# 03 Verification and Handover

**Responsible**

## Submission information

Provide the following information for the submission

|  |  |  |
| --- | --- | --- |
| **Submission type** | Choose an item. | |
| **Performance level targeted** | Minimum Expectation | |
|  | Credit Achievement |
| **Points Targeted** | Click or tap here to enter text. |

#### Technical Questions

|  |  |
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| There are project-specific technical questions for this credit and all responses received from the NZGBC are included in the submission. | Choose an item. |

## Discussion

Narratives will help the Assessors understand how the project complies with the credit. Please include a narrative below, but note that simply listing the credit requirements is not helpful. Instead, outline any other issues that need to be considered by the Assessment Panel.

Click or tap here to enter text.

## Changes between Rounds

If applicable, please use the text box below to explain any changes between Round 1 and Round 2. This is an opportunity for the GSAP to describe how they have addressed the Assessors comments in Round 2.

Click or tap here to enter text.

## Submission template

### Minimum Expectations

#### Metering and Monitoring

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| **The building has accessible energy and water metering for all common uses, major uses, and major sources.** | Choose an item. |
| **The meters are connected to a monitoring system capable of capturing and processing the data produced by the meters.** |  |
| **Indicate where the following requirements are met (provide references to documentation):** | |
| * Provide continual information (up to 1-hour interval readings) |  |
| * Be commissioned and validated per the most current NABERSNZ protocol. |  |
| * Electrical meters, both utility and sub-meters, should comply with IEC62053-21 standards and conform to ≤ Class 1 classification. |  |
| * Gas Meters should comply with OIML R137 and conform to Class 1 requirements or NZS 5259:2015 and conform Class A requirements. |  |
| * Water Meters should follow the Water New Zealand Good Practice Guide in regard to accuracy. Water NZ requires meters to meet the OIML R49 Standards with a minimum turn down ratio of R160. |  |
| * Where the building’s Gross Floor Area (excluding car parking areas) is smaller than 1000m2, unless specialist equipment with a power consumption greater than 100kw is present in the building, a single meter for energy and a single meter for water will comply with this minimum requirement. If accessible to the building manager, the utility meter is acceptable provided it meets accuracy and data collection requirements above. If applicable, process loads and PV systems should be metered separately. |  |
| **The monitoring system accurately and clearly presents the metered data and includes reports on consumption trends for the automatic monitoring system.** |  |
| **The monitoring strategy is developed in accordance with a recognised Standard, such as CIBSE TM39 Building Energy Metering.** |  |
| **Outline the requirements met through the monitoring system:** | |
| * The monitoring strategy includes a metering schedule and identifies the location and types of meters. |  |
| * The monitoring system raises an alarm when the energy or water use increases beyond certain parameters and automatically issue an instant alert to the facilities manager. The process to assess, correct and validate alerts or faults is detailed and contained in an accessible location. |  |
| * The monitoring system is commissioned to generate at a minimum annual and monthly reporting of building and meter energy data. |  |
| **The project team has demonstrated the reporting and alarm functionality has been designed, installed, commissioned, and tested at practical completion.** |  |

#### Supporting documentation

Identify where evidence supporting the information provided can be found in the documentation.

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| --- | --- | --- |
| Document name | Document description | Page number(s) |
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#### Commissioning and Tuning

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| **Environmental performance targets were set and documented for the project at design.** |  |
| **Indicate where the following requirements have been outlined in the environmental performance targets (provide references to documentation):** | |
| * The targets for the project energy and water consumption for each individual nominated building system | Click or tap here to enter text. |
| * Metering diagrams for energy and water | Click or tap here to enter text. |
| * Operational monitoring expectations of energy, water, and indoor environment quality | Click or tap here to enter text. |
| * Descriptions of the functions, intended operation, and maintenance requirements of individual nominated building systems | Click or tap here to enter text. |
| * Airtightness targets | Click or tap here to enter text. |
| **A service and maintainability review of the building was conducted before construction.** |  |
| **Outline who was included in the review and a summary of the outcomes provided in the Services and Maintainability Report.**  Click or tap here to enter text. | |
| **Indicate where the following requirements have been addressed in the review (provide references to documentation):** | |
| * Commissionability | Click or tap here to enter text. |
| * Controllability | Click or tap here to enter text. |
| * Maintainability | Click or tap here to enter text. |
| * Operability | Click or tap here to enter text. |
| * Safety of all systems | Click or tap here to enter text. |
| **All building systems were commissioned during construction and before practical completion to a recognised commissioning standard.** |  |
| **A commissioning plan has been developed prior to practical completion.** |  |
| **Provide the commissioning specification included in the construction documentation listing requirements for each system.** | Click or tap here to enter text. |
| **Outline how airtightness was included as part of the commissioning process during the relevant stages.**  Click or tap here to enter text. | |
| **The owner or developer has contractually committed to a tuning process that includes quarterly adjustments and measurements for at least the first 12 months after occupation.** | Choose an item. |
| **Indicate where the following requirements have been included in the commitment (provide references to documentation):** | |
| * A building tuning manual or plan | Click or tap here to enter text. |
| * A description of the building tuning team | Click or tap here to enter text. |
| * Confirmation the owner has engaged parties to tune the nominated systems | Click or tap here to enter text. |

#### Supporting documentation

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#### Building Information

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| The project team has provided operations and maintenance information for all nominated building systems to the building owner (or designated representative). |  |
| **Indicate where the following requirements have been met in the operations and maintenance information (provide references to documentation):** | |
| * Appropriate content for all nominated building systems has been developed and provided. | Click or tap here to enter text. |
| * The appropriate user group has access to the information they require to deliver best practice environmental outcomes. | Click or tap here to enter text. |
| * Guidance on keeping information up to date is provided to the facilities management team in these documents. | Click or tap here to enter text. |
| **The project team has developed a building logbook to present to the building owner before practical completion of the project.** | Click or tap here to enter text. |
| **Outline where the following requirements are met by the building logbook (provide references to documentation):** | |
| * Be developed in line with CIBSE TM31: Building Logbook Toolkit. | Click or tap here to enter text. |
| * Cover all nominated building systems. | Click or tap here to enter text. |
| * Include links or references to all relevant operations and maintenance information. | Click or tap here to enter text. |
| **Building user information can be updated and edited by the facilities management team, or other appropriate stakeholder groups.** |  |
| **All building user information is available to the building owner and facilities management team at the time of practical completion.** |  |

#### Supporting documentation

Identify where evidence supporting the information provided can be found in the documentation.

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### Credit Achievement

#### Soft Landings Approach

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| **The soft landings approach as described in the 'The Soft Landings Framework Australia and New Zealand' has been adopted.** |  |
| **Provided the completed worksheets from the Soft Landings Framework for Stage 1 to 3.** |  |
| **Outline the actions that will be taken for Stage 4.**  Click or tap here to enter text. | |
| **Where Stage 5 has also been adopted, outline the steps that will be taken.**  Click or tap here to enter text. | |
| **Indicate where the following requirements have been met by the facilities management team (provide references to documentation):** | |
| * Be involved in the commissioning and handover process | Click or tap here to enter text. |
| * Take part in the development of a technical guide for the building and the building operations and maintenance manual | Click or tap here to enter text. |
| * Sign-off on the operations and maintenance manual | Click or tap here to enter text. |
| * Be trained before handover | Click or tap here to enter text. |
| **Outline how the facilities management team will have continued access to critical design and construction team members for two years after practical completion.**  Click or tap here to enter text. | |

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#### Independent Commissioning Agent

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| **An ICA is appointed to advise, monitor, and verify the commissioning and tuning of the nominated building systems throughout the design, tender, construction, commissioning, and tuning phases.** |  |
| **The specified commissioning requirements are overseen by a qualified independent commissioning professional(s).** | Click or tap here to enter text. |

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## Declaration

Provide the following details as confirmation that the information provided in this document is truthful and accurate at the time of completion.

|  |  |
| --- | --- |
| **Name** | Click or tap here to enter text. |
| **Position** | Click or tap here to enter text. |
| **Email** | Click or tap here to enter text. |
| **Date** | Click or tap to enter a date. |