Heat Network Technical Assurance Scheme

New Build Heat Networks

Assessment Procedures

Energy Centre

Phase 4: Operation

HNTAS-NB-AP-EC-P4

Version History

Revision	Notes	Date
V0.4	Draft issue	05/12/25

Disclaimer

The following HNTAS Code document is published in draft format. This document is intended to give the sector early sight of HNTAS requirements in their current stage of development for the purpose of facilitating sector understanding of the scheme.

Draft Code documents, including Technical Specifications and Assessment Procedures, have been reviewed and consulted on through a series of technical workshops with participation from a range of experts from across the heat network industry. The content of this document is still in development and subject to change. Requirements should not be considered as fixed at this stage.

Changes which may be made to this document in future include those to:

- reflect learnings from the New Build and Existing network pilot programmes;
- align with aspects of HNTAS which are subject to public policy consultation;
- align with new requirements in TS1 and MMS;
- align the terminology of this document with that used in other HNTAS documentation;
- rectify errors in this draft version; and
- improve clarity of contents.

The Key Failures set out in the draft Code documents have been identified as a specific area for review, to ensure that:

- all Key Failures enable a binary assessment;
- Key Failures are only included for genuine issues presenting major risks to KPIs, and that moderate or lower risks are considered via non-conformity processes; and
- Key Failures do not duplicate Technical Requirements unless there is a clear justification to do so.

DESNZ will be welcoming feedback on the information in this document via a change management process. This process will run in parallel to the HNTAS policy consultation and DESNZ invites stakeholders to engage with both, once they are open. You can sign up to receive updates on future detailed draft technical documents as they are published by contacting: heatnetworks@energysecurity.gov.uk.

Please be advised that this document references other HNTAS draft Code documents which have not yet been published. References to other documents will also be subject to change following the publication of updated standards. The final version of this document will be released before the launch of HNTAS.

Note on Phase 4: Operation (initial) and Phase 5: Operation (ongoing)

The New Build Technical Specification and Assessment Procedures Overview (Phase 0) documents indicate that there are separate New Build Code Documents for Phase 4: Operation (initial) and Phase 5: Operation (ongoing).

These documents have since been consolidated to reduce the number of Code Documents, so the Phase 4: Operation documents cover requirements for New Build networks during both initial and ongoing operation.

This change does not impact the assessment of New Build networks in operation, which still occurs:

- after 1 year of operation; and
- after 2 years of operation.

Contents

Foreword

These Assessment Procedures form part of the UK Government's Heat Network Technical Assurance Scheme (HNTAS, The Scheme) delivered by the Department for Energy Security and Net Zero, in partnership with the Scottish Government and Ofgem. The Department for Energy Security and Net Zero appointed FairHeat as technical author for this document.

The Scheme has been designed and developed in consultation with a range of experts across the heat network industry in the form of Technical Sub-Working Groups, culminating in a series of Technical Specifications and Assessment Procedures to facilitate the validation and verification of performance outcomes of Elements within a Heat Network.

This document contains the Assessment Procedures for an Energy Centre Element and is applicable to the following Heat Networks:

- A New Build Heat Network in Phase 4: Operation
- An Existing Heat Network between Milestone 4 and Milestone 5

This document sits within a series of Assessment Procedures for an Energy Centre as outlined in Table 1 and Table 2 below.

This Assessment Procedure has been issued in draft format and will be updated prior to scheme launch.

For further information on the use of this document within the Heat Network Technical Assurance Scheme, please refer to:

- the Heat Network Technical Assurance Scheme – New Build Heat Networks – Scheme Rules - Assessment Regime (HNTAS-NB-SR-XX-AS) document; or
- the Heat Network Technical Assurance Scheme – Existing Heat Networks – Scheme Rules – Assessment Regime (HNTAS-EX-SR-XX-AS) document,

depending on the applicable Regime for the Heat Network.

Authors

Lucy Sherburn (FairHeat)

Jake Adamson (FairHeat)

Gareth Jones (FairHeat)

Joseph Shanley (FairHeat)

Tom Burton (FairHeat)

Technical Sub-Working Group Members

Beata Blachut (SAV)

Ghassan Beldawi (L&Q)

Tom Brennan (AECOM)

Bruce Geldard (Metropolitan)

Thanos Gkouletsos (Switch2)

Ewan Jures (WSP)

Geoff Miller (SSE)

Pete Mills (Bosch/MEHNA)

Soulla Paphitis (Danfoss)

Gavin Poyntz (Ramboll)

Ricky Stevens (Orchard Plumbing)

Dan Staunton (FairHeat)

Ewelina Szura (Anthesis)

Dave Turner (Camden Council)

Ruben Vos (Vattenfall)

Peter Russett (FVB)

David Wilkinson (Vital Energi)

Christopher O'Keeffe (Thermamech)

Code Document Structure

Assessment Procedures

Document Type	Element		Part/Phase				
			Overview	Phase 1: Feasibility	Phase 2: Design	Phase 3: Construction	Phase 4: Operation
			P0	P1	P2	P3	P4
Assessment Procedures	Energy Centre	EC	HNTAS-NB-AP-EC-P0	HNTAS-NB-AP-EC-P1	HNTAS-NB-AP-EC-P2	HNTAS-NB-AP-EC-P3	HNTAS-NB-AP-EC-P4
	District Distribution Network	DD	HNTAS-NB-AP-DD-P0	HNTAS-NB-AP-DD-P1	HNTAS-NB-AP-DD-P2	HNTAS-NB-AP-DD-P3	HNTAS-NB-AP-DD-P4
	Substation	SS	HNTAS-NB-AP-SS-P0	HNTAS-NB-AP-SS-P1	HNTAS-NB-AP-SS-P2	HNTAS-NB-AP-SS-P3	HNTAS-NB-AP-SS-P4
	Communal Distribution Network	CD	HNTAS-NB-AP-CD-P0	HNTAS-NB-AP-CD-P1	HNTAS-NB-AP-CD-P2	HNTAS-NB-AP-CD-P3	HNTAS-NB-AP-CD-P4
	Consumer Connection	CC	HNTAS-NB-AP-CC-P0	HNTAS-NB-AP-CC-P1	HNTAS-NB-AP-CC-P2	HNTAS-NB-AP-CC-P3	HNTAS-NB-AP-CC-P4
	Consumer Heat System	CH	HNTAS-NB-AP-CH-P0	HNTAS-NB-AP-CH-P1	HNTAS-NB-AP-CH-P2	HNTAS-NB-AP-CH-P3	N/A

Table 1: New Build Network Assessment Procedures structure

Document Type	Element		Milestone					
			Overview	Milestone 2	Milestone 3a	Milestone 3b	Milestone 4	Milestone 5
			M0	M2	M3A	M3B	M4	
Assessment Procedures	Energy Centre	EC	HNTAS-EX-AP-XX-M0	HNTAS-EX-AP-EC-M2	HNTAS-EX-AP-XX-M3A	N/A	HNTAS-EX-AP-EC-M4	HNTAS-NB-AP-EC-P4
	District Distribution Network	DD		HNTAS-EX-AP-DD-M2		N/A	HNTAS-EX-AP-DD-M4	HNTAS-NB-AP-DD-P4
	Substation	SS		HNTAS-EX-AP-SS-M2		N/A	HNTAS-EX-AP-SS-M4	HNTAS-NB-AP-SS-P4
	Communal Distribution Network	CD		HNTAS-EX-AP-CD-M2		N/A	HNTAS-EX-AP-CD-M4	HNTAS-NB-AP-CD-P4
	Consumer Connection	CC		HNTAS-EX-AP-CC-M2		HNTAS-EX-AP-CC-M3B	HNTAS-EX-AP-CC-M4	HNTAS-NB-AP-CC-P4

Table 2: Existing Network Assessment Procedures structure

Scope

This document specifies Assessment Procedures applicable for an Energy Centre within:

- A New Build Heat Network in Phase 4: Operation
- An Existing Heat Network between Milestone 4 and Milestone 5

The application of this document in each of these scenarios is detailed below.

An Energy Centre is defined as a plant room that contains heat generation equipment; and/or equipment connecting to an energy source; or a Substation which contains heat generation equipment (e.g. building connection with heat pumps or top-up boilers).

A detailed definition of the Energy Centre is contained within the Heat Network Technical Assurance Scheme – New Build Heat Networks - Technical Specification – Energy Centre – Overview (HNTAS-NB-TS-EC-P0) document and the Heat Network Technical Assurance Scheme – Existing Heat Networks – Technical Specification – Overview (HNTAS-EX-TS-XX-M0) document.

New Build Heat Networks

Following the award of Certificate 1 after Stage 6: Commissioning, an Energy Centre in a New Build Heat Network must undergo assessment in Stage 7:

- after 1 year of operation; and
- after 2 years of operation.

There is one stage within Phase 4, which is Stage 7: Operation and Maintenance. This is outlined in Figure 1.

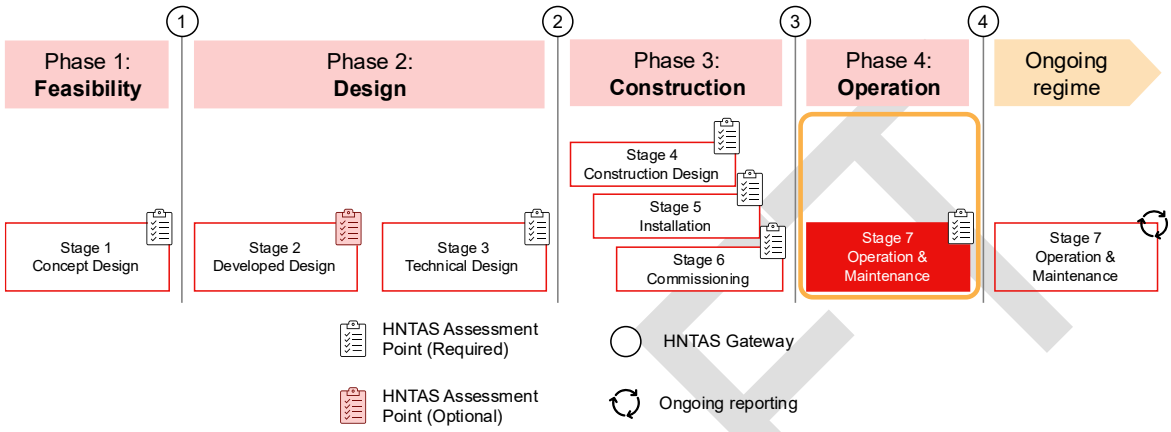

Figure 1: HNTAS New Build regime phases and stages

Existing Heat Networks

Following the successful assessment of an Energy Centre in an Existing Heat Network at Milestone 4, an Energy Centre must undergo assessment:

- at the Milestone 5 assessment point; and
- after 1 year of operation following the Milestone 4 assessment, only if the Milestone 5 assessment has not been undertaken by that point.

References

Normative references

The following documents are referred to in the text in such a way that some or all of their content constitutes requirements of this document. For dated references, only the edition cited applies. For undated references, the latest edition of the referenced document (including any amendments) applies.

- Heat Network Technical Assurance Scheme – New Build Heat Networks – Scheme Rules – Assessment Regime (HNTAS-NB-SR-XX-AS)
- Heat Network Technical Assurance Scheme – Existing Heat Networks – Scheme Rules – Assessment Regime (HNTAS-EX-SR-XX-AS)
- Heat Network Technical Assurance Scheme – New Build Heat Networks – Assessment Procedures – Energy Centre – Overview (HNTAS-NB-AP-EC-P0)
- Heat Network Technical Assurance Scheme – Existing Heat Networks – Assessment Procedures – Overview (HNTAS-EX-AP-XX-M0)

Informative references

The following informative references apply to this document. For dated references, only the edition cited applies. For undated references, the latest edition of the referenced document (including any amendments) applies.

- ISO 17029: Conformity Assessment — General principles and requirements for validation and verification bodies (ISO, 2019)

Terms and Definitions

For the purposes of this document, the terms and definitions given in the Heat Network Technical Assurance Scheme – Terms and Definitions (HNTAS-XX-TD) document apply.

7. Assessment Procedures for Stage 7: Operation and Maintenance

7.1. Assessment of Technical Requirements

For each HNTAS Technical Requirement, the Assessor shall follow the Assessment Procedures and minimum Level of Assessment specified in Table 3.

Technical Requirement	Minimum Level of Assessment	Assessment Procedure
7.1.1.	4	Review the O&M Manual to confirm the expected documentation is present. Undertake a review of a sample number of items to ensure updated documentation has been included.
7.1.2.	3	Review the PPM Schedule to ensure that expected items are present, any updates based on previous year of operation have been made, and that maintenance is scheduled to minimise disruption.
7.1.3.	4	Undertake a sample check that updates to the as-built Energy Centre drawings (or other documentation) have been made where necessary.
7.1.4.	3	Review the Document Storage System Statement to ensure that heat network documentation is being stored in a manner that facilitates the easy access of information for personnel carrying out operation and maintenance activities on the Energy Centre.
7.1.5.	4	Undertake a sample check of the Maintenance and Remedial Action Log to ensure maintenance has been carried out in line with the requirement for sampled items. Sample to include a specific check that valves have been exercised and recorded within the Maintenance and Remedial Action Log.
7.1.6.	3	Check photographic evidence of insulation condition to ensure it appears visually in accordance with the HNTAS requirement.
7.1.7.	4	Undertake a check for a sample number of Operatives to ensure they have received specific training related to the activity being undertaken or previously undertaken.
7.1.8.	4	Undertake a check for a sample number of Operatives and Specialists to ensure they have received an appropriate site induction.

Technical Requirement	Minimum Level of Assessment	Assessment Procedure
7.1.9.	4	Review the Operating Risk Register and undertake a sample check that updates to the O&M Manual and PPM Schedule have been made where necessary.
7.1.10.	4	Undertake a check to ensure that a Condition Audit and/or Condition Survey of equipment has been conducted as required by the applicable technical standard(s), and that the Condition Log has been updated to reflect findings. Check that remedial actions identified through the previous audit/survey have been completed and the Condition Log has been updated to reflect this.
7.1.11.	3	Check that, where appropriate, the destructive testing of pipework has been carried out.
7.1.12.	3	Check that a Condition Survey has been carried out prior to any change in Designated Operator and that the Condition Log has been updated to reflect findings.
7.1.13.	4	Check that a Resilience Strategy has been produced and includes all content as outlined within the Evidence Requirement. Check that the Resilience Strategy remains relevant to the network and has been reviewed and updated if: • an unplanned interruption has occurred that lasted longer than 12 hours; or • new risks have been identified within the Operational Risk Register.
7.1.14.	3	Review the PPM Schedule to ensure that expected activities to maintain the water quality of the heat network are present, any updates based on previous year of operation have been made, and that maintenance is scheduled to minimise disruption.
7.1.15.	4	Undertake a sample check for a number of water quality parameters to confirm they are within their required thresholds. Confirm that water quality KPIs are being reported at the required frequency. Undertake a sample check to confirm that water quality samples are being taken at the required number of locations and required frequency.

Technical Requirement	Minimum Level of Assessment	Assessment Procedure
7.1.16.	3	Check that the top-up water of Depleted Water systems meets the water quality parameter limits outlined.
7.1.17.	2	Check that water quality records are being kept.
7.1.18.	3	Where water quality parameters are found to be outside of their threshold, check that appropriate remedial actions have been taken.
7.1.19.	3	Check that sufficient circulation has been established where stagnant conditions have occurred.
7.1.20.	3	Check to confirm equipment disconnection where applicable.
7.1.21.	3	Review that a Water Quality Transition Approach has been produced in line with the applicable technical standard(s) where it is proposed to change between a Chemically Treated system and a Depleted Water system.
7.1.22.	3	Confirm that, where applicable, equipment has been replaced in line with: • the plant replacement strategy; and • the applicable technical standard(s); and • the Heat Network Technical Assurance Scheme – Ongoing Regime – Scheme Rules – Replacement Regime (HNTAS-ON-SR-XX-RR) document.
7.1.23.	4	Undertake a review of the Annual Inspection Report and undertake an on-site inspection of a sample number of items in the report to ensure that it is reflective of actual Asset condition and O&M practices. Confirm that the organisation undertaking the annual inspection meets the requirements outlined in the Technical Requirement.
7.1.24.	3	Confirm that the KPI Schedule has been updated where necessary.
7.1.25.	3	Confirm that the Technical Parameters Schedule has been updated where necessary.

Table 3: Assessment Procedures for Technical Requirements at Stage 7: Operation and Maintenance for the Energy Centre

7.2. Assessment of Performance Monitoring Requirements

For each HNTAS Performance Monitoring Requirement, the Assessor shall follow the Assessment Procedures and minimum Level of Assessment specified in Table 4.

Performance Monitoring Requirement	Minimum level of assessment	Assessment Procedure
7.2.1.	3	Review that the Metering and Monitoring Strategy is in accordance with the applicable technical standard(s) and that it is up to date and reflective of the Heat Network.
7.2.2.	4	Check that Thermal Energy Meter Records are kept which include all detail as listed within the Evidence Requirement. Conduct a sample check that, where required, thermal energy meters within the Energy Centre: • have undergone a successful sampling and testing procedure; • have been recalibrated; or • have been replaced.
7.2.3.	2	Confirm that KPIs are being reported at the required frequency.
7.2.4.	3	Check that KPIs are within required thresholds for the reporting period and that where this is not the case, a note justifying this discrepancy has been uploaded to HNTAS. Check that, where a KPI has been outside of its required threshold for 3 consecutive reporting intervals, that a KPI Remediation Report has been uploaded to HNTAS. Where applicable, carry out an in-depth review of the KPI Remediation Report to confirm that the remedial actions taken, or planned to be taken, will resolve the issue (Minimum Level of Assessment raises to 5 on this occurrence).

Table 4: Assessment Procedures for Performance Monitoring Requirements Stage 7: Operation and Maintenance for the Energy Centre