

The Support Scheme for Renewable Heat

Completion Report - Guidance (Grant scheme)

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Introduction

This document provides guidance to Design Engineers on the level of detail that SEAI expect to see in Completion Reports that accompany the Declaration of Completion.

The guidance outlines the minimum necessary to satisfy the requirements of the Scheme. In some cases, additional guidance is provided that reduces risk to applicant. The guidance is not intended as an exhaustive list necessary to comply with building regulations and statutory obligations.

The Completion Report is required when the approved project is installed. The Report forms part of the Declaration of Completion which is a prerequisite to the SEAI Project Governance and Inspection Stage.

Further information is available in the [Grant Scheme Operating Rules and Guidelines \(GSORG\)](#) on SEAI website. There is an accompanying guide and a sample design report also available on the website.

The Completion Report

After the eligible installation is commissioned, and prior to an inspection by SEAI, the Design Engineer will produce a Completion Report in support of the [Declaration of Completion](#). The Design Engineer will review the completed installation in line with the Design Report submitted at the application stage. If required, the Design Engineer will ensure that they review any project installation stages necessary to produce the final Completion Report and Declaration of Completion.

In preparing the Completion Report, the Design Engineer may rely on the professional opinion of others, having performed any necessary due diligence and satisfied themselves as to the accuracy of the basis of the opinion offered. If such an approach is adopted, the Design Engineer will explain why they feel that others are better placed to offer such opinion.

1. Description of site

The Completion Report will include photos of the completed boiler room, fuel store and all major components of the eligible installation.

Any issues not clarified in the Design Report must be clarified as part of the Completion Report.

The Completion Report will comment on any instances where the as-built project varies from that proposed in the Design Report.

Where there are variations from the Design Report, the Design Engineer will comment on whether these are material and if so, how they impact on the design and if necessary, what corrective action is required to ensure that the heating system is fit for purpose.

2. As-built Drawings

Each drawing must include the following:

- Title of drawing | SSRH application number | Date and version identifier
- Name of the company or individual who produced the drawing

As-built drawings may be produced by the installation company, Design Engineer, or another party. The Completion Report will confirm that they were reviewed by the Design Engineer.

A drawing(s) showing any variations in the design to those submitted in the Design Report as well as the following as-built drawings of the eligible installation should be included in the Completion Report:

- A plan, elevation and at least one cross section of the renewable heat installation, indicating which elements (if any) were existing and which are new.
- A hydronic schematic and P&ID of the completed heating system that should, at a minimum, include:
 - The main header(s) of the heating system
 - Any circuits off the header(s) and a description as to what they heat

- Any buffer tanks or thermal stores;
- Any heat exchangers installed between the eligible installation and the existing heating system;
- Actual points of connection between the new and existing elements
- The following information in respect of heat meter(s),

Evidence of suitable heat metering is critical. The completion report will address the correct installation and full functionality of the Heat Meters, sealing them afterwards against unauthorized openings and detail the specification and certification of all heat meters. It is important to address all critical metering parameters as outlined in the design report (repeated below).

Photographs must be provided of each heat meter clearly showing the meter reading, serial number, and tamper evident tags including tag number (for meter and temperature probes). The heat meter number as identified in the schematic and as used in the calculation of the eligible heat should also be shown (e.g., HM1, HM2.... etc.).

Factors to be addressed	Additional Guidance
<ul style="list-style-type: none"> • <i>Selection</i> 	<p>How heat meters have been selected, determining the upper and lower flow limits as well as the main operation range for the flow sensor, as required by operating conditions. Selection of a suitable flow sensor.</p> <p>Determining suitable temperature sensors for the temperature range of the thermal conveying medium and for the pressure conditions that occur at the measuring point. Ensuring the maximum cable lengths on the wired temperature sensors is not exceeded.</p> <p>Determining a suitable calculator for the nominal operating and ambient conditions that exist at the measuring point.</p> <p>At commissioning: Regular readings and checks shall be performed when evaluating the performance of the heating system to detect any deviations from calculated operating conditions and to verify all meter displays (and available communication lines where relevant) determining the proper operating conditions.</p>
<ul style="list-style-type: none"> • <i>Location of heat meters and sensors</i> 	<p>All structural design options shall be used to achieve straight inlet pipes of sufficient length.</p> <p>Complying with manufacturer's guidelines in relation to any factors such as the minimum inlet and outlet pipe lengths. Design should address any interference sources with the measurement signal lines.</p> <p>Location and type of all remote temperature sensors should include end to end cable routes, method of sensor fixing and retention. (this information can be provided in the schematic as explained in section A3)</p> <p>Consideration of the locations must be taken into account in areas with extreme temperature or humidity conditions for both the calculator and flow sensors.</p>

	At commissioning: Confirmation of the suitable arrangement for flow sensors and the rest of the components of the heat meter.
<ul style="list-style-type: none"> • <i>Environmental conditions</i> 	<p>Environmental considerations where heat meters may be exposed to chemical, corrosive environments, locations with vibrations, wash-down spray, direct sunlight, or outdoor weather (temperature and humidity), must be taken into account. The design should include details of any necessary protection for the meters or sensors (e.g., splash protection, knock protection, etc).</p> <p>At commissioning: Confirmation, where required, that Meter is protected against damage.</p>
<ul style="list-style-type: none"> • <i>Integrity of metering (tamper evidence)</i> 	Integrity of the metering design should address prevention of the inadvertent removal or omission of a sensor (tamper evidence) and detection of sensor failure or any failure in the metering arrangement.
<ul style="list-style-type: none"> • <i>Calibration</i> 	Calibration should describe the initial calibration requirements (if any), recommended time interval to next calibration and any required design features to enable maintenance, replacement, or calibration.
<ul style="list-style-type: none"> • <i>Maintenance and servicing of all components</i> 	<p>Maintenance and servicing should include details of how heat meters will be replaced in service. This process can be greatly simplified and accelerated by the provision of isolation valves on installation of the meter, at either end of the flowmeter component.</p> <p>At commissioning: Confirmation that the circuit has been flushed before commissioning and that there are no leaks in the pipes.</p>
<ul style="list-style-type: none"> • <i>In case multiple meters are present</i> 	Where multiple meters are included, describe the method to calculate eligible heat including a formula for addition of all eligible heat and subtraction of ineligible heat meters, e.g., $HM1 + HM2 - HM3 = HM_{eligible}$.
<ul style="list-style-type: none"> • <i>Aeration and desludging</i> 	Confirmation that aeration and de-sludging has been incorporated into the design as appropriate, indicating where a filter or a de-aerator has been incorporated to the design

3. Review of Handover Pack provided by the Installer

The Design Engineer will review information provided by the Installer. They will confirm if they consider this is satisfactory.

Additional Guidance

Information provided by the installer may include, but is not limited to:

- reports
- a handover pack,
- Commissioning sheets, dated and signed, showing the design and actual temperatures, pressures and flow rates achieved during testing and commissioning

4. Building Regulations

-Required clarification

The Completion Report should clarify that the Design Engineer has contacted the Building Control Section of the local authority to clarify whether the BCAR is relevant or not. If a response was received from the Local Authority, this should be attached. If not the communication to the local authority should be included.

- Required BCAR

For any installation which is subject to BCAR, a Certificate of Completion signed by the Builder and the Assigned Certifier.

-Did not require BCAR

For any non BCAR installation, confirmation that the final design (plant, structure, access etc..) is compliant with relevant building regulations, that any measures detailed in the Design Report were completed as instructed. If additional measures were identified after the Design Report was issued, that these additional measures have been completed too.

5. Planning permission

The Completion Report must confirm that the buildings or business operation being heated is compliant with planning regulations.

Where the Design Report identified the project as one which may require planning permission, the completion report should clarify if the applicant or the Design Engineer contacted the Local Authority to clarify if Planning Permission was required or exemptions were applicable. The response from the Local Authority should be attached.

- Required planning permission

List each building, structure indicating the planning permission references and attaching a copy of the grant of planning permission to the Completion Report, together with declaration that the eligible installation was constructed in accordance with the planning permission(s) and relevant conditions. Any material changes e.g. change of use, change of fuel type should be addressed in the planning permission. (e.g., change of use, change of fuel type).

- Did not require planning permission

Confirmation that the as-built project meets the planning requirements. Where this is based on existing planning permission, the planning reference number should be provided along with a copy of the planning permission. Where this is based on planning exemptions, the specific exemptions should be identified. If the development is deemed exempt, a section 5 Declaration from the Local Planning Authority may be required. In all cases, it must be confirmed that the buildings or business operation being heated is compliant with planning regulations.

6. Fire Safety Certificate

A copy of the fire safety certificate for the installation (if one was required) will be included in the Completion Report, together with evidence that the Local Fire Officer has been informed of the existence of the installation if appropriate.

7. Health and Safety

As part of the completion process, the Design Engineer will sign a Declaration of completion in accordance with relevant Health and Safety Regulations, see template below in section 9.

In addition, confirmation must be provided of:

- A design risk assessment identifying any hazards that the design may present during construction and subsequent maintenance
- the name and contact details of the PSDP and PSCS as appointed,
- the duties of the PSDP and PSCS have been fulfilled
- all information necessary for the compilation of the Safety File having been handed to the Applicant.
- users of the eligible installation have received relevant Health and Safety training

8. Environmental Licencing

The Completion Report will confirm that EPA licencing requirements have been assessed, together with any top-up or back-up heating systems. If an EPA licence is required, an opinion is to be provided as to whether the as-built installation complies with the EPA licence. Licence details are to be provided.

If the site does not require an EPA licence, the Completion Report will advise on the basis of this assessment.

9. Completion Declaration by Design Engineer

The Completion report will include confirmation stating:

- a) The name of the applicant
- b) The SSRH application number
- c) The buildings/process that the eligible installation is heating
- d) Where there are variations from the Design Report, the Design Engineer will comment on whether these are material and if so, how they impact on the design and if necessary, what corrective action is required to ensure that the heating system is fit for purpose.
- e) Confirmation that the final installation is fit for purpose and delivers the required heat service.
- f) Confirmation the Design Engineer has explained the Completion Report and their implications to the applicant.
- g) Confirmation of compliance with the GSORG.

The Design Engineer, acting as the Competent Person must confirm that the project as-built meets all regulatory requirements including:

- Building Regulations
- Planning Permission (including change of use)
- Environmental Licencing
- H&S Legislation and
- Manufacturer's Instructions

Declaration of completion by the Design Engineer (template)

I, (Name of the Design Engineer) acting as the Competent Person, on behalf of (Name of Applicant) on the project known as (Project Title and SSRH number) confirm that the project, as-built including all aspects of the Eligible Installation meets all regulatory requirements including:

- Relevant Building Regulations
- Relevant Planning Permissions (including change of use)
- Relevant Environmental Licencing
- H&S Legislation and
- Manufacturer's Instructions

In my capacity as Design Engineer, I can confirm:

- in my professional opinion the eligible installation described in the completion report is built according to the design report and that any scope changes have been notified in writing to the SEAI SSRH assessment team and accepted by SEAI.
- The installation has been completed satisfactorily and all installation documentation is in order
- the final installation is fit for purpose and delivers the required heat service.
- And all aspects of the project are carried out in compliance with the GSORG.

I have explained to the applicant the impact of all the items listed as requirements of the Completion Report and their implications for the applicant and for the project as addressed in the Completion Report.

Signed _____ Date _____

I, (Name of applicant), confirm that the Design Engineer has explained to me the impact of all the items listed as requirements of the Completion Report and their implications for the applicant and for the project as addressed in the Completion Report."

Signed _____ Date _____