with this, Clauses 300.040 and 320.040 for software and quality assurance have been included.
- BS 5266-5 has been added to Clause 310.027 for components of optical fibre emergency lighting systems.
- Clause 310.030 has been reviewed and some improvements made to align better with BS EN 50171 and the ICEL 1009:2000 standard.
- Standards have been reviewed and updated in clauses 310.040, 310.050 and 320.010.

Public Address / Sound Amplification – W12

Update to Clause 300.010 as a result of BS EN 60849 being superseded by BS EN 50849. Note that fire alarm voice announcements are out of the scope of BS EN 50849.

Security Detection and Alarm – W41

Clause 300.050 updated to reflect BS EN 62676-series replacing some parts of BS EN 50132. Withdrawn parts of BS EN 50132 have been removed.

Closed Circuit Television – W42

Clause 300.010 updated to reflect BS EN 62676-series replacing some parts of BS EN 50132. Withdrawn parts of BS EN 50132 have been removed.

Liquid Detection Alarm – W54

- General update of clauses below to include more detail on systems and align with typical system manufacturers specifications for control panels, including digital addressable systems, and touch screens with facilities to display integrated plans of the system / leak locations.
- Clauses amended:
 - 300.010
 - 310.010
- Standards / other guidance references clarified and/or added:
 - BS EN 50160
 - The Electricity Safety, Quality and Continuity Regulations 2002
 - BREEAM 2014 requirements
- Removed standard BS EN 60038.

Pipework – Y10, S12, T32, U39

- New clause Y10.8006 added referring to installation standard BS 5955-8 for thermoplastic pipes.
- Standards added for copper capillary joint fittings, solder and withdrawn standard for flux replaced in Y10.3070 series of clauses, S12:600.040 and T32:500.020.
- Additional Relevant standards for copper pipe for refrigerant piping systems in U39:600.050 and 600.060.

Pipeline Ancillaries – Y11, S12, T32, T69

- The following clauses for check valves have been amended to reflect BS EN 16767 (steel / cast iron), and better describe BS 5154 (copper alloy) and BS EN 13709 (globe stop and check), valve types and valve materials:
 - 211.170, 2320#, 2330 series, 2340A, 2350#, 2370#
 - T32:500.110
 - T69:300.090

Content Common to CAWS and BG 56 Based Specifications

Section 2 Details of Work Section Updates & Audits

- S12:600.090

Isolation valves (stop valves) – Y11, S32 and various clauses in self-contained sections

- General update / rationalisation of all clauses covering stop valves (or isolation valves) to provide more clarity on standards and types / materials of construction of valves.
- Standards clarified and/or added:
 - BS EN 13828 (ball valves for potable water)
 - BS EN 13547 (general purpose ball valves)
 - BS ISO 7121 (steel ball valves for high temp / pressure applications)
 - BS EN 331 (ball valves for gas)
 - BS EN 593 (butterfly valves)
 - BS 5433 (underground stop valves for water service pipes)
- Clauses below significantly amended:
 - 211.030
 - S12:600.080 & 600.082
 - S32:310.055
 - T32:200.055 (gas supply), 500.070 (isolating valves)
 - T41:200.035 (gas supply)
 - T69:300.060
 - B20:300.223 & 400.205 (gas supply), 1000.120, 1000.121, 1000.123
 - U19:400.060
 - S12:600.090
- New clause Y11.2090E for fully lugged butterfly valves added.
- Clauses deleted:
 - Y11.2150#
 - S12:600.070, 600.085
 - S32:310.050
 - T32:500.060, 500.080, 500.130
 - B20:1000.119, 1000.128, 1000.129
 - U19:400.070, 400.080 (now part of 400.060)
 - U39:600.110, 600.120 (now part of 600.100)

Heat Interface Units – Y22, T32, B20

- Clauses updated to include reference to BESA UK HIU test regime specification for HIU's that interact with heat networks.
- Additional text added to clauses for control valves / types and controls for "keep warm" operation and primary differential pressure control.
- Clauses below amended:
 - 222.045 and Y22.2045
 - T32:200.025
 - B20:400.217

Ductwork and Ancillaries – Y30, U12

- General update of clauses to provide avoid confusion between references to DW/143 and BS EN 15727.
- Incorrect references to BS EN 15727 replaced with reference to BS EN 1507 (for strength and leakage test requirements).
- Standards / other guidance references clarified and/or added:
 - BS EN 1507
 - Loss Prevention Standard LPS 2084 (on LPCB approval & listing of companies carrying out inspection and cleaning of ductwork systems B20:1000.119, 1000.128, 1000.129)
- Removed BS EN 15727 to align NES with DW/144.

Content Common to CAWS and BG 56 Based Specifications

Section 2 Details of Work Section Updates & Audits

- Clauses below amended:
 - Y30.2030#, 2030A, 2030B, 2036
 - Part 2 clause 200.020 to include option for specifying LPS 2084 when employing a specialist to clean existing systems (that might be contaminated with combustible deposits) prior to modification. This option has also been added to U12:310.030 for ductwork for kitchen extract systems.

Air Handling Units – Y40, U19, U39

Incorrect references to BS EN 308 removed from clause Y40.3042, U19:200.010 and U39:200.020.

Fans – Y41

Clauses 2010# and 2010B updated to reflect the replacement of BS EN 13463-1 with BS EN 82079-36. The update refers generally to BS EN 82079 and BS EN 60079 as there may be a multiplicity of electrical and mechanical elements in a fan assembly.

Silencers and Acoustic Louvres – Y45 / Y46, U19, U39

- Details on acoustic infill protection expanded in clauses below to cover fibreglass scrim and “Melinex” options for systems serving clean areas, where cleaning is required or where the air would be chemically laden.
- Clauses below amended:
 - Part 2 clauses 245.030 (silencers), 245.070 (acoustic louvres), 246.040 (louvres)
 - Y45.2120#, Y45.2120B
 - U19:200.070 (attenuators), U39:200.070 (attenuators)

Thermal Insulation – Y50

Clauses 3125 and 3195 were duplicated – therefore 3195 has been removed.

Testing and Commissioning of Mechanical Services – Y51

- BESA TR/20 part 8 added to 2020 for pressure testing of steam and condensate.
- Reference to BESA TR/6 removed and HTM 02-01 Part A added to 2100 for vacuum pipework testing.
- Detailed general update of clauses to provide more clarity and improvements to text regarding the application of standards.
- Standards / other guidance references clarified and / or added:
 - BS EN 13941 (testing of district heating pipework)
 - BS EN 13779 (specific fan power validation tests)
 - Commissioning Specialists Association (CSA) TM 10 (site testing of coils)
 - CSA TM 18 (PICV's commissioning)
 - CSA TM19 (HWS/CWS systems thermal balancing)
 - BS 9990 (testing of fire systems)
 - IGE/UP1, 1A, 1B (testing gas pipework)
 - BS EN 12599 - test procedures and measurement methods to hand over air conditioning and ventilation (added as standard requirement in Y51.3040 Commissioning Air Distribution Systems)
- References to BREEAM 2008 removed.
- Clauses below amended:
 - Part 2 clauses: 251.015, 251.106, 251.020, 251.030, 251.040, 251.042, 251.050
 - Y51 reference clauses: 2020, 2050, 2060 (changed from # clause), 2065, 2070, 2080, 3040, 2090, 2100, 3040, 3050, 3052, 3055, 3120, 3150, 4010, 4020A
 - B20:1300.101, 1300.201
 - S32:320.020, 320.030 (gas pipework testing, purging and commissioning)
 - T32:800.010

Content Common to CAWS and BG 56 Based Specifications

Section 2 Details of Work Section Updates & Audits

- S12:900.010
- Y25.3020#, 3020A, B & C (gas pipework testing)
- S11:310.005 / S12 700.010 – reference to CSA TM 19 (thermal balancing of HWS / CWS)
- Part 2 clause 211.065 (PICV's commissioning to CSA TM 18)
- Ref Clauses removed:
 - Y51.2000 (static testing) – adequately covered in Part 2 clauses
 - Y51.3000 (not referred to in Part 2 clauses and content is in 251.015/016)
 - Y51.3090# - identical clause to 3090A
 - Y51.3130# - identical clause to 3130A
 - Y51.4040# - content moved to Part 2 clause 251.050 for performance testing
- New Reference Clause Y51.2075 (testing steam and condense overflow systems) added.
- New clause guidance on performance testing added to 251.050. Covers site performance testing of heating and cooling coils and refers to Commissioning Specialists Association TM 10, which is now included as a costly option in clause 251.050.

Cables and Wiring – Y61 / Z Part 2

- Added new standard BS 8592 to clauses 2020# and 2020G.
- Additional requirements added to clause 2080# to permit specification of general radiating (leaky feeder) coaxial cables.
- Added new clause 2080B for radiating (leaky feeder) coaxial cables to BS EN 61196-4 for wireless networking (WiFi) applications.
- In clauses 2090# and 2090A, updated categories for fibre-optic cables in line with latest BS EN 60793-2-series of standard.
- Updates to BS 5467 and BS 6724 (exclusion of Class 1 unstranded conductors, changes to table references, and removal of options for aluminium cables) have been reflected in Clauses 2020#, 2020A, 2020B, 2020E, 2030#, 2030B, 2050#, 2050H and 2120#.
- Clause 2140# has been updated to include option for 600/1000 V insulation to BS 5467, and align the options under BS 6724 with those under BS 5467.
- Minor enhancements to clauses 2060#, 2060A and 2070.
- Updated clause 261.090 to include for radiating (leaky feeder) coaxial cables with reference to new Y61 clause 2080B.
- Minor update to clarify Clause 261.100.

Switchgear and Distribution Boards – Y71

- Added BS EN 13757 to metering requirements in clauses 2150# and 2150A
- Removal of BS EN 62626-1 from Clauses 2090A, 2090B, 2090C, 2090D as the standard does not apply to those clauses.
- Revised utilisation categories in Clause 2100#, 2100A and 2100B, to align with standards, also adding the AC-3 category for motor isolators in line with BS EN 62626-1.

Contactors and Starters – Y72

- Removal of BS EN 62626-1 from Clauses 2060#, 2060A, 2090#, 2090A, 2100#, 2100A, 2110#, 2110A, as the standard does not apply to those clauses.
- Revised utilisation categories in Clause 2050# and 2060#, to align with standards.
- Added appropriate IP rating options to Clauses 2050A, 2050B and 2050C to align with BS EN 62626-1 where isolators to this standard are required.
- Add requirements for isolators for safety in maintenance and repair to Clauses 2130A, 2140, 2190#, 2190A and 2190B.

Content Common to CAWS and BG 56 Based Specifications

Section 2 Details of Work Section Updates & Audits

Luminaires and Lamps – S73

- General updated Clauses 2010#, 2010A, 2010B, 2010C, 2020#, 2020A, 2040, and 2057, to include efficiency requirements to BS EN 62722-1.
- Updated Clause 2215#, 2215A and 2215B, to reflect changes in LED lamp standards BS EN 62838 and BS EN 62868.

New Work Section: Watermist Fire Protection – S73

New section for watermist systems based on BS 8458 for residential and domestic systems, and BS 8489 for industrial and commercial watermist systems for the protection of low hazard occupancies for both life safety and property protection.

Accessories for Electrical Services– S74

Revised the way in which BS EN 62626-1 isolation is specified in Clause 2125 to better-reflect the intended local isolation requirements.

Content Common to CAWS and BG 56 Based Specifications

Section 3 Schedules

Below is a summary of the updates to schedules in Excel that can be activated by clicking on the links from NES clauses.

Some guidance has been incorporated into many of the schedules in the form of "comments" that are displayed when hovering over certain cells.

These supplied NES schedules:

- Are independent of classification
- Have been updated to a common formatting theme
- Are orientated as landscape for ease of publishing

For a complete listing and print preview of all NES schedules refer to document NES Building Services Schedules, located on the "Guidance" tool bar, under "Other Resources".

The list below covers significant amendments / changes to existing schedules and new schedules.

Types

U – Existing schedule that has been significantly updated

N – New schedule

| Section Reference | | Schedule Name | Type | Details |
|-------------------|--------------------|-----------------------|------|---|
| CAWS | BG 56 | | | |
| Y22, T32, B20 | C1.4.120, D1.4.120 | Heat Interface Units | U | Option added to schedule maximum volume weighted average return temperature (VWART) when tested to BESA UK HIU test regime specification. Applicable to heat interface units that interact with heat networks |
| V50 | C1.4.160 | Surface Trace Heating | U | General update of schedule |

Content Common to CAWS and BG 56 Based Specifications

Section 4 Detail Changes to Reference Documents

| Work Section | | Reference Document - Current | Status of Current Reference | Reference Document - New |
|--|--|---|-----------------------------------|--|
| CAWS | BG 56 | | | |
| W60, W61, W69 | C1.7.10, C1.7.20 | | New Addition | BS 1553-1:1977 Specification for graphical symbols for general engineering. Piping systems and plant |
| W60, W61, W69 | C1.7.10, C1.7.20 | | New Addition | BS 1553-2:1950 Specification for graphical symbols for general engineering. Graphical symbols for power generating plant |
| W60, W61, W69 | C1.7.10, C1.7.20 | | New Addition | BS 1553-3:1950 Graphical symbols for general engineering. Graphical symbols for compressing plant |
| W60, W61, W69 | C1.7.10, C1.7.20 | | New Addition | BS 1635:1990 Recommendations for graphic symbols and abbreviations for fire protection drawings |
| B20, R33, S41, T10, T19, T32, T40, T41, T42, V10 | C1.3.40, C1.4.30, D1.4.140, C2.1.10 | BS 2869:2010+A1:2011 Fuel oils for agricultural, domestic and industrial engines and boilers. Specification | Withdrawn, Superseded | BS 2869:2017 Fuel oils for agricultural, domestic and industrial engines and boilers. Specification |
| N10 | C5.10 | BS 5306-3:2009 Fire extinguishing installations and equipment on premises. Part 3 Commissioning and maintenance of portable fire extinguishers. Code of practice | Withdrawn, Superseded | BS 5306-3:2017 Fire extinguishing installations and equipment on premises. Part 3 Commissioning and maintenance of portable fire extinguishers. Code of practice |
| S40, S41, V10 | C1.3.30, D1.3.40, D2.1.10 | BS 5410-3:1976 Code of practice for oil firing. Part 3 Installations for furnaces, kilns, ovens and other industrial purpose | Withdrawn, Superseded | BS 5410-3:2016 Code of practice for oil firing. Part 3 Installations for furnaces, kilns, ovens, oil-fuelled generators and other industrial purposes |

Content Common to CAWS and BG 56 Based Specifications

Section 4 Detail Changes to Reference Documents

| Work Section | | Reference Document - Current | Status of Current Reference | Reference Document - New |
|--|--|---|-----------------------------------|---|
| CAWS | BG 56 | | | |
| W41, W42 | C2.4.20, D2.4.30 | BS 8418:2015 | Amendment | BS 8418:2015+A1:2017 Installation and remote monitoring of detector- activated CCTV systems. Code of practice |
| B20, S10, S11, S12, S13, S20, Y25 | C1.2.10, D1.2.20, C1.2.30, C1.2.80, D1.10.10 | | New Addition | BS 8554:2015 Code of practice for the sampling and monitoring of hot and cold water services in buildings |
| Y61 | D2.6.20 | | New Addition | BS 8592:2016 Electric cables. Thermosetting insulated, non-armoured, fire- resistant, single core non-sheathed cables of rated voltage 450/750 V, having low emission of smoke and corrosive gases when affected by fire. Specification |
| W60, W69 | C1.7.10 | BS EN 12098-3:2013 Controls for heating systems. Control equipment for electrical heating systems | Withdrawn, Superseded | BS EN 12098-3:2017 Energy Performance of Buildings. Controls for heating systems. Control equipment for electrical heating systems. Modules M3-5,6,7,8 |
| W60, W69 | C1.7.10 | BS EN 12098-5:2005 Controls for heating systems. Start-stop schedulers for heating systems | Withdrawn, Superseded | BS EN 12098-5:2017 Energy Performance of Buildings. Controls for heating systems. Start- stop schedulers for heating systems. Modules M3-5,6,7,8 |
| W60, W69, Y80 | C1.7.10, D2.1.120 | BS EN 12163:2011 Copper and copper alloys. Rod for general purposes | Withdrawn, Superseded | BS EN 12163: 2016 Copper and copper alloys. Rod for general purposes |
| W60, W69 | C1.7.10 | BS EN 12164:2011 Copper and copper alloys. Rod for free machining purposes | Withdrawn, Superseded | BS EN 12164:2016 Copper and copper alloys. Rod for free machining purposes |
| V40 | C2.2.20 | | New Addition | BS EN 12193:2007 Light and lighting. Sports lighting |

Content Common to CAWS and BG 56 Based Specifications

Section 4 Detail Changes to Reference Documents

| Work Section | | Reference Document - Current | Status of Current Reference | Reference Document - New |
|-------------------------------|---|--|-----------------------------------|--|
| CAWS | BG 56 | | | |
| S41 | C1.3.40 | | New Addition | BS EN 12514-1:2000 Installations for oil supply systems for oil burners. Safety requirements and tests. Parts, oil feed pumps, control and safety devices, supply tanks |
| S41 | C1.3.40 | | New Addition | BS EN 12514-2:2000 Installations for oil supply systems for oil burners. Safety requirements and tests. Parts, valves, pipes, filters, oil de- aerators, meters |
| R13, R20, R21, S14, S40 | C1.1.40, C1.1.70, C1.2.40, C1.3.30 | BS EN 13121- 3:2008+A1:2010 GRP tanks and vessels for use above ground. Design and workmanship | Withdrawn, Superseded | BS EN 13121-3:2016 GRP tanks and vessels for use above ground. Design and workmanship |
| S40, S41 | C1.3.30, D1.3.40 | BS EN 13160-1:2003 Leak detection systems. Part 1 General Principles | Withdrawn, Superseded | BS EN 13160-1:2016 Leak detection systems. Part 1 General Principles |
| S40, S41 | C1.3.30, D1.3.40 | BS EN 13160-2:2003 Leak detection systems. Part 2 Pressure and vacuum systems | Withdrawn, Superseded | BS EN 13160-2:2016 Leak detection systems. Part2 Requirements and test/assessment methods for pressure and vacuum systems |
| S40, S41 | C1.3.30, D1.3.40 | BS EN 13160-3:2003 Leak detection systems. Part 3 Liquid systems for tanks | Withdrawn, Superseded | BS EN 13160-3:2016 Leak detection systems. Part 3 Requirements and test/assessment methods for liquid systems for tanks |
| S40, S41 | C1.3.30, D1.3.40 | BS EN 13160-4:2003 Leak detection systems. Part 4 Liquid and/or vapour sensor systems for use in leakage containments or interstitial spaces | Withdrawn, Superseded | BS EN 13160-4:2016 Leak detection systems. Part 4 Requirements and test/assessment methods for sensor based leak detection systems |
| S40, S41 | C1.3.30, D1.3.40 | BS EN 13160-5:2004 Leak detection systems. Part 5 Tank | Withdrawn, Superseded | BS EN 13160-5:2016 Leak detection systems. Part 5 Requirements and |

Content Common to CAWS and BG 56 Based Specifications

Section 4 Detail Changes to Reference Documents

| Work Section | | Reference Document - Current | Status of Current Reference | Reference Document - New |
|--|----------------------|---|-----------------------------------|--|
| CAWS | BG 56 | | | |
| | | gauge leak detection systems | | test/assessment methods for in-tank gauge systems and pressurised pipework systems' |
| S40, S41 | C1.3.30, D1.3.40 | | New Addition | BS EN 13160-6:2016 Leak detection systems. Part 6 Sensors in monitoring wells |
| S40, S41 | C1.3.30, D1.3.40 | BS EN 13160-7:2003 Leak detection systems. Part 7 General requirements and test methods for interstitial spaces, leak protecting linings and leak protecting jackets | Withdrawn, Superseded | BS EN 13160-7:2016 Leak detection systems. Part 7 Requirements and test/assessment methods for interstitial spaces, leak detection linings and leak detection jackets |
| S40, S41, T32, T41 | C1.3.30, D1.3.40 | | New Addition | BS EN 13352:2012 Specification for the performance of automatic tank contents gauges |
| B20, T32, T69, U19, U39, Z Part 2 | C1.8.20 | | New Addition | BS EN 13547:2013 Industrial valves. Copper alloy ball valves |
| S40, S41, T32, T41 | C1.3.30, D1.3.40, | | New Addition | BS EN 13616-1:2016 Overfill prevention devices for static tanks for liquid fuels. Overfill prevention devices with closure device |
| V11, Y71 | C2.1.20, D2.6.50 | | New Addition | BS EN 13757-1:2014 Communication systems for meters. Data exchange |
| V11, Y71 | C2.1.20, D2.6.50 | | New Addition | BS EN 13757-2:2004 Communication systems for remote reading of meters. Physical and link layer |
| V11, Y71 | C2.1.20, D2.6.50 | | New Addition | BS EN 13757-3:2013 Communication systems for and remote reading of meters. Dedicated application layer |
| V11, Y71 | C2.1.20, D2.6.50 | | New Addition | BS EN 13757-5:2015 |

Content Common to CAWS and BG 56 Based Specifications

Section 4 Detail Changes to Reference Documents

| Work Section | | Reference Document - Current | Status of Current Reference | Reference Document - New |
|--|---|--|-----------------------------------|---|
| CAWS | BG 56 | | | |
| | | | | Communication systems for meters. Wireless M-Bus relaying |
| V11, Y71 | C2.1.20, D2.6.50 | | New Addition | BS EN 13757-6:2015 Communication systems for meters. Local Bus |
| W60, W69 | C1.7.10 | | New Addition | BS EN 14908-5:2009 Open data communication in building automation, controls and building management implementation guideline. Control network protocol. Implementation |
| W60, W69 | C1.7.10 | | New Addition | BS EN 14908-6:2014 Open Data Communication in Building Automation, Controls and Building Management. Control Network Protocol. Application elements |
| W60, W61, W69 | C1.7.10, C1.7.20 | BS EN 15232:2012 Energy performance of buildings. Impact of Building Automation, Controls and Building Management | Withdrawn, Superseded | BS EN 15232-1:2017 Energy Performance of Buildings. Impact of Building Automation, Controls and Building Management. Modules M10-4,5,6,7,8,9,10 |
| W60, W69 | C1.7.10 | BS EN 15500:2008 Control for heating, ventilating and air-conditioning applications. Electronic individual zone control equipment | Withdrawn, Superseded | BS EN 15500-1:2017 Energy Performance of Buildings. Control for heating, ventilating and air conditioning applications. Electronic individual zone control equipment. Modules M3-5, M4-5, M5-5 |
| S11, S12, S41, W60, W69, Y11, Y20 | C1.2.20, C1.3.40, C1.7.10, D1.8.20, D1.8.40 | BS EN 1982:2008 Copper and copper alloys. Ingots and castings | Withdrawn, Superseded | BS EN 1982:2017 Copper and copper alloys. Ingots and castings |

Content Common to CAWS and BG 56 Based Specifications

Section 4 Detail Changes to Reference Documents

| Work Section | | Reference Document - Current | Status of Current Reference | Reference Document - New |
|------------------------------------|------------------------------|---|-----------------------------------|---|
| CAWS | BG 56 | | | |
| A37, A64, B20, V92, W41, W42 | A3.8, C2.4.20, C2.4.30 | BS EN 50131- 1:2006+A1:2009 | Amendment | BS EN 50131- 1:2006+A2:2017 Alarm systems, Intrusion and hold-up systems. System requirements |
| W41 | C2.4.20 | | New Addition | BS EN 50136-3:2013 Alarm systems. Alarm transmission systems and equipment. Requirements for Receiving Centre Transceiver (RCT) |
| W12 | C2.3.50 | | New Addition | BS EN 50849:2017 Sound systems for emergency purposes |
| W60 | C1.7.10 | BS EN 60034-12:2002 Rotating electrical machines. Starting performance of single- speed three-phase cage induction motors | Withdrawn, Superseded | BS EN 60034-12:2017 Rotating electrical machines. Starting performance of single- speed three-phase cage induction motors |
| Y73 | D2.2.50 | BS EN 60061-1:1993 Specification for lamp caps and holders together with gauges for the control of interchangeability and safety. Lamp caps | Withdrawn, Superseded | BS EN 60061- 1:1993+A53:2015 Lamp caps and holders together with gauges for the control of interchangeability and safety. Lamp caps |
| Y73 | D2.2.50 | BS EN 60061- 2:1993+A47:2014 | Amendment | BS EN 60061- 2:1993+A50:2015 Lamp caps and holders together with gauges for the control of interchangeability and safety. Lampholders |
| Y72 | D2.2.50 | BS EN 60068-2- 18:2001 Environmental testing. Test methods. Tests R and guidance. Water | Withdrawn, Superseded | BS EN 60068-2-18:2017 Environmental testing. Tests. Test R and guidance: Water |
| Y72 | D2.2.50 | BS EN 60068-2- 39:1999 Environmental testing. Test methods. Tests. Test Z/AMD. Combined sequential cold, low air | Withdrawn, Superseded | BS EN 60068-2-39:2016 Environmental testing. Tests. Tests and guidance. Combined temperature or temperature and |

Content Common to CAWS and BG 56 Based Specifications

Section 4 Detail Changes to Reference Documents

| Work Section | | Reference Document - Current | Status of Current Reference | Reference Document - New |
|--------------|---------|--|-----------------------------------|---|
| CAWS | BG 56 | | | |
| | | pressure and damp heat test | | humidity with low air pressure tests |
| Y72 | D2.2.50 | | New Addition | BS EN 60068-2-40:2000 Environmental testing. Test methods. Test Z/AM. Combined cold/low air pressure tests |
| Y72 | D2.2.50 | | New Addition | BS EN 60068-2-48:2000 Environmental testing. Test methods. Guidance on the application of the tests of IEC 60068 to simulate the effects of storage |
| Y72 | D2.2.50 | | New Addition | BS EN 60068-2-52:1996 Environmental testing. Test methods. Tests. Test Kb. Salt mist cyclic (sodium chloride solution) |
| Y72 | D2.2.50 | BS EN 60068-2-60:1996 Environmental testing. Test methods. Test Ke. Flowing mixed gas corrosion test | Withdrawn, Superseded | BS EN 60068-2-60:2015 Environmental testing. Tests. Test Ke: Flowing mixed gas corrosion test |
| Y72 | D2.2.50 | BS EN 60068-2-69:2007 Environmental testing. Tests. Test Te. Solderability testing of electronic components for surface mounting devices (SMD) by the wetting balance method | Withdrawn, Superseded | BS EN 60068-2-69:2017 Environmental testing. Tests. Test Te/Tc. Solderability testing of electronic components and printed boards by the wetting balance (force measurement) method |
| Y72 | D2.2.50 | BS EN 60068-2-54:2006 Environmental testing. Tests. Test Ta: Solderability testing of electronic components by the wetting balance method | Withdrawn, Superseded | BS EN 60068-2-69:2017 Environmental testing. Tests. Test Te/Tc. Solderability testing of electronic components and printed boards by the wetting balance (force measurement) method |
| Y72 | D2.2.50 | | New Addition | BS EN 60068-3-13:2016 |

Content Common to CAWS and BG 56 Based Specifications

Section 4 Detail Changes to Reference Documents

| Work Section | | Reference Document - Current | Status of Current Reference | Reference Document - New |
|-----------------------------------|---------|---|-----------------------------------|---|
| CAWS | BG 56 | | | |
| | | | | Environmental testing. Supporting documentation and guidance on Test T. Soldering |
| Y72 | D2.2.50 | BS EN 60068-2-44:1995 Environmental testing. Test methods. Tests. Guidance on Test T. Soldering | Withdrawn, Superseded | BS EN 60068-3-13:2016 Environmental testing. Supporting documentation and guidance on Test T. Soldering |
| T32, T69, U39, W60, W69, Z Part 2 | C1.8.10 | BS EN 60534-2-3:1998 Industrial-process control valves. Flow capacity. Test procedures | Withdrawn, Superseded | BS EN 60534-2-3:2016 Industrial-process control valves. Flow capacity. Test procedures |
| W60, W69 | C1.7.10 | | New Addition | BS EN 60584-3:2008 Thermocouples. Extension and compensating cables. Tolerances and identification system |
| V40 | C2.2.20 | BS EN 60623:2001 Secondary cells and batteries containing alkaline or other non-acid electrolytes. Vented nickel-cadmium prismatic rechargeable single cells | Withdrawn, Superseded | BS EN 60623:2017 Secondary cells and batteries containing alkaline or other non-acid electrolytes. Vented nickel-cadmium prismatic rechargeable single cells |
| Y61 | D2.6.20 | BS EN 60793-1-1:2008 Optical fibres. Measurement methods and test procedures. General and guidance | Withdrawn, Superseded | BS EN 60793-1-1:2017 Optical fibres. Measurement methods and test procedures. General and guidance |
| Y61 | D2.6.20 | BS EN 60793-2:2012 Optical fibres. Product specifications. General | Withdrawn, Superseded | BS EN 60793-2:2016 Optical fibres. Product specifications. General |
| Y61 | D2.6.20 | BS EN 60793-2-10:2011 Optical fibres. Product specifications. Sectional specification for category A1 multimode fibres | Withdrawn, Superseded | BS EN 60793-2-10:2016 Optical fibres. Product specifications. Sectional specification for category A1 multimode fibre |

Content Common to CAWS and BG 56 Based Specifications

Section 4 Detail Changes to Reference Documents

| Work Section | | Reference Document - Current | Status of Current Reference | Reference Document - New |
|---|--|---|-----------------------------------|---|
| CAWS | BG 56 | | | |
| Y61 | D2.6.20 | BS EN 60793-2-20:2009 Optical fibres. Product specifications. Sectional specification for category A2 multimode fibres | Withdrawn, Superseded | BS EN 60793-2-20:2016 Optical fibres. Product specifications. Sectional specification for category A2 multimode fibres |
| Y61 | D2.6.20 | BS EN 60793-2-30:2013 Optical fibres. Product specifications. Sectional specification for category A3 multimode fibres | Withdrawn, Superseded | BS EN 60793-2-30:2015 Optical fibres. Product specifications. Sectional specification for category A3 multimode fibres |
| Y61 | D2.6.20 | BS EN 60793-2-40:2011 Optical fibres. Product specifications. Sectional specification for category A4 multimode fibres | Withdrawn, Superseded | BS EN 60793-2-40:2016 Optical fibres. Product specifications. Sectional specification for category A4 multimode fibres |
| Y61 | D2.6.20 | BS EN 60793-2-50:2013 Optical fibres. Product specifications. Sectional specification for class B single-mode fibres | Withdrawn, Superseded | BS EN 60793-2-50:2016 Optical fibres. Product specifications. Sectional specification for class B single-mode fibres |
| Y61 | D2.6.20 | BS EN 60794-3-20:2009 Optical fibre cables. Outdoor cables. Family specification for self-supporting aerial telecommunication cables | Withdrawn, Superseded | BS EN 60794-3-20:2016 Optical fibre cables. Outdoor cables. Family specification for self-supporting aerial telecommunication cables |
| V31, V32, V90, V91, V92, Y71, Y72, Y73, Y74 | C2.1.80, C2.1.90, D2.6.50, D2.6.60, D2.2.50, D2.6.70 | BS EN 60947-2:2006+A2:2013 Low-voltage switchgear and controlgear. Circuit-breakers | Withdrawn, Superseded | BS EN 60947-2:2017 Low-voltage switchgear and controlgear. Circuit-breakers |
| B20, W53, W60, W61, W69, Y73 | D2.1.140, C1.7.10, C1.7.20, D2.2.50 | | New Addition | BS EN 61000-1-2:2016 Electromagnetic compatibility (EMC). General. Methodology for the achievement of |

Content Common to CAWS and BG 56 Based Specifications

Section 4 Detail Changes to Reference Documents

| Work Section | | Reference Document - Current | Status of Current Reference | Reference Document - New |
|-----------------------|---------------------------------|---|-----------------------------------|--|
| CAWS | BG 56 | | | |
| | | | | functional safety of electrical and electronic systems including equipment with regard to electromagnetic phenomena |
| V13, V14 | C2.1.40, C2.1.50 | BS EN 61400-12-1:2006 Wind turbines. Power performance measurements of electricity producing wind turbines | Withdrawn, Superseded | BS EN 61400-12-1:2017 Wind power generation systems. Power performance measurement of electricity producing wind turbines |
| Y72 | D2.6.60 | BS EN 61800-5-2:2007 Adjustable speed electrical power drive systems. Safety requirements. Functional | Withdrawn, Superseded | BS EN 61800-5-2:2017 Adjustable speed electrical power drive systems. Safety requirements. Functional |
| Y72 | D2.6.60 | | New Addition | BS EN 61800-7-1:2016 Adjustable speed electrical power drive systems. Generic interface and use of profiles for power drive systems. Interface definition |
| V11, W69, Y71, Y72 | C2.1.20, D2.6.50, D2.6.60 | BS EN 61810-2:2011 Electromechanical elementary relays. Reliability | Withdrawn, Superseded | BS EN 61810-2:2017 Electromechanical elementary relays. Reliability |
| V11, W69, Y71, Y72 | C2.1.20, D2.6.50, D2.6.60 | BS EN 61810-2-1:2011 Electromechanical elementary relays. Reliability. Procedure for the verification of B10 values | Withdrawn, Superseded | BS EN 61810-2-1:2017 Electromechanical elementary relays. Reliability. Procedure for the verification of B10 values |
| W60 | C1.7.10 | | New Addition | BS EN 61907:2010 Communication network dependability engineering |
| V40 | C2.2.20 | BS EN 61951-1:2014 Secondary cells and batteries containing alkaline or other non-acid electrolytes. Portable sealed | Withdrawn, Superseded | BS EN 61951-1:2017 Secondary cells and batteries containing alkaline or other non-acid electrolytes. Secondary sealed cells and batteries |

Content Common to CAWS and BG 56 Based Specifications

Section 4 Detail Changes to Reference Documents

| Work Section | | Reference Document - Current | Status of Current Reference | Reference Document - New |
|--|---|---|-----------------------------------|---|
| CAWS | BG 56 | | | |
| | | rechargeable single cells. Part 1 Nickel-cadmium | | for portable applications. Part 1 Nickel-Cadmium |
| V11, W60, W69, Y71, Y72 | C2.1.20, C1.7.10, D2.6.50, D2.6.60 | BS EN 62056-4-7:2016 Electricity metering. Data exchange for meter reading, tariff and load control. COSEM transport layers for IPv4 networks | Amendment | BS EN 62056-4-7:2016 Electricity metering data exchange. The DLMS/COSEM suite. DLMS/COSEM transport layer for IP networks |
| V11, W60, W69, Y71, Y72 | C2.1.20, C1.7.10, D2.6.50, D2.6.60 | | New Addition | BS EN 62056-8-6:2017 OPC unified architecture. Programs |
| S60, S61, S62, S63, S64, S65, S70, S71, S72, S73, U13, U14, V40, W60 | C1.6.10, D1.6.20, C1.6.30, C1.6.40, C1.6.50, C1.6.60, C1.6.70, C1.6.80, C1.6.90, C1.4.210, C1.4.220, C2.2.20, C1.7.10 | | New Addition | BS EN 62541-10:2015 OPC unified architecture. Programs |
| S60, S61, S62, S63, S64, S65, S70, S71, S72, S73, U13, U14, V40, W60 | C1.6.10, D1.6.20, C1.6.30, C1.6.40, C1.6.50, C1.6.60, C1.6.70, C1.6.80, C1.6.90, C1.4.210, C1.4.220, C2.2.20, C1.7.10 | | New Addition | BS EN 62541-100:2015 OPC unified architecture. Device Interface |
| S60, S61, S62, S63, S64, S65, S70, S71, S72, S73, U13, U14, V40, W60 | C1.6.10, D1.6.20, C1.6.30, C1.6.40, C1.6.50, C1.6.60, C1.6.70, C1.6.80, | | New Addition | BS EN 62541-11:2015 OPC unified architecture. Historical Access |

Content Common to CAWS and BG 56 Based Specifications

Section 4 Detail Changes to Reference Documents

| Work Section | | Reference Document - Current | Status of Current Reference | Reference Document - New |
|--|---|---------------------------------|-----------------------------------|--|
| CAWS | BG 56 | | | |
| | C1.6.90, C1.4.210, C1.4.220, C2.2.20, C1.7.10 | | | |
| S60, S61, S62, S63, S64, S65, S70, S71, S72, S73, U13, U14, V40, W60 | C1.6.10, D1.6.20, C1.6.30, C1.6.40, C1.6.50, C1.6.60, C1.6.70, C1.6.80, C1.6.90, C1.4.210, C1.4.220, C2.2.20, C1.7.10 | | New Addition | BS EN 62541-13:2015 OPC unified architecture. Aggregates |
| S60, S61, S62, S63, S64, S65, S70, S71, S72, S73, U13, U14, V40, W60 | C1.6.10, D1.6.20, C1.6.30, C1.6.40, C1.6.50, C1.6.60, C1.6.70, C1.6.80, C1.6.90, C1.4.210, C1.4.220, C2.2.20, C1.7.10 | | New Addition | BS EN 62541-3:2015 OPC unified architecture. Address Space Model |
| S60, S61, S62, S63, S64, S65, S70, S71, S72, S73, U13, U14, V40, W60 | C1.6.10, D1.6.20, C1.6.30, C1.6.40, C1.6.50, C1.6.60, C1.6.70, C1.6.80, C1.6.90, C1.4.210, C1.4.220, C2.2.20, C1.7.10 | | New Addition | BS EN 62541-4:2015 OPC unified architecture. Services |
| S60, S61, S62, S63, S64, S65, S70, S71, S72, S73, | C1.6.10, D1.6.20, C1.6.30, C1.6.40, C1.6.50, C1.6.60, | | New Addition | BS EN 62541-5:2015 OPC unified architecture. Information Model |

Content Common to CAWS and BG 56 Based Specifications

Section 4 Detail Changes to Reference Documents

| Work Section | | Reference Document - Current | Status of Current Reference | Reference Document - New |
|--|---|---------------------------------|-----------------------------------|---|
| CAWS | BG 56 | | | |
| U13, U14, V40, W60 | C1.6.70, C1.6.80, C1.6.90, C1.4.210, C1.4.220, C2.2.20, C1.7.10 | | | |
| S60, S61, S62, S63, S64, S65, S70, S71, S72, S73, U13, U14, V40, W60 | C1.6.10, D1.6.20, C1.6.30, C1.6.40, C1.6.50, C1.6.60, C1.6.70, C1.6.80, C1.6.90, C1.4.210, C1.4.220, C2.2.20, C1.7.10 | | New Addition | BS EN 62541-6:2015 OPC unified architecture. Mappings |
| S60, S61, S62, S63, S64, S65, S70, S71, S72, S73, U13, U14, V40, W60 | C1.6.10, D1.6.20, C1.6.30, C1.6.40, C1.6.50, C1.6.60, C1.6.70, C1.6.80, C1.6.90, C1.4.210, C1.4.220, C2.2.20, C1.7.10 | | New Addition | BS EN 62541-7:2015 OPC unified architecture. Profiles |
| W41, W42 | C2.4.20, C2.4.30 | | New Addition | BS EN 62676-1-2:2014 Video surveillance systems for use in security applications. System requirements. Performance requirements for video transmission |
| W41, W42 | C2.4.20, C2.4.30 | | New Addition | BS EN 62676-2-1:2014 Video surveillance systems for use in security applications. Video transmission protocols. General requirements |

Content Common to CAWS and BG 56 Based Specifications

Section 4 Detail Changes to Reference Documents

| Work Section | | Reference Document - Current | Status of Current Reference | Reference Document - New |
|------------------|---------------------|---------------------------------|-----------------------------------|---|
| CAWS | BG 56 | | | |
| W41, W42 | C2.4.20, C2.4.30 | | New Addition | BS EN 62676-2-2:2014 Video surveillance systems for use in security applications. Video transmission protocols. IP interoperability implementation based on HTTP and REST services |
| W41, W42 | C2.4.20, C2.4.30 | | New Addition | BS EN 62676-2-3:2014 Video surveillance systems for use in security applications. Video transmission protocols. IP interoperability implementation based on Web services |
| W41, W42 | C2.4.20, C2.4.30 | | New Addition | BS EN 62676-3:2015 Video surveillance systems for use in security applications. Analog and digital video interfaces |
| W60, W61, W69 | C1.7.10, C1.7.20 | | New Addition | BS EN 62682:2015 Management of alarms systems for the process industries |
| Y73 | D2.2.50 | | New Addition | BS EN 62722-1:2016 Luminaire performance. General requirements |
| Y73 | D2.2.50 | | New Addition | BS EN 62838:2016 LEDsi lamps for general lighting services with supply voltages not exceeding 50 V a.c. r.m.s. or 120 V ripple free d.c. Safety specifications |
| Y73 | D2.2.50 | | New Addition | BS EN 62868:2015 Organic light emitting diode (OLED) panels for general lighting. Safety requirements |
| Y73 | D2.2.50 | | New Addition | BS EN 62922:2017 Organic light emitting diode (OLED) panels for |

Content Common to CAWS and BG 56 Based Specifications

Section 4 Detail Changes to Reference Documents

| Work Section | | Reference Document - Current | Status of Current Reference | Reference Document - New |
|---------------|---------|--|-----------------------------------|--|
| CAWS | BG 56 | | | |
| | | | | general lighting. Performance requirements |
| W60, W69 | C1.7.10 | | New Addition | BS EN 63044-1:2017 Home and Building Electronic Systems (HBES) and Building Automation and Control Systems (BACS). General requirements |
| S40 | C1.3.30 | | New Addition | BS EN 976-1:1997 Underground tanks of glass-reinforced plastics (GRP). Horizontal cylindrical tanks for the non-pressure storage of liquid petroleum based fuels. Requirements and test methods for single wall tanks |
| S40 | C1.3.30 | | New Addition | BS EN 976-2:1997 Underground tanks of glass-reinforced plastics (GRP). Horizontal cylindrical tanks for the non-pressure storage of liquid petroleum based fuels. Transport, handling, storage and installation of single wall tanks |
| W60, W69 | C1.7.10 | BS EN ISO 13849-1:2008 Safety of machinery. Safety-related parts of control systems. General principles for design | Withdrawn, Superseded | BS EN ISO 13849-1:2015 Safety of machinery. Safety-related parts of control systems. General principles for design |
| W60, W69 | C1.7.10 | | New Addition | BS EN ISO 13850:2015 Safety of machinery. Emergency stop function. Principles for design |
| S40, T32, T41 | C1.3.30 | | New Addition | BS EN ISO 23553-1:2014 Safety and control devices for oil burners and oil-burning appliances. Particular |

Content Common to CAWS and BG 56 Based Specifications

Section 4 Detail Changes to Reference Documents

| Work Section | | Reference Document - Current | Status of Current Reference | Reference Document - New |
|--|--|---|-----------------------------------|--|
| CAWS | BG 56 | | | |
| | | | | requirements. Automatic and semi-automatic valves |
| B20, S10, S11, S12, S13, S14, S17, T32, Z Part 2 | C1.2.10, C1.2.20, C1.2.30, C1.2.40, C1.2.70, C1.4.460 | BS EN ISO 4064-1:2014 Water meters for cold potable water and hot water. Metrological and technical requirements | Withdrawn, Superseded | BS EN ISO 4064-1:2017 Water meters for cold potable water and hot water. Metrological and technical requirements |
| B20, S10, S11, S12, S13, S14, S17, T32, Z Part 2 | C1.2.10, C1.2.20, C1.2.30, C1.2.40, C1.2.70, C1.4.460 | BS EN ISO 4064-2:2014 Water meters for cold potable water and hot water. Test methods | Withdrawn, Superseded | BS EN ISO 4064-2:2017 Water meters for cold potable water and hot water. Test methods |
| B20, S10, S11, S12, S13, S14, S17, T32, Z Part 2 | C1.2.10, C1.2.20, C1.2.30, C1.2.40, C1.2.70, C1.4.460 | BS EN ISO 4064-5:2014 Water meters for cold potable water and hot water. Installation requirements | Withdrawn, Superseded | BS EN ISO 4064-5:2017 Water meters for cold potable water and hot water. Installation requirements |
| N11, T41, U13, U14, U19, U39, Y40, Y41, Z Part 2 | C1.2.10, C1.2.20, C1.2.30, C1.2.40, C1.2.70, D1.4.450, D1.4.460, | BS EN ISO 5801:2008 Industrial fans. Performance testing using standardized airways | Withdrawn, Superseded | BS EN ISO 5801:2017 Fans. Performance testing using standardized airways |
| S12, T32, Y10 | D1.8.10 | | New Addition | BS EN ISO 9454-1:2016 Soft soldering fluxes. Classification and requirements. Classification, labelling and packaging |
| S12, T32, Y10 | D1.8.10 | | New Addition | BS EN ISO 9454-2:2001 Soft soldering fluxes. Classification and requirements. Performance requirements |
| Y41 | D1.4.460 | | New Addition | BS EN ISO/IEC 80079-20-2:2016 Explosive atmospheres. Material characteristics. Combustible dusts test methods |

Content Common to CAWS and BG 56 Based Specifications

Section 4 Detail Changes to Reference Documents

| Work Section | | Reference Document - Current | Status of Current Reference | Reference Document - New |
|---------------|------------------|---------------------------------|-----------------------------------|---|
| CAWS | BG 56 | | | |
| Y41 | D1.4.460 | | New Addition | BS EN ISO/IEC 80079-34:2011 Explosive atmospheres. Application of quality systems for equipment manufacture |
| Y41 | D1.4.460 | | New Addition | BS EN ISO/IEC 80079-38:2016 Explosive atmospheres. Equipment and components in explosive atmospheres in underground mines |
| W60, W69, Y72 | C1.7.10, D2.6.60 | | New Addition | BS ISO/IEC 14543-3-11:2016 Information technology. Home electronic system (HES) architecture. Frequency modulated wireless short-packet (FMWSP) protocol optimised for energy harvesting. Architecture and lower layer protocols |
| W60, W69, Y72 | C1.7.10, D2.6.60 | | New Addition | BS ISO/IEC 14543-4-3:2015 Information technology. Home electronic system (HES) architecture. Application layer interface to lower communications layers for network enhanced control devices of HES Class 1 |
| W60, W69, Y72 | C1.7.10, D2.6.60 | | New Addition | BS ISO/IEC 14543-5-7:2015 Information technology. Home electronic system (HES) architecture. Intelligent grouping and resource sharing for HES Class 2 and Class 3. Remote access system architecture |

Content Common to CAWS and BG 56 Based Specifications

Section 4 Detail Changes to Reference Documents

| Work Section | | Reference Document - Current | Status of Current Reference | Reference Document - New |
|------------------|---------------------------------|---------------------------------|-----------------------------------|--|
| CAWS | BG 56 | | | |
| W60, W69, Y72 | C1.7.10, D2.6.60 | | New Addition | BS ISO/IEC 14543-5-8:2017 Information technology. Home electronic systems (HES) architecture. Intelligent grouping and resource sharing for HES Class 2 and Class 3. Remote access core protocol |
| W60, W69, Y72 | C1.7.10, D2.6.60 | | New Addition | BS ISO/IEC 14543-5-9:2017 Information technology. Home electronic systems (HES) architecture. Intelligent grouping and resource sharing for HES Class 2 and Class 3. Remote access service platform |
| W60, W61, W69 | C1.7.10, C1.7.20 | | New Addition | BS ISO/IEC 20000-1:2011 Information technology. Service management. Service management system requirements |
| W60 | C1.7.10 | | New Addition | BS ISO/IEC 27032:2012 Information technology. Service management. Service management system requirements |
| W60, W69, Y72 | C1.7.10, D2.6.60 | | New Addition | PD CEN/CLC/ETSI TR 50572:2011 Functional reference architecture for communications in smart metering systems |
| R10, R11, Y10 | C1.1.10, C1.1.20, D1.8.10 | | New Addition | PD CEN/TR 13801:2014 Plastics piping systems for soil and waste discharge (low and high temperature) within the building structure. Thermoplastics. Recommended practice for installation |

Content Common to CAWS and BG 56 Based Specifications

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| Work Section | | Reference Document - Current | Status of Current Reference | Reference Document - New |
|--------------|---------|---------------------------------|-----------------------------------|--|
| CAWS | BG 56 | | | |
| W41 | C2.4.20 | | New Addition | PD 6662:2017 PD 6662 Published Document - Scheme for the application of European Standards for intrusion and hold-up alarm systems |