Building Information

Aim of Credit

To recognise the development and provision of building information that facilitates understanding of a building's systems, operation and maintenance requirements, and environmental targets to enable the optimised performance.

Credit Criteria

Up to 2 points are awarded as follows:

1	Building Operations and Maintenance Information	**1 point** is awarded where it is demonstrated that comprehensive Operations and Maintenance information is developed and made available to the facilities management team.
2	Building User Information	**1 point** is awarded where a relevant and current building user information, is developed and made available to all relevant stakeholders.

Compliance Requirements

1 point is awarded for criterion *1. Building Operations and Maintenance Information* where the compliance requirements as outlined in sections 1.1 and 1.2 below are satisfied.

1 point is awarded for criterion *2. Building User Information* where the compliance requirements outlined in section 2.1 are satisfied.

Nominated Building Systems

Nominated building systems are to be defined by the project team. The most common method for demonstrating that nominated building systems have been defined is through the owner's project requirements (OPR) document. This document or an equivalent document containing the same information, it typically developed for commissioning activities.

The OPR must be prepared by the design team and outline, as a minimum, the following items:

- Description of the basic functions, operations, and maintenance of the nominated building systems including:
  - A description of its intended operation and maintenance requirements; and
  - A list of what the main components are (including controls) and the importance of their efficient use.
- The targets for the energy and water consumptions and budgets for nominated building systems.

- Description of how energy, water, and aspects of indoor environment quality are metered and monitored. This typically would include a meter diagram that illustrates how energy and water budgets could be confirmed in operation.

1 Building Operations and Maintenance Information

1.1 Operations and Maintenance Information

Compliance with this requirement is not based on the detailed review of the content of building information. Rather, compliance with these requirements is based on confirmation that:

- appropriate content for all nominated building systems as described in this credit is readily available;
- the appropriate user group has access to the information they require to deliver best practice environmental outcomes;
- guidance on keeping information up to date is provided to facilities management in these documents.

1.2 Building Log Book

In addition the information required in *1.1 Operations and Maintenance Information*, the project team must develop a Building Log Book to present to the building owner before practical completion of the project. The Building Log Book must:

- Be developed in line with CIBSE TM31: Building Log Book Toolkit; and
- Cover all nominated building systems noted in *Nominated Building Systems*.
- Include links or references to all relevant O&M information noted in Compliance Requirement *1.1 Operations and Maintenance Information*.

2 Building User Information

2.1 Delivery and Format of Building User Information

Building user information is a source of up-to-date, relevant information for the 'building user'. The method of delivery of the information provided may differ based on the target audience. However, due to the live nature of 'building user information' it must be provided in a digital format and made available through any combination of digital signage, interactive information kiosks, induction or training material, website or intranet, or mobile application.

The amount and details of 'building user information' must be relevant to the particular audience, in order for the compliance requirements to be met. For instance, if the premises are owner-occupied, the information provided to users must be geared towards general staff that occupy the space. If the space is leased from a landlord, the information provided must be geared towards the person responsible for the management of the tenanted space; this may be a tenant representative or an office manager.

In addition, Building User Information must be able to be updated and edited by facilities management to ensure it remains relevant to building users throughout the life of the building.

All building user information must be available to the building owner and facility management at the time of practical completion of the project. It is acknowledged in the above that ongoing tuning and updates to building user information and its content may extend beyond practical completion of the project.

It must be made clear at the time of submission for certification how this information has been presented to the relevant audience or user group. It is the responsibility of the project team to clearly identify the relevant user groups and develop building user information tailored to their needs.

While there are no specific requirements for the content that must be presented, the 'Guidance' section presents typical information that should be presented to different user groups.

Guidance

The guides must be developed for each building and all operable infrastructures in the project site area. A consolidated guide can be created for a group of similar buildings represented by a 'typical' building. Any guide must address all issues listed in the technical manual.

Building operation and maintenance information

Operation and maintenance manuals (O&M manuals) or equivalent operating information define the requirements and procedures for the effective operation, maintenance and recommissioning of the building. A comprehensive set of O&M information includes details of the building's construction, commissioning information, maintenance instructions for its operation and maintenance team, and guarantees and warranties.

Based on information required by building managers and maintenance staff/contractors to effectively manage a building, best practice Operations and Maintenance Manuals should include:

- A summary sheet of relevant building service contacts;
- System - level information for nominated building systems:
- Introduction and scope, including physical and functional descriptions;
- Operating parameters and procedures;
- Preventive maintenance requirements, including procedures and schedules;
- Corrective maintenance requirements, including repair requirements;
- Service contacts, and any warranties and certificates.
- Up-to-date drawings incorporating at least:
    - Mechanical, electrical and hydraulic drawings and schematics covering all associated nominated building systems;
    - Architectural, façade/building envelope drawings; and
    - Architectural layout of base building;

In addition to the above, information aimed at assisting facilities management teams operate the building for optimal sustainability outcomes (for instance a Strategic Asset Management Guide). This information should include:

- Details on targets or design benchmarks for, as a minimum, energy, greenhouse gas emissions, potable water and indoor environment quality including air quality (CO and CO2) and thermal comfort. These must be SMART (specific, measureable, achievable, relevant and time-bound) goals aimed at assisting the operation team to optimise performance of the building;
- Details on the metering and sub-metering strategy employed by the building, including any instructions (if sub-metering is provided);
- Description and location of the sustainable procurement framework (if available);

Triggers for updating O&M information must also be detailed. This guidance should be aimed at assisting facility management to maintain relevant, up-to-date building information. Triggers for update of O&M manuals and/or related operating information must include:

- refurbishment of a base building space occurs;
- recommissioning, retro commissioning, or replacement of nominated building systems;
- building owner targets or benchmarks change;
- a new operational process is introduced or an existing one is changed;
- a new tenant fitout is finalised (if applicable);

Building log book

A building log book is an easily accessible central point of information for those who are managing a building. It is a living information source that provides a summary of all key building information. It is a reference point providing links to all other key information and documentation such as drawings, O&M manuals, BMS functional information and warrantee documents. It is a key document for the training of staff involved in operating a building, and may be used as a part of staff or contractor inductions. It is a dynamic information source that includes and tracks updates to building systems, use, performance, and activities for compliance, re-commissioning and tuning.

For further information please refer to CIBSE TM31: Building Log Book Toolkit.

Building user

Building user, for purposes of this credit, is understood to be tenants (a tenant representative or office manager of tenanted space) and occupants (day-to-day users of space), depending on the level of information that is relevant to that audience.

Content of building user information

The following details typical information that can be presented to building users. It is the project team's responsibility to choose the relevant information topic for the relevant user:

- Description of initiatives designed to enhance energy efficiency and minimise greenhouse gas emissions, and measures that must be taken by users during day-to-day operation to maximise their effectiveness;
- Description of initiatives intended to enhance and minimise water use and the measures that must be taken by users during day-to-day operation to maximise their effectiveness;

- Description of basic function and operation of any nominated building systems building users come in direct contact with;
- List of relevant contacts for maintenance information, operational issues, complaints or other feedback (e.g. relevant facilities management contact details and/or online request/feedback form);
- Description of alternative transport initiatives promoted within premises (such as bicycle facilities, end of trip facilities, carpooling or car-share), location of a transport plan (if available),
- Local public transport information, maps and timetables;
- Description of the operational waste requirements for the building users, including what waste streams can or cannot be collected for recycling at the premises.
- Information on how to maximise the efficiency potential offered by base building services and nominated systems;
- Information on how to best maximise day lighting, sights and views.; and
- Information on green make-good requirements for tenants at end-of-life (if available).

Nominated Building Systems

For the purpose of the scope addressed by this credit, examples of nominated building systems could include, but are not limited to:

- Mechanical systems (such as HVAC and refrigeration systems; mechanically operable systems such as blinds and actuated shading devices);
- Building Management and Control System (BMCS);
- Lighting controls;
- Electrical systems (such as electrical generation, electrical supply, distribution systems, security and alarm systems);
- Hydraulic systems (such as gas and water supply distribution systems, sewage collection and distribution systems, stormwater collection and distribution systems; pumps);
- Fire protection systems, including pumps and other equipment;
- Lifts and any other vertical transport devices; and
- Any other system that have an impact on the energy or water consumption of the building as identified by building owner or building operator.
- Building envelope, such as facades, roofs and glazing

SMART criteria

SMART is a mnemonic acronym popular in many fields including project management and performance management. The 'S' and the 'M' usually stand for 'specific' and 'measurable'. The other letters take on different meanings depending on the author. One reading is:

- Specific – target a specific attribute or area of performance
- Measurable – ensure that the attribute is measurable and able to be tracked
- Assignable – specify who will achieve the goal
- Realistic – goals set to be realistic, based on an understanding of the attribute

- Time-related – goal is to be measured, tracked and achieved within a given time frame.

References and standards noted in this credit

Operations & Maintenance Best Practices: *A Guide to Achieving Operational Efficiency*, August 2010, US Department of Energy

Whole Building Design Guide: *Comprehensive Facility Operation & Maintenance Manual*, National Institute of Building Sciences

CIBSE Guide M: *Maintenance Engineering and Management*, 2008, Chartered Institution of Building Services Engineers

CIBSE TM31: Building Log Book Toolkit, 2006, Chartered Institution of Building Services Engineers

ASHRAE Guideline 4-2008: *Preparation of Operating and Maintenance Documentation for Building Systems*, 2008, American Society of Heating, Refrigeration and Air-conditioning Engineers

The Carbon Trust Good Practice Guide 348: *Better information for better buildings*, The Carbon Trust.

Documentation Requirements

Design Review' Submission (Optional)

Project teams are to submit the documentation marked with an asterisk* for 'Design Review'

As Built Submission

All projects are to submit the following documentation

1. Building Operations and Maintenance Information

To target this credit criteria project teams must provide:

<u>Submission Template*</u>

- Confirmation that O&M information in line with Compliance Requirement 1.2 Operations and Maintenance Information has been delivered to the building owner (or for design review, will be delivered by practical completion of the project*) for all Nominated Building Systems noted in Compliance Requirement 1.1.
- Confirmation that a building log book in line with Compliance Requirement 1.3 has been provided to the building owner (or for design review, will be delivered by practical completion of the project*).

<u>Supporting Documentation:</u>

- A **Building Log Book** in line with Compliance Requirement 1.3.

2. Building User Information

To target this credit criteria project teams must provide:

<u>*Submission Template</u>

- * Confirming that Building User Information has been deliver for the building and is available to all users (or for design review, will be delivered by practical completion of the project)..
- * Confirming that the format and delivery of Building User Information is in line with Compliance Requirement 2.1.
- * Confirming that the content of the Building User Information is in line with Compliance Requirement 2.2.

<u>Supporting Documentation</u>

- **Building User Information** and (if required) supporting user documents or other supporting information demonstrating that Building User Information initiatives have been installed, are accessible to all users, and whose format and content are in line with Compliance Requirements 2.1 and 2.2. Note, this information may be presented through a combination of as screen shots, print outs, or links to online information accessible to GBCA certified assessors.
- Confirmation from the building owner that building user information has been installed and is operational.

Please provide feedback on the technical content of this credit: