

Swimming Pools DGN: Template for comments

Date completed: 08-07-2025

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Part (main doc, Appendix 1/2/3 etc.)	Section	Page number	Paragraph /Figure/ Table / Image	Comments
Swimming Pools 2013 Appendix 1				<p>Take into consideration recent developments and aspects from the Health and Safety Executive (HSE). For example, this is in regards Swimming Pool Management and in regards Compliance with Health and Safety Law. Please see knowledge available at https://www.hse.gov.uk/entertainment/leisure/swimming-pool.htm</p> <p>This includes “Health and Safety in Swimming Pools” [last updated in February 2024], which is available at https://www.hse.gov.uk/pubns/books/hsg179.htm</p>
Swimming Pools 2013 Appendix 2 Servicing The Building				<p>Take into consideration recent developments and aspects related to the UK Net Zero Carbon Buildings Standard (UKNZCBS), which was launched in September 2024. There are opportunities here to embed the UKNZCBS in relation to Swimming Pools - Servicing the Building. Please see knowledge available at https://www.cibse.org/policy-insight/key-policy-areas/uk-net-zero-carbon-buildings-standard-uknzcbs/?gad_source=1&gad_campaignid=22097767133&gbraid=0AAAAAqesnD2fois6JWtM6OCTfMI6V7UuR&gclid=CjwKCAjw4K3DBhBqEiwAYtG_9P5Hlhz-KlLcexATZRBxs2-lhXz1zJRTrdZW0hvQpojldXH4EsZBfRoCZD4QAvD_BwE</p> <p>Please also see knowledge available at https://www.nzcbuildings.co.uk/pilotversion</p> <p>There are opportunities here to embed the UKNZCBS in relation to “Operational Water Use Assessment and Reporting Requirements”. Therefore, “The UKNZCBS Guide: Part 5: Operational Water Use” provides an opportunity to update “Swimming Pools: Servicing the Building”. Please also see knowledge available at https://www.maxfordham.com/practice-people/journal/the-uk-net-zero-carbon-buildings-standard-guide-part-5-operational-water-use</p> <p>Take into consideration recent developments and aspects related to the UK Government Guidance in relevant areas, such as:</p> <ul style="list-style-type: none">• “Non-domestic National Energy Efficiency Data-Framework (ND-NEED)”, which is available at https://www.gov.uk/government/collections/non-domestic-national-energy-efficiency-data-framework-nd-need• “Sustainability and Net Zero Annex”, which is available at https://www.gov.uk/government/publications/the-government-workplace-design-guide/sustainability-and-net-zero-annex• “Energy Technology List (ETL)”, which is available at https://www.gov.uk/guidance/energy-technology-list
Swimming Pools 2013 Appendix 3 Construction Spec Considerations				<p>Take into consideration recent developments and aspects related to the UK Government Guidance in relevant areas, such as:</p> <ul style="list-style-type: none">• “Sustainability and Net Zero Annex”, which is available at https://www.gov.uk/government/publications/the-government-workplace-design-guide/sustainability-and-net-zero-annex• “The Building Safety Act”, which is available at https://www.gov.uk/guidance/the-building-safety-act• “Building Regulations and Approved Documents”, which is available at https://www.gov.uk/government/collections/approved-documents

				<ul style="list-style-type: none"> “Energy Technology List (ETL)”, which is available at https://www.gov.uk/guidance/energy-technology-list “Design and building work: meeting building requirements”, which is available at https://www.gov.uk/guidance/design-and-building-work-meeting-building-requirements
Swimming Pools 2013 Appendix 4 Improvement And Alterations				<p>Take into consideration recent developments and aspects related to the Health and Safety Executive (HSE) Guidance in relevant areas, such as:</p> <ul style="list-style-type: none"> “Control of legionella and other infectious agents in spa-pool systems”, which is available at https://www.hse.gov.uk/pubns/books/hsg282.htm “Health and safety in swimming pools”, which is available at https://www.hse.gov.uk/pubns/books/hsg179.htm
Swimming Pools 2013 Appendix 5 Further Information				Please see relevant recent developments and aspects already mentioned.
Swimming Pools Dgn 2013				Please see relevant recent developments and aspects already mentioned.

Date completed: 27 06 25

Organisation:	Luminous Solutions Lighting Consultants	Contact:	Nigel Monaghan	E-mail:	nigel@luminoussolutions.co.uk	Tel:	07985 637121
Part (main doc, Appendix 1/2/3 etc.)	Section	Page number	Paragraph /Figure/ Table / Image	Comments			
Swimming Pools 2013 Appendix 1		10	Lighting: should be an even level of 600 lux measured at 1.0 m above the surface of the water. Glare / specular reflection on the water surface must be avoided. A similar standard of lighting should be provided in the dry land training area.	<p>On page 10 of Swimming Pools 2013 Appendix 1, it is stated that the lighting should be an even level of 600 lx measured at 1m above the pool.</p> <p>This contradicts the information in Swimming Pools Dgn 2013 which states 600 lux at the start and turn ends only. This is ambiguous and the update should be clarified with information on lighting of pools for leisure and the lighting of pools for competition.</p> <p>The document should mention emergency lighting requirements and risk assessment.</p>			
All documents				The full lighting section should be reviewed and updated.			

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Organisation:	HAMILTON HVAC LTD Committee Member CIBSE Energy Performance Group (EPG)	Contact:	Nick Hamilton	E-mail:	nick@hamiltonhvac.london	Tel:	07456 787915
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Part (main doc, Appendix 1/2/3 etc.)	Section	Page number	Paragraph /Figure/ Table / Image	Comments
All documents	Regulatory Compliance	Various	General	Include explicit reference to Regulation (EU) 1253/2014 in ventilation guidance. Ensure all mechanical ventilation systems comply with minimum thermal efficiency (≥73%), SFP thresholds, and leakage criteria. Reference EN 13053 and EN 13141-7.
All documents	Demand-Controlled Ventilation	Various	General	Recommend zoned DCV strategies using CO ₂ , RH, and VOC sensors. Integrate these systems into BEMS with variable air volume control to match occupancy and use patterns. Support energy saving and regulatory compliance.
All documents	Indoor Air Quality and DBP Control	Various	General	Expand guidance to address airborne chloramines and disinfection byproducts. Recommend low-level extraction above water level, real-time monitoring in high-use public pools, and reference to PWTAG and HSE RR1123.
All documents	Air Distribution Strategy	Various	General	Promote low-level ductwork integrated around the perimeter of the pool. Discourage overhead ducting due to maintenance challenges. Recommend CFD modelling in large/public pools to ensure airflow effectiveness.
All documents	Independently Certified Plant and Equipment	Various	General	Mandate Independent third-party performance certification such as Eurovent for AHUs and control equipment. Use EN 13053 for AHUs, ISO 12944 for corrosion resistance, and IP ratings ≥ IP44. Sensors should be calibrated to ISO/IEC 17025 standards.
All documents	Operational Maintenance and Accessibility	Various	General	Ensure designs support maintenance access (e.g. walkways, gantries). Corrosion-resistant fixings required. Include verification of commissioning data by a commissioning agent (CxA).
All documents	Public Pool Requirements	Various	General	Public pools require enhanced guidance: higher bather loads, duty/standby plant, IAQ monitoring, and resilience strategies should be specified. Consider operational variability during events and competitions.
All documents	Post-Occupancy Evaluation	Various	General	Add POE requirements for IAQ, thermal comfort, and RH control. Evaluate occupant satisfaction and system performance to inform commissioning reviews and future designs.

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Organisation:	NG Bailey	Contact:	Paul Marsland	E-mail:	Paul.marsland@ngbailey.co.uk	Tel:	07792 285 217
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Part (main doc, Appendix 1/2/3 etc.)	Section	Page number	Paragraph /Figure/ Table / Image	Comments
Appendix 2	N/A – I would like to see guidance provided on the most suitable earthing and bonding requirements for different swimming pool constructions.	N/A	N/A	<p>It would be good if these guides included guidance on the best practises for equipotential bonding of a swimming pools extraneous conductive parts. (e.g. steel hand rails, steel ladders, diving board podiums etc.)</p> <p>I have been involved with several swimming pool projects and there appears to be a distinct lack of understanding concerning the bonding of the extraneous parts listed above. Some specifications require all the steelwork is securely bonded to the electrical installation earthing network (as required by BS 7671)</p> <p>I believe there is a potential issue and that the ideal solution depends on how well the body of the swimming pool water is in contact with the general mass of earth. Some pools are constructed on the principal of creating an “equipotential plane”, the swimming pool concrete substructure and rebars being in contact with the general mass of earth, but there is probably no guarantee that the body of water would have a low impedance coupling with the substructure (there may be insulating barriers/materials that line the pool)</p> <p>If extraneous conductive parts are physically bonded with a cable then these components could introduce a potential (e.g. an unrelated earth fault on the electrical system that raises the potential of the earthing and bonding conductors and thus any extraneous steelwork accessible by people in the swimming pool, often ladders do not extend into the water). If there is not a low impedance between the body of water and the earthed sub-structure a potential difference could be introduced between someone in the water holding onto an earthed rail, isolated steps or diving podium.</p> <p>On balance I believe it would be safer to simply allow the extraneous steelwork (ladders, rails and podiums) to be left unbonded (they tend to either be cast into the substructure or bolted into the substructure so would always be at the same potential as the concrete substructure and local “equipotential plane”</p> <p>There may be other technical considerations for earthing and bonding but I don’t feel BS 7671 addresses this issue in enough detail. It would be useful if guidance could be provided that considers the entire construction of the swimming pool.</p>

Date completed: 07 July 2025

Organisation:	Teal Consultancy	Contact:	Stephen Platt	E-mail:	Stephen.platt@tealconsultancy.co.uk	Tel:	07788 317941
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Part (main doc, Appendix 1/2/3 etc.)	Section	Page number	Paragraph /Figure/ Table / Image	Comments
Appendix 2	General	N/A	N/A	There are a number of areas that should be discussed but which are not included in this section. For example: <ul style="list-style-type: none"> - Methods of dehumidification - Materials selection for the chlorine environment - Temperature control in plantrooms, and ventilation - Ventilation of ancillary spaces such as pool stores
Appendix 2	Servicing the building	1	N/A	Section should be updated to include heat pumps, solar thermal, other. Use of CHPs not in line with the policies of many clients who are currently moving away from fossil fuels. Matching of technologies with the particular functions in a building (pools and other facilities) should be discussed.
Appendix 2	Servicing the building	1	N/A	Pool water dilution is also a factor in terms of energy consumption and consequently on environmental sustainability.
Appendix 2	Energy Implications	1	N/A	Significant advances in fabric and airtightness standards for pools should be outlined (recent completion of Passivhaus leisure centres in the UK), along with the associated benefits/impacts to the servicing strategies for the building. Discuss internal fabric standards as well as external.
Appendix 2	Energy usage in swimming pool buildings	1	N/A	Energy strategy should drive the form, orientation etc, not the other way around.
Appendix 2	Energy usage in swimming pool buildings	2	Be Lean table	Important to promote demand-controlled ventilation.
Appendix 2	Energy usage in swimming pool buildings	2	Be Lean table	30degC listed as pool temperature. Potential for confusion as this isn't true for all pools. Depends on type of pool and operator preferences
Appendix 2	Energy usage in swimming pool buildings	2	Be Lean table	Direct lighting isn't always the best approach – can lead to maintenance issues, or problems achieving uniformity. Indirect systems may be less efficient, although reflector systems can be very efficient and provide an easier to maintain system too.
Appendix 2	Energy usage in swimming pool buildings	2	Be Lean table	Zoning is mentioned in passing – this should be discussed in more detail. Both thermal zoning and plant zoning are crucial in achieving high standards of environmental sustainability.
Appendix 2	Energy usage in swimming pool buildings	2	Be Lean table	Variable speed drives are mentioned – it should be made clear that variable volume control is recommended, not just VSDs used to set speed at commissioning
Appendix 2	Energy usage in swimming pool buildings	2	Be Lean table	VSDs on pool water treatment system, also used for night set-back.
Appendix 2	Energy usage in swimming pool buildings	2	Be Clean	CHP again: Fossil fuel. Heat pumps, solar thermal, PV may be effective well-matched as low/zero carbon technologies for aquatics facilities
Appendix 2	Energy usage in swimming pool buildings	2	Be Clean	I do not consider CHP and absorption cooling to be a good tech mix for leisure centres. Using waste heat from nearby sources, or considering co-location with high cooling demand buildings should be considered.
Appendix 2	Water efficiency	3	N/A	Watch-it: Greywater treatment can be costly to maintain.

Appendix 2	Water efficiency	3	N/A	Concerns re: hygiene risks with pool covers should be acknowledged
Appendix 2	Disinfection	4	N/A	Ozone rarely used these days. UV common across medium and high use facilities
Appendix 2	Chemical dosing	4	N/A	Choice of chemicals influenced by source water, operator preference and local availability/suppliers. I would suggest this section is a bit too specific in terms of naming chemicals.
Appendix 2	Chemical dosing	4	N/A	Statement re: manual testing of water samples: This is a design guidance note. For operator guidance, it would be better to direct readers to PWTAG guidance and pool plant operator training.
Appendix 2	Water softness	5	“UV filtration system”	The photograph does not appear to me to be a UV system, and in any case, UV is for disinfection, not filtration.
Appendix 2	Filtration systems	5	N/A	Add discussion on different forms of filtration available.
Appendix 2	Filtration systems	5	N/A	The section about deck level systems with no description as to what these are or what the alternatives are.
Appendix 2	Filtration systems	5	N/A	Description of the role of coagulant is confusing/incorrect.
Appendix 2	Filtration systems	5	“Risk of contamination”	Highlight risk of washdown water entering the system from cleaning of the pool surround.
Appendix 2	Page 6	6	Schematic services diagram for a typical small pool	This diagram is too complicated for non-technical or semi-technical reader, and contains a number of highly questionable elements that may confuse the technical reader. It is trying to communicate too much, and ends up with the very high potential to mislead.
Appendix 2	Page 6	6	Schematic services diagram for a typical small pool	Offices, changing rooms and WCs on the same system? Suggest more granular approach to air handling would be better - otherwise HR potential not realised.
Appendix 2	Page 6	6	Schematic services diagram for a typical small pool	Pool temperature depends on pool type
Appendix 2	Page 6	6	Schematic services diagram for a typical small pool	Potential for high radiant losses from the pool through rooflight
Appendix 2	Page 6	6	Schematic services diagram for a typical small pool	As earlier comment, there are health and hygiene concerns with pool covers. Payback potential is reduced if conditions are well-controlled and building fabric is correctly designed.
Appendix 2	Page 6	6	Schematic services diagram for a typical small pool	Recirc damper on a toilet extract system?
Appendix 2	Page 6	6	Schematic services diagram for a typical small pool	The LTHW system includes “LZC technology” – the configuration wouldn't work for heat pumps, but the diagram doesn't communicate that.
Appendix 2	Pool Hall	7	Relative humidity	Important to be clear that the relative humidity in the pool hall is highly linked to the fabric performance. A lesser quality of fabric would give rise to condensation at 60% rH, but with a better fabric, a higher rH could be accommodated.
Appendix 2	Pool Hall	7	Min fresh air supply (4-10 ac/hr)	No! Why should a massive barn of a pool hall need 4-10 ac/hr to dehumidify or to ventilate? Pool hall ventilation design should not be carried out using rules of thumb and air change rates – significant risk of under- or over- sizing of plant and systems.
Appendix 2	Pool Hall	7	Air velocity	Air velocity should be minimised, not just in occupied areas but anywhere near the pool surface as this would promote greater evaporation.
Appendix 2	Pool Hall	7	N/A	Add the recommendation for lobbies and buffer zones to contain the pool environment
Appendix 2	Changing and clothes storage areas	7	N/A	Changing areas should normally be defined as chlorine zones. Doors between pool and changing areas, so changing areas can be used as buffer zone.
Appendix 2	Changing and clothes storage areas	7	N/A	Discussion should be added re: humidity in changing areas & demand-controlled vent.
Appendix 2	Changing and clothes storage areas	7	N/A	Additional fresh air is mentioned in this section, but I wonder if it is really recommending cooler temperatures to enhance comfort?

Appendix 2	Light fittings	7	N/A	What about general lighting in the pool hall? Maintenance, corrosion resistance, lux levels and uniformity. The section referred to in the main document is short of technical detail.
Appendix 2	Plant room spaces	8	N/A	Consider risk of plantroom overheating
Appendix 2	Plant room spaces	8	N/A	Re: plantroom drainage – important to ensure direct/sealed connections to drain for any discharges of pool water to avoid the plantroom becoming a pool environment.
Appendix 2	Access to plant rooms	8	N/A	3m x 3m plant access door – the dimensional requirement for any door is highly dependent upon the size of the filter. A much smaller door may be more than adequate for systems with smaller filters, or that uses different filter technology such as ultrafiltration or microfiltration where filter modules can be disassembled.
Appendix 2	Air distribution systems in the pool hall	9	N/A	The importance of materials selection for services supports should be highlighted, including reference to the problems that incorrect materials choice can lead to.

Date completed: 28-6-25

Organisation:		Contact:	Samuel Lip	E-mail:	Samuel Lip <lordyray@gmail.com>	Tel:	
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Part (main doc, Appendix 1/2/3 etc.)	Section	Page number	Paragraph /Figure/ Table / Image	Comments
				1. The pool and surroundings are high humidity, and can easily water splashed onto them, electrical sockets have special requirement on the locations, mounting height, and IP requirement, , esp underground lighting be ELV, IP68 etc. Pls refer to HK EMSD COP electricity wiring regulation section 26M for the electrical requirement for swimming pools.
				2.pls mention the equipments for supply add up water, , eg the boiler ,heat exchanger, to bring supply water at 30C to replenish the water loss in swimming pool , also filter the recirculating pool water using sand filter, 6-way valve, backwashed to clean the sand. Put a thermometer dipped in the pool water surface to let life saver to check the water temperature at right temp every day. The MVAC supply air louver better not at ceiling level, above the pool, put them concealed at vertical wall at sides of pool, so that water moisture not rise to the louver and cause rusting, If use wall mounted washer lamps, put them protected and shine upward, so that no water rise to them. Presently, use metal scaffolding frame horizontally to mount the lighting, the suspension steel wires to the frame, and electric cables to the luminaires on the frame can be wound in a suspended drum, pulled out by electrician to use the right length of wires and cables during installation and for future adding more luminaires or cameras, speakers,etc. No need rewiring again. I can help u to write more details on the electrical part, eg earth bonding and extraneous subsidiary, equipotential bonding important, not electrocute swimmers. Electrical safety in wet areas is important. Earth leakage current can kill people. Lamps better to have

				earthing conductor bonded to metal enclosure because swim pool is wet areas. In offices dry areas, luminaires may not have earth bonding to luminaire metal parts (power supply wiring may just only have live and neutral wires, no green/yellow earth wire).
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Date completed: 30-6-25

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				In general the electrical installation in the pool and the building accommodating it must comply with the current edition of the IET BS 7671, and in pool areas specifically with the requirements in Section 7-702 of BS 7671.
				Fire safety and fire detection and alarm systems are to comply with the requirements of the current editions of BS 9999 and BS 5839-6.
				Emergency lighting is to comply with the requirements of the current edition of the BS 5266 series.
				ICT installations are to comply with the requirements of the current edition of BS 6701 where relevant.
				Building lighting generally and specific illumination requirements for the pool and pool areas are to take notice of the guidance provided in the relevant CIBSE lighting guides.

Date completed: 30-6-25

Organisation:	Member of the Technology committee	Contact:	Richard Daniels	E-mail:	Richard.DANIELS@education.gov.uk	Tel:	
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Part (main doc, Appendix 1/2/3 etc.)	Section	Page number	Paragraph /Figure/ Table / Image	Comments
				<p>The Guidance note should reference</p> <ol style="list-style-type: none">1. the PWTAG book Swimming Pool Water, Treatment and quality standards for pools and spas and2. the PWTAG code of Practice Code of Practice THE MANAGEMENT AND TREATMENT OF SWIMMING POOL WATER, Pool Water Treatment Advisory Group, July 2021