

Circular Letter No.: 2022.176

Issue Date: 28 January 2022

Application: BEAM Plus NB Version 1.1 and 1.2

Effective Date: 28 January 2022

EU 11c Operator Training and Operation and Maintenance Facilities
Appendix 8.5.8 Operator Training and Facilities

1. The Technical Circular Letter hereby announces an update to the credit content for **EU 11c Operator Training and Operation and Maintenance Facilities** under BEAM Plus NB v1.1 and v1.2.
2. The requirement of providing operation and maintenance facilities such as workshop(s), office accommodation, computing facilities/ control room, etc. is hereby omitted from EU 11c. Notwithstanding, buildings are still required to provide chemical storage and/or chemical mixing area in accordance with the requirements set out in relevant Technical Circular Letter (i.e., No. 2019.155).
3. The requirements given in Section 4.4 and Appendix 8.5.8 of the BEAM Plus Manuals are hereby updated with the enclosures in Annex A to Annex D of this Technical Circular.
 - Pages Annex A-1 to A-2 shall replace all contents specified in Page 4-23 to 4-24 under BEAM Plus NB v.1.1;
 - Pages Annex B-1 shall replace all contents specified in Page 8-21 under BEAM Plus NB v.1.1;
 - Pages Annex C-1 to C-2 shall replace all contents specified in Page 115 to 116 under BEAM Plus NB v1.2; and
 - Pages Annex D-1 shall replace all contents specified in Page A-21 under BEAM Plus NB v1.2.
4. Approved PA projects: For projects that have already completed PA and have certain assessment approach approved, the Applicant may opt to adopt the same assessment criteria for FA or voluntarily comply with this Technical Circular. For the avoidance of doubt, the Applicant shall provide PA evidence (e.g., extract of the PA report, documents submitted for assessment in PA, etc.) in subsequent assessments to support the intention of using the same assessment methodology as in PA.



Ir SK Ho
Chairperson of Standards Sub-committee

**Annex A:
Updated Credit Content for Section 4.4 under BEAM Plus NB v.1.1**

4	ENERGY USE	4.4	PROVISIONS FOR ENERGY MANAGEMENT
		EU 11	OPERATION AND MAINTENANCE
	EXCLUSIONS		None.
	OBJECTIVES		Enable building operators to implement the design intent, be able to monitor the performance of the building, and maintain the performance.
	CREDITS ATTAINABLE		3
	PREREQUISITES		None.
	CREDIT REQUIREMENT		<p>a) Operations and maintenance manual</p> <p>1 credit for providing a fully documented operations and maintenance manual to the minimum specified.</p> <p>b) Energy management manual</p> <p>1 credit for providing fully documented instructions that enables systems to operate at a high level of energy efficiency.</p> <p>c) Operator training and operation and maintenance facilities</p> <p>1 credit for providing training for operations and maintenance staff to the minimum specified; and demonstrating that adequate maintenance facilities are provided for operations and maintenance work.</p>
	ASSESSMENT		<p>The Client shall submit details of the provisions for operation and maintenance as outlined below.</p> <p>a) Operations and maintenance manual</p> <p>The design intent and basis of design shall be included as a defining part of the operations and maintenance manual and the energy management manual. The manual shall include the details given in Section 8.5.6 as a minimum.</p> <p>Where an adequate contract sum was provided for the preparation of comprehensive operations and maintenance manual, and the manual covers adequately the major energy consuming building services systems and equipment the credit shall be awarded.</p> <p>b) Energy management</p> <p>Where the operations and maintenance manual, or a dedicated energy management manual is provided, and meets the requirements of Section 8.5.7 as a minimum, the credit shall be awarded.</p> <p>c) Operator training and operation and maintenance facilities</p> <p>The training program shall cover as a minimum the items listed in Section 8.5.8. Details of the facilities for operation and maintenance, such as the chemical storage and/or chemical mixing areas etc., shall be provided.</p> <p>Where the Client can verify that training of the building's operations and maintenance staff was undertaken for all commissioned systems and major equipment, using the operations and maintenance manual, and the energy management manual as the basis for the training, and demonstrate that the provided operation and maintenance facilities are adequate, the credit shall be awarded.</p>

BACKGROUND

Facilities to carry out basic maintenance and equipment for monitoring consumption can help improve operating efficiency and environmental performance of a building. ASHRAE [1] and BSRIA [2] provide advice on the preparations for operation and maintenance to ensure the safe and efficient operation of each system and major item of plant, including a description of the operating modes, a recommended strategy for operation and control, control data and set points, interlocks between plant items, etc.

Annex B:
Updated Credit Content for Appendices 8.5.8 under BEAM Plus NB v.1.1

**8.5.8 OPERATOR TRAINING
AND FACILITIES**

The training program shall cover the following:

- general purpose of each building system including basic theory of operation, capabilities and limitations, and modes of control and sequences of operation;
- review of control drawings and schematics;
- procedures for start-up, shutdown, seasonal changeover, normal operation, unoccupied operation, and manual operation;
- controls set-up and programming;
- troubleshooting;
- alarms;
- interactions with other systems;
- operational monitoring and record keeping requirements, and the use of data for analyzing system performance;
- adjustments and optimizing methods for energy conservation;
- any relevant health and safety issues;
- inspection, service, and maintenance requirements for each system, including any need for specialised services;
- sources for replacement parts/equipment; and
- any tenant interaction issues.

The demonstration portion of the training program shall include at least the following:

- operation typical examples of each system;
- start-up and shutdown procedures;
- operation under all specified modes of control and sequences of operation
- procedures under emergency or abnormal conditions; and
- procedures for effective operational monitoring.

The Client shall submit details in the form of drawings and a report demonstrating:

- that proper maintenance facilities are provided for operations and maintenance work in the form of chemical storage and mixing areas for housekeeping products;
- provision of chemical storage area with a lockable enclosure within an operation and maintenance facility¹ to allow for adequate and secure product storage; and/or
- provision of chemical mixing area with water point for mixing and diluting concentrated products, drainage for the appropriate disposal of liquid waste products, as well as equipped with separate outside venting and operated under negative pressure.

¹ Operation and maintenance facility refer to an indoor area having the function compatible to workshop, janitor room, central storage, chiller plant room or A/C plant room.

**Annex C:
Updated Credit Content for Section 4.4 under BEAM Plus NB v.1.2**

4	ENERGY USE	4.4	PROVISIONS FOR ENERGY MANAGEMENT
			EU 11 OPERATION AND MAINTENANCE
	EXCLUSIONS		None.
	OBJECTIVES		Enable building operators to implement the design intent, be able to monitor the performance of the building, and maintain the performance.
	CREDITS ATTAINABLE		3
	PREREQUISITES		None.
	CREDIT REQUIREMENT		<p>a) Operations and maintenance manual</p> <p>1 credit for providing a fully documented operations and maintenance manual to the minimum specified.</p> <p>b) Energy management manual</p> <p>1 credit for providing fully documented instructions that enables systems to operate at a high level of energy efficiency.</p> <p>c) Operator training and operation and maintenance facilities</p> <p>1 credit for providing training for operations and maintenance staff to the minimum specified; and demonstrating that adequate maintenance facilities are provided for operations and maintenance work.</p>
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Annex D: Updated Credit Content for Appendices 8.5.8 under BEAM Plus NB v.1.2

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AND FACILITIES**

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