Managing Heat Networks During COVID-19

This is a Guidance Document for heat networks to help them prepare, manage and potentially act due to COVID-19 related issues. This guide may also be helpful for organisations managing heat networks outside the context of COVID-19 to promote operational best practice and to be prepared for emergency scenarios should they arise.

Version 1.3 March 2021

1 INTRODUCTION

1.1 CONTEXT

COVID-19 presents new, and in some case significant, risks to heat networks continuing to operate effectively. This guidance document offers some suggestions, ideas and approaches to work to ensure your network can manage these new challenges and in particular picks up what may be done for heat networks struggling as a result of COVID-19 related issues. The document also promotes operational best practice and ensures preparedness for emergency scenarios should they arise.

This document is primarily aimed at the owner / operators of mostly smaller – medium sized scale heat networks, independent of major energy suppliers and facilities management organisations selling heat to householders and vulnerable customers and strategic businesses. Examples may be small and medium sized ESCo's, housing associations, community groups and private estates. The need for guidance may arise due to limited access to technical resources or dependency on a small number of staff or an external contractor to manage their system. The exceptional circumstances around COVID-19 could mean that these key resources are unavailable due to illness, self-isolation, other priorities, or financial difficulties. In these circumstances, heat networks that are relied on by households, some of which may be vulnerable or self-isolating themselves, could be at risk of failing potentially (or may have already failed) leaving people without heat during cold winter weather. The people left cold may be ill, and/or they too may be cut off from key support resources like relatives' homes or public places where they could keep warm or access hot water to maintain personal hygiene. These heat networks could also be providing heat and hot water to important organisations such as health care providers, care homes and businesses supporting the pandemic response, which cannot afford to go without heat during winter.

The guidance document is intended to provide information and advice as to how to prepare for these new challenges and where to find support, if required. If problems are experienced, this document provides advice on short-term emergency measures that could be taken, as well as signposting routes to getting the system onto a more resilient and sustainable footing for the longer term.

This document outlines the creation of a new resource, the **Heat Network Exchange** that has been created by the industry in response to these new challenges. The Heat Network Exchange is a self-populating web based platform that will allow all suppliers to the heat network industry to profile their offer. This resource will therefore enable networks with challenges to potentially find a new solution. It also provides a platform for networks to profile current challenges and ask for the industry's help.

Furthermore, a group of pro-active companies from the industry are making themselves available to networks that have an imminent or actual failure that is presenting risk to life. It is important to note that this **Heat Network Emergency Responders** facility cannot be guaranteed and that it is a competitive and commercial solution that will require everyone to carry out their due diligence and it will be up to the operator to find longer term solutions. However, it is hoped that by following advice in this document, and by using the Heat

[Network Exchange](#) that owners / operators will be able to avoid the need to ask for such an emergency intervention.

1.2 SCOPE

This document has been prepared by and on behalf of the Energy Saving Trust along with WSP UK Ltd. and is intended to provide guidance to help heat network operators / owners to keep their networks running safely during short term challenges, particularly those associated with COVID-19. This document has been prepared based on the collective experience and knowledge of the contributors and using reasonable skill and care. However, no warranty is given as to the accuracy or completeness of any information provided and organisations should verify information and seek professional advice relevant to their specific system and circumstances. This document does not attempt to provide an instruction manual for design or operation of a heat network.

1.2.1 ACKNOWLEDGEMENTS

This document required the support and contribution of a range of heat network industry stakeholders and we would like to thank the following organisations for their contributions:

Association for Decentralised Energy (ADE)
Department for Business, Energy and Industrial Strategy (BEIS)
E.ON
ENGIE
Fuel Poverty Action
Heat Trust
Imtech
Northern Ireland Executive
Scottish Renewables
SSE
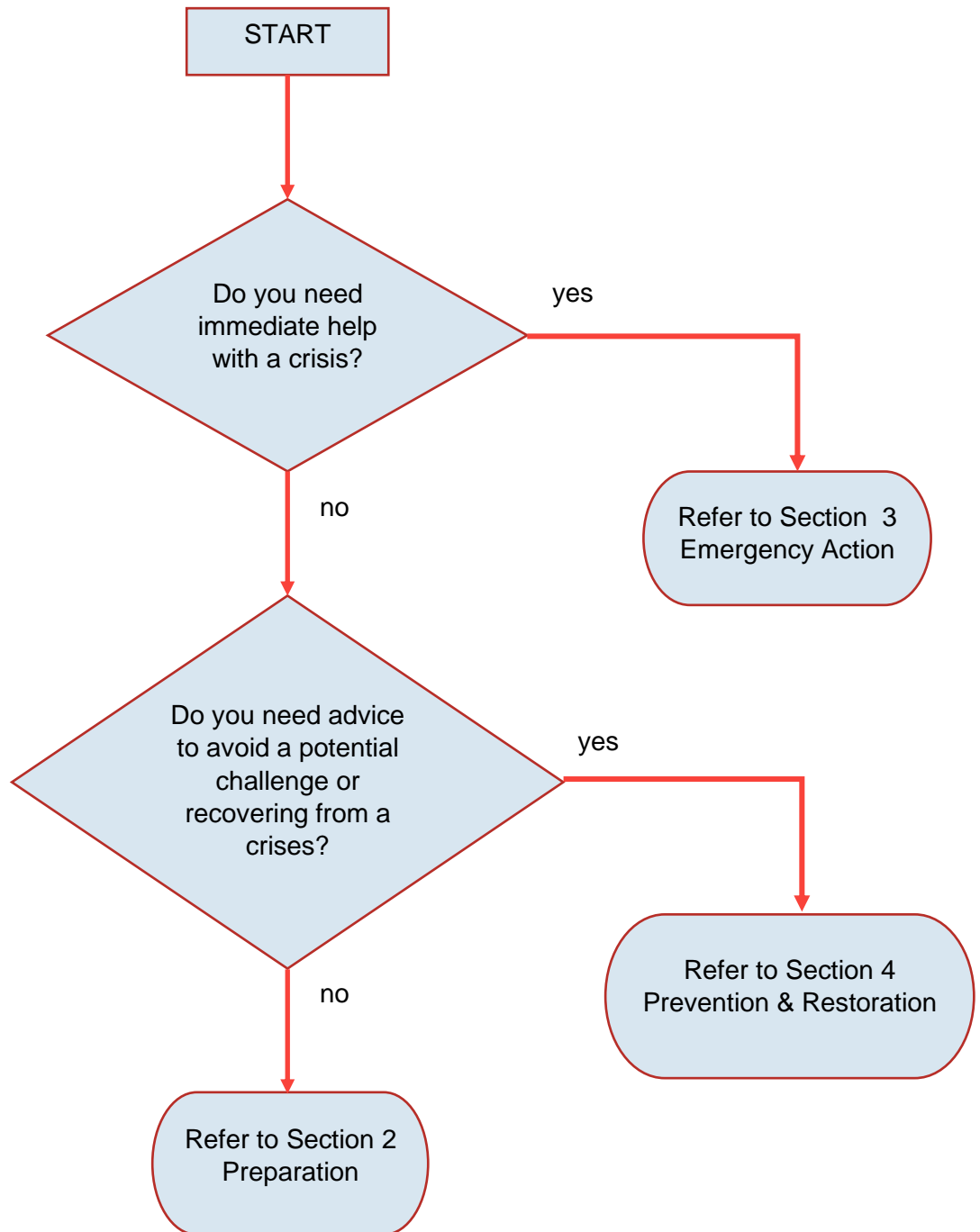Scottish Government
UK District Energy Association (UKDEA)
Veolia
Vital Energi
Welsh Government

1.3 HOW TO USE THIS DOCUMENT

There are three main sections to this document. The flow chart below illustrates how these may be used.

```
                    ┌──────────────┐
                    │    START     │
                    └──────┬───────┘
                           │
                           ▼
                      ◇ Do you need          yes      ╭──────────────────╮
                        immediate help   ─────────▶   │ Refer to Section 3│
                        with a crisis? ◇             │ Emergency Action  │
                           │                          ╰──────────────────╯
                           │ no
                           ▼
                      ◇ Do you need advice    yes      ╭──────────────────────╮
                        to avoid a potential ─────▶   │ Refer to Section 4     │
                        challenge or                   │ Prevention & Restoration│
                        recovering from a             ╰──────────────────────╯
                        crises? ◇
                           │
                           │ no
                           ▼
                      ╭──────────────────╮
                      │ Refer to Section 2│
                      │ Preparation       │
                      ╰──────────────────╯
```

1.4 CONTENTS

1.5 GLOSSARY

Following is a list of terminology and abbreviations used in this document.

Terminology or abbreviation	Meaning
ADE	Association for District Energy – UK trade association for district heating
Biomass	Wood pellet or wood chip or other fuels made directly from plant material
BMS (also known as BEMS)	Building Management System (also known as building energy management system) – controlling the heating temperature and on/off times, and often other building services
CHP	Combined Heat and Power unit – a device, usually an internal combustion engine with generator, that generates electricity and heat, the latter used within a building heating system
CIBSE	Chartered Institute of Building Services Engineers
Community heating (system)	Heating system providing heat in the form of hot water from a shared heat source to a number of dwellings within a single building
COVID-19	The disease caused by the new strain of coronavirus identified in 2019 and responsible for the global pandemic in 2020.
CP1	CIBSE Code of Practice for District Heating
District heat networks (network / system) (DHN)	Heating system providing heat in the form of hot water from a shared heat source to multiple buildings
DHW	Domestic hot water – used for washing etc.
Energy centre	A facility or building containing heating boilers, heat pumps, CHP and or other plant to generate heat for a district heating network
ESCo	Energy Services Company – an organisation providing energy (in this context, in the form of heat) to customers
EST	Energy Saving Trust
Heat exchanger	A device to transfer heat energy from one heating system to another with no mixing of the working fluids from each system
Heat networks	Term encompassing district heat networks and communal heating systems

Terminology or abbreviation	Meaning
HIU	Heat Interface Unit – a device that transfers heat from a primary or secondary network to a tertiary network, usually incorporating at least one heat exchangers as well as other control valves and equipment.
kW	Kilowatt – a unit of power; i.e. the rate (speed) at which work is or can be done Heating plant is usually rated in kW
kWh	Kilowatt hour – a unit of energy; i.e. the amount of work done in a period of time Energy (heat and electricity) is often priced on the basis of pence per kWh delivered / consumed
LTHW	Low temperature hot water – hot water heating circuit operating with a maximum temperature not exceeding 105°C
O&M	Operation and Maintenance – manuals or processes
Primary network or system[1]	The district heating network between the energy centre and the customer buildings (usually but not always or exclusively consisting of underground pipe)
Secondary system[2]	The district heating network within a multi-dwelling building distributing heat from the primary network to individual dwellings, or. The heating system (radiators, pipework etc.) within a non-domestic building
Tertiary system[3]	The heating system (radiators, pipework etc.) within a domestic dwelling
RHI	Renewable Heat Incentive – a UK government scheme to encourage the uptake of renewable heat by paying a subsidy, per unit of heat produced, to owners of renewable heating systems for a period of up to 20 years
Renewable heat / energy	Heat or energy produced from renewable sources such as biomass, geothermal, solar, wind etc

---

[1] CIBSE CP1 definition of primary, secondary and tertiary networks used
[2] CIBSE CP1 definition of primary, secondary and tertiary networks used
[3] CIBSE CP1 definition of primary, secondary and tertiary networks used

2 PREPARATION

2.1 USE OF THIS SECTION

This section focuses on some actions and activities that should be undertaken by all heat network owners and operators as part of normal system operation; i.e. before anything has "gone wrong". Undertaking these preparation and preventative measures will ensure that the organisation will be able to withstand challenges that might arise at a later date. It should be noted that this is not an exhaustive list and networks may have their own issues that need addressing in advance beyond those suggested in this chapter.

Ideally, system owners should ensure that the information related to the following points is collated, stored safely and available to whoever needs it to operate and maintain the system.

The guidance that follows may also help to identify risks and issues at an early stage so that they can be addressed before they become critical. This will improve system and business resilience. It is strongly recommended that organisations take the time to work through the following suggestions and take any action arising.

2.2 OWNERSHIP AND RESPONSIBILITIES

Try to identify and record in a document all of those who have some form of ownership, share or responsibility for the system. This could include: land-owners, equipment owners, property owners, shareholders in the system (which could include the customers in a community owned system). If it becomes necessary to make any changes to the system, upgrades or major repairs, it may be essential to contact any or all of those affected to secure permissions or even to contribute to costs etc.

Record key contact names, telephone and email details as well as addresses. Note that records of personal / householders' details should be kept securely and should not be passed on to any other person or organisation to comply with data protection laws. GDPR guidelines should be followed at all times in relation to handling of personal data.

Key questions to address are:

- Who owns the system?
- Is the heat source owned by a different organisation from the network (e.g. under an energy supply contract, free-boiler-in-return-for-RHI agreement etc.)?
- Do customers or others have a stake in ownership or maintenance – whole system, network, just their connection / interface?
- Are there any wayleave agreements, ground rent, property lease agreements relevant to the system (formal or informal)?
- Is there a particular person/key contact who is responsible for "looking after" the system? (See also risk assessments)
    - If not, can you appoint someone appropriate?
    - Noting that a lack of a responsible individual has been shown to be inherently unsafe.

Key information should be stored in a master system information file. This should be retained in a secure location, preferably away from the main operating site (energy centre) and with a copy of the system operation and maintenance manuals. The location of the master system information file should be made known to a number of key people within the organisation so that it can be located even if staff are absent.

2.3 HEALTH, SAFETY AND ENVIRONMENT

Understanding and managing the health and safety risks associated with any workplace or facility is a fundamental requirement of Health and Safety at Work etc Act 1974. All organisations are required to comply with the requirements of this act and its subsidiary legislation, regardless of whether they are profit making companies, community groups or charity organisations run by volunteers.

District heating and renewable energy systems could pose a number of health, safety and environmental risks in themselves; the presence of hot equipment and hot water under pressure, fuels and fire risks, electrical systems, noise and so on. There are also risks associated with maintaining and repairing systems such as lone working. With COVID 19, there may be added risks associated with gaining entry to premises, risking transmission of the disease from householders / residents or to householders, especially those in vulnerable groups. There may also be increased risks where the system has to be operated or maintained by persons unfamiliar with it because key personnel are unavailable, self-isolating etc.

Organisations have a legal duty to identify, assess and take steps to remove or minimise risks. Key questions to be addressed are:

- Is there an up-to-date health safety and environment risk assessment for the system and the site generally? See Appendix F: Health and Safety for a template.

- Has those responsible for owning, operating, maintaining, using the system been made aware of the risk assessment and confirmed that they understand and agree with it?

- Have the COVID-19 related risks associated with operating and maintaining the system been assessed? (for instance, gaining access to properties to attend to faults etc, protecting vulnerable residents, protecting workers, avoiding transmission of infection between properties).

2.3.1 HEALTH SAFETY AND ENVIRONMENT RISK ASSESSMENT

Where there is no risk assessment in place, it is strongly recommended that operators undertake a health and safety risk assessment for their system (see Appendix F: Health and Safety for a template). This should focus particularly on the risks involved in operation and maintenance and any risks arising from a failure of the system. All personnel who are involved in operation and maintenance of the system should be engaged to contribute to the risk assessment. The assessment should be reviewed by all personnel involved in the operation and maintenance to ensure that the understand the risks and how to carry out their duties safely.

Guidance on risk assessments can be obtained from: www.hse.gov.uk/simple-health-safety/risk/index.htm

A typical template for a health and safety risk assessment can be found in Appendix F: Health and Safety

2.3.2 LONE WORKING (BUDDYING)

Lone working is a common risk involved in the operation and maintenance of heat networks, especially when attending out of normal business hours. The following measures can help mitigate these risks:

a) When lone working utilise the buddy system where the lone worker calls/messages the "buddy" to let them know they have arrived safely to site, continuously communicate while on site at agreed and appropriate time intervals and communicate that they have left site

b) Consider using location sharing features of smart phones

2.4 BUSINESS REPRESENTATIVE ORGANISATIONS

Owners and operators of heat networks might find it helpful to join a business representative organisation to benefit from ongoing advice and support, as well as providing useful contacts for suppliers and professional services. A list of trade associations is included in Appendix A: Business Representative Organisations.

2.5 FACTSHEET

It is recommended that operators compile a simple factsheet of key facts that would help to identify the skills and resources that an organisation might need to provide emergency assistance to a heat network.

The factsheet should include basic details such as the scheme location, main point of contact, number of buildings / customers connected and whether there are any vulnerable customers supplied by the scheme. The factsheet should also provide information on the main equipment and operational status.

The factsheet could be compiled using the template in Appendix B: Important Information, Template - Factsheet.

2.6 O&M DOCUMENTATION

The availability of complete and comprehensive operation and maintenance (O&M) documentation is essential for:

- Safe operation and routine maintenance

- Briefing of new staff or contractors who are engaged to work on the system

- Designing upgrades or extensions to the system

- Recording any changes to the system or locally devised procedures or work-arounds

A copy of the O&M documentation should be kept in the energy centre (with a back-up copy in a secure off-site location). The O&M documentation should consist not only of copies of equipment manufacturers instruction manuals, but should include system specific

information including as-built schematics, wiring diagrams, parts schedules, etc. A schedule of the information that should be included in the O&M documentation is included as Appendix C: Operation and Maintenance Manuals.

It is good practice to also provide a summary easy to find 'grab pack' document for quick reference. Contents of the grab pack could include (the list is not exhaustive)

- Summary of the plant and component systems along with their locations

- Maps key drawings – GA of the network, P &ID of plant room

- Details of key isolation valves, shutdowns, interlocks, etc

- Emergency procedures i.e. for resetting gas/backup systems etc

- Any relevant passcodes (e.g. BMS, boiler control module, etc.)

- Key local contractors who have a knowledge of the system and who can provide knowledge the operators might not have

- Key 'local' contractors who can help, i.e. in the event of a pipe break call X or Y as they know the site and can arrive with a digger to excavate

- All key phone numbers from the above or useful local suppliers e.g. emergency boiler hire companies, etc

- Details of the stock of strategic spares which should be kept on site based on what has failed in the past and what might be likely to fail in the future

It is often the case that there are gaps in the O&M documentation provided for a system. It is recommended that owners / operators audit their O&M documentation to establish where these gaps might lie and take steps to fill in critical information, particularly where there is the opportunity to obtain information from contractors who originally installed or last worked on the system, or from staff who have built up knowledge over time.

Following are some suggestions for areas to investigate.

2.6.1 CHECKS

- Are the details of BMS (building management systems) ensuring that these are accessible on site with relevant passwords etc?

- Are critical spares kept on site?

- Are there known issues with workarounds?

- Are there copies of O&M documentation for the system including network layout maps, connected heat loads and details of pipework (including brand and size)?

- Is the O&M documentation in paper copy and / or digital format?

- Is O&M documentation up to date? Has it been updated if changes have been made to the system since original installation? Is O&M documentation in English? Are there details of insurance policies (with exclusions)

- Do you have a back-up copy of O&M documentation stored "off-site" in case the working copy is lost or destroyed?

2.6.2 ACTIONS

a) Collate all manuals and make available both remotely and locally

b) Have physical and digital copies in the plantroom

c) Ensure that multiple people know where information is stored and that several people within the organisation know who has access to the information

d) Ensure passwords to control vital equipment (particularly BEMS/BMS) are known by multiple people and are somewhere obvious within a plantroom e.g. manual, inside controls cabinets, etc.

e) Maintain back-up files

f) Proactively provide access to trusted third parties BEMS/BMS files stored with equipment suppliers

g) Install adequate data storage on equipment to support troubleshooting. Many BMS systems have limited storage capacity as standard (e.g a few days).

h) Collate maintenance and change logs to support future problem solving

i) Identify location and operational readiness of any back up heat sources (including individual heating systems if necessary)

2.7 PHYSICAL ACCESS

Consider what arrangements are in place for physical access to site and equipment; especially if the usual site staff are unavailable. This includes access to the energy centre, fuel store (biomass), inspection chambers, heat meters for taking monthly readings, riser cupboards, customer interfaces etc.

Consider control mechanisms where physical access is required by contractors or staff, e.g. should you implement a permit to work system, should people be checked onto / off of site by someone. Consider what arrangements are in place to notify personnel about site hazards before they carry out works.

a) Ensure that keys to plantrooms are accessible when operating with limited staff e.g. key safes, code access

b) Are all keys identified? Can you tell which key fits which lock?

c) Is there a site induction file?

d) Are there details of fire alarm systems, gas detection systems, fire suppression systems, lock off systems that need to be accessed before accessing the energy centre?

e) Ensure multiple people have copies of keys in various locations, e.g. keeping all keys in a locked reception office could become a point of failure if the office is closed due to illness or other responsibilities at this time.

f) Ensure plantrooms are safe, free from obstructions, clean and generally appropriate working environments.

g) List of any hazards in plant room such as chemicals and fuels etc

2.8 REMOTE ACCESS

Remote access to control systems can allow monitoring and even some diagnostic checks and adjustments to be made without the need for anyone to be on site.

Recommendations include:

a) Install and utilise remote access to plant equipment where available, there are often separate software for BEMS/BMS and heat generating plant ensuring both are available can often prevent the need for physical plant room visits

b) Consider employing a remote management service package, these can often provide the following benefits:

  a. Increase resilience as there will an increase in competent people monitoring the plantroom

  b. Proactive identification of faults reducing downtime and operational costs

  c. Continuous optimisation, reducing costs and environmental impact

  d. Ability to evaluate the impact of work undertaken

  e. Encourage good practice, as contractors will know that actions in the plantroom are monitored

c) Consider installing remote access cameras to support people physically on site, minimising the number of people working in a confined space while also improving the safety of those lone working.

2.9 BUSINESS CONTINUITY RISK ASSESSMENT

The heat network may be technically sound, but operation could be interrupted if the owning / operating business runs into problems. This could include insolvency of the owner, or even a key customer, or loss of key staff. Consider undertaking a business continuity risk assessment. This is different to a health safety and environment risk assessment in that it focuses on identifying and mitigating events or circumstances that might cause the energy supply service to stop operating.

Consider:

- Does your organisation have a business continuity plan? If so what stage of the business continuity plan is in operation?

- Does the business continuity plan consider the impact of issues on the heat network, or the impact that issues with the heat network could have on your business? (especially if the heat network is not your core business)

- Has your business continuity plan been updated in light of COVID-19?

COVID-19 presents a new challenge to business. Appendix D: COVID-19 Guidance provides links to guidance for businesses on operating safely within the COVID-19 environment.

Appendix G: Business Continuity Planning provides a sample template that may be used as the basis for a business continuity plan.

If your business continuity plan, or any other assessments show that there is a business risk from COVID-19, the resources listed in Appendix E: COVID-19 Business Support may help to identify how these risks might be mitigated. There are resources in that appendix for both UK wide and nation specific support.

3 EMERGENCY ACTION

Below are some suggestions of what action to take if things have gone wrong and it is necessary to shut down part or all of the heat network.

3.1 UNAVAILABILITY OF KEY PEOPLE AND/OR REQUIRED PARTS

One of the key challenges that Heat Networks may face as a result of COVID-19 in managing unscheduled events will be the availability of key skilled people. For example key technical staff or sub-contractors may be unavailable as they are unwell, or self-isolating or potentially the company is unavailable. Likewise the challenges of people resource may well impact on the immediate availability of parts required to keep the network operating.

The Heat Network Exchange (www.heatnetworkexchange.co.uk) has been created so networks can immediately see other options that may be available to carry out required works or source new replacement parts. The website also has a function that allows network operators to profile their challenges to encourage a wider response from industry.

3.2 SAFETY AND SYSTEM PROTECTION

3.2.1 EMERGENCY SHUT DOWN

Owners and operators should familiarise themselves with the plant and systems in normal operation. It is important to be able to recognise abnormal and unsafe situations and be able to take appropriate action, including if necessary, shutting down the system.

Shutting down the system should be a last resort, as it will obviously have an impact on customers who rely on the heat supply. However, safety must take priority. Also shutting down the system in a safe and controlled manner may prevent further damage occurring and thus may make it quicker (and less expensive) to restore operation.

Most (but not all) energy centres will be provided with emergency shut-off buttons in prominent positions, however these will result in a complete stop and should only be used if there is an immediate threat to life or property. A controlled shut-down is preferable as it will leave plant in a state that can be more easily re-started; for instance, a controlled shut-down of a biomass boiler will allow the boiler to clear the remaining fuel in the grate and cool down gradually; thus reducing stress on the boiler and avoiding need for a manual clean out before re-starting.

If possible, a controlled shut-down procedure should be established, perhaps with the assistance of the maintenance provider. This should be written down and displayed in the energy centre so that if that local / site operations staff know what to do in an emergency.

Sometimes, it may only be necessary to shut off one item of plant; e.g. a boiler or heat pump. Many energy centres will have a back-up heat supply (e.g. oil or gas boiler). Sometimes this will automatically kick in if the main heat source is disabled. Sometimes it will need manual intervention to fire up back-up boilers, or operate a change-over valve. Make sure your site procedures cover this; subject to assessing the risk and ensuring that it is safe to operate back-up plant.

Other critical plant may be provided with back-up; for instance district heating circulating pumps may be provided with twin head or duty-standby pumps. Make sure you are aware of what systems will switch-over to the back-up automatically and which will need manual input.

3.2.2 PROTECTING SYSTEM FROM FURTHER DAMAGE

If main plant or the whole heat network does have to be shut down, there are a number of considerations to protect the plant and users (customers and staff). These include but are not exhaustive:

- **Frost protection:** this is typically in the form of a minimum temperature of the water in the pipes when the heating plant is activated. It prevents the water freezing and cracking the pipes causing leaks which can be very dangerous (as hot water or steam could leak) as well as cause system failure. **Note: some shutdown procedures can disable frost protection**

- **Fabric protection:** This is the minimum internal (building) temperature, its primary purpose is to prevent condensation and mould which can cause respiratory problems and be very damaging to health (particularly of vulnerable people). It also provides an additional level of frost protection if set up appropriately. It is reliant on accurate and reliable internal temperature sensors with an appropriate control strategy. **Note: some shutdown procedures can disable fabric protection.**

- **Corrosion (especially if part of system is drained down):** this can lead to failures in several plant items in future either from weakening of the corroded part (and therefore leakages) or the debris blocking components.

- **Poor water quality**: can cause mineral deposits to block system components and cause failures this can be caused from stagnation

- **Water stagnation and legionella:** stagnating water can in present a legionella risk and needs to be manged appropriately, see [HSE guidance](https://www.hse.gov.uk/legionnaires/) on legionella[4] for more detail. **Note: some shutdown procedures can disable legionella protection.**

- **Fuel degradation:** Some fuels, particularly solid fuels, degrade over time. This is typically a result of moisture absorption and can result in the fuel no longer being suitable for the boilers, potentially damaging the boilers if used. It is advisable to check the quality of old fuel and get fuel stores cleaned in line with the Operation and Maintenance recommendations of the system. If there are no recommendations consult HSE, representative bodies and your fuel supplier for advice.

---

[4] https://www.hse.gov.uk/legionnaires/

3.2.3 PROTECTING CUSTOMERS

> **A new COVID-19 consumer protection agreement was launched in spring 2020 and all operators are encouraged to sign up:**
>
> Earlier this year the Heat Network Industry Council showed significant leadership and agreed to sign up to a voluntary agreement to protect consumers during the disruption caused by COVID-19. This agreement is now being managed by the Association for Decentralised Energy (ADE). The ADE supports companies who would like to sign up, including those who are not members of the Industry Council or the ADE.
>
> Heat network companies: Agreement on consumer protection in response to the impact of Covid: www.theade.co.uk/news/policy-and-regulation/hn-agreement.
>
> If you would like to sign-up, please email Caroline Bragg at caroline.bragg@theade.co.uk.

If there is a need to shut-down a heat network, this will obviously impact on customers; especially in times of cold weather. If the heat network serves customers who are elderly, infirm or shielding from COVID-19, they may be in vulnerable circumstances. It is advisable to try to identify any customers in vulnerable circumstances served by the system so that they can be given priority for assistance. If the heat network is a member of the Heat Trust, it is required to have in place guidelines for supporting customers in vulnerable circumstances, including maintaining an up-to-date register of these customers and providing them with details of sources from which they can obtain information or assistance.[5] Consider if there is a residents' association or community group that may be able to assist. Ensure that there is a robust heat supply contract in place.

A process for keeping customers informed should be developed. In the event that there is a shut-down, customers will need to know that there is an issue and for how long it is likely to last. Being proactive about informing customers will also avoid the managing organisation being flooded with enquiries from customers. Back-up systems should be available for customers to contact the provider if the usual phone numbers etc are unresponsive due to staff being unable to work.

If there is likely to be a serious outage, consider options for providing an alternative heat supply. For instance, if the boiler is out of order but the network is still intact, could you hire in a temporary boiler? Do any of the customer buildings retain their own boiler which could be re-started? Do they have an electric immersion heater that will provide limited heating as well as hot water? Could a plug-in electric heater be provided to each household?

---

[5] Heat Trust Scheme Rules, Section 14.

Customers who are registered as "vulnerable" with their electricity supplier may be eligible for support from their supplier even if it is their heat supply that has failed. It may be worth contacting the local electricity supplier to request assistance.

Customers must also be protected financially. Customer payments made for heat supply must be "frozen" if the heat supply is ceased. If the heat network is a member of the Heat Trust, customers may be eligible for compensation for loss of heat supply. Heat Trust Scheme Rules stipulate that where an unplanned interruption leads to a loss of heat supply which exceeds 24 hours, each customer is entitled to a Guaranteed Service Payment of £30 for each 24-hour period without supply up to £500. The Scheme Rules also state that a customer is entitled to a one-off Guaranteed Service Payment of £54 in the event of four unplanned interruptions lasting over 12 hours over the course of a 12 month period.[6] Tenants may also be eligible for compensation under "right to repair" schemes[7]. Customers must be informed of their rights and potential sources of help. The liabilities and impacts on the organisation must be assessed depending upon the heat supply agreements in place but the over-riding imperative is to minimise risk to customers' health as a result of a heat network failing. Where a heat network failure makes it necessary for customers to use alternative expensive forms of space or water heating, they should be assured that the cost of this will be covered promptly and by direct payments so that they are able to keep warm.

3.3 IMMEDIATE CRISES – THE HEAT NETWORK EMERGENCY RESPONDERS

Heat Network Operators / Owners normal approaches and procedures to managing networks, albeit adapted to the COVID-19 risk, could still see the network face unprecedented challenges that may result in exceptional circumstances that could result in an **imminent or actual network failure** during a **cold period**. If this presents **actual risk to life**, beyond your control, to **vulnerable people** or networks servicing a **more than 10 dwellings** (under review) then the Heat Network Emergency Responders may be accessible to help. It should be noted that this is **not a solution for networks in financial difficulty**, those should look to access the support outlined in Section 5 Financial and Organisational Support.

Networks that need to access the Heat Network Emergency Responders they should call the triage number (03450 260 307). **Please note this is not a general emergency services helpline**. In order to access the Heat Network Emergency Responders via the triage phone call the network operator will need to confirm that:

1) The caller is the owner / operator of the heat network in difficultly

2) Operator has read this guide

3) Operator has exhausted options accessed via Heat Network Exchange

---

[6] Heat Trust Scheme Rules, sections 6.3.2 and 6.3.3.
[7] https://www.gov.uk/repair-council-property

4) Be willing to have the issues and contact information shared across the Heat Network Emergency Responders.

5) Either the network has failed and one of the following criteria or failure is imminent and two of the following criteria are met:

   a. During heating season

   b. One or more vulnerable customers

   c. Excess of 10 dwellings are unable to access a safe and warm environment (under review).

The service provided by the Heat Network Emergency Responders will be subject to a reasonable commercial charge and all members of this group are committed to offer a reasonable response to request to help, but this does not guarantee that a solution will be available.

If your company is interested in offering support to the Heat Network Emergency Responders please refer to the Appendix H – The Heat Network Emergency Responders for General Principles and Emergency Responders Code of Conduct then contact heatnetworks@beis.gov.uk using "**Joining heat networks emergency responders**" in the header.

4 PREVENTION & RESTORATION

This section provides some suggestions that may help heat network owners and operators prevent problems occurring, or to restore the system to operation after a problem has occurred.

The owner / operator is responsible for assessing the situation and deciding whether they are competent to undertake any suggested measures. If in doubt, specialist advice should be sought.

The fundamental requirements of a heat network are a heat source (typically: boilers, heat pumps, waste heat) and a means to distribute heat to customers (network). The priority must therefore be to ensure that the heat network and at least one heat source is robust and can be quickly restored to operation.

4.1 HEAT SUPPLY

Heat supply to a heat network can be in the form of boilers, heat pumps, waste heat, combined heat and power plants, solar thermal or a combination of these. Where the energy source of the heat supply is a fuel (renewable or fossil), considerations will need to be made to ensure the reliable access to that fuel.

Heat supply will tend to be controlled either through a building management system (BMS) sometimes referred to as a building energy management system (BEMS) or directly on the boiler. It is important to be familiar with the control mechanisms of the heat supply as these can often be cause and solution to heat supply issues.

4.1.1 FOSSIL FUEL HEAT SUPPLY

Most older heat networks, particularly communal heating systems, are powered by fossil fuel boilers, this is either natural gas (gas), fuel oil, or liquified petroleum gas (LPG). Gas supply is the responsibility of the gas network and should any issues with gas supply arise you could call your local gas network operator. Fuel oil and LPG systems require fuel to be stored on-site, it is important that you have sufficient fuel on-site to allow for any disruptions in supply chains and that you are aware of alternative suppliers should they be necessary.

4.1.2 LOW CARBON HEAT SUPPLY

Below describes some of the challenges of typical low carbon heat supplies used in the UK including: Biomass, heat pumps and combined heat and power (CHP).

4.1.2.1 Biomass boilers / fuel supply

Biomass boilers are inherently more complex than conventional boilers, with more moving parts, variable fuels and combustion products to contend with. Regular maintenance is key to reliable operation. Combustion chambers and flues will need regular cleaning to prevent

build-up of soot and ash and moving parts such as auger gearboxes will need lubrication. System operators may be able to carry out some of these maintenance tasks themselves, and at the least should carry out regular inspections (daily) to check on correct operation of the unit.

Consideration should be given to retaining a stock of spare parts for items that are more likely to go wrong. Advice should be taken from the maintenance provider or boiler supplier, but a stock or items such as an igniter, oxygen (lambda) sensor, door seals, grate bars etc. may keep downtime to a minimum; especially in remote locations or for boilers with limited supplier back-up in the UK.

The main problems are likely to be associated with the fuel system, particularly with wood chip fuels. The fuel supplier could be held responsible for providing fuel of the correct moisture content and grade. However, the operator should always be on the alert for contaminants (stones, metal fragments, etc.) or irregular pieces of fuel (long strips of wood can also block the feed system and jam augers) potentially causing extensive damage. Pellet fuels are prone to damage from water ingress or poor quality, poor handling resulting in the pellets turning to dust or mush. In such cases the fuel should be removed and replaced with new fuel.

Biomass boilers entail a number of additional safety considerations compared to conventional boilers including:

- Entry into fuel stores – potential for moving machinery under the fuel, dangerous atmospheres (especially dust, carbon monoxide from pellet store)
- Moving parts in the fuel supply train
- Handling of fuels and ash
- Combustion gases

Operators should ensure that they are familiar with all the potential hazards and safe operating procedures for their system.

4.1.2.2 Heat pumps

Heat pumps may fail due to internal equipment failure or a refrigerant leak. These issues will probably require attendance from the heat pump supplier or maintenance contractor.

Air source systems rely on a flow of air through the external evaporator coil. It should be checked that this is not blocked by fallen leaves, plastic bags or other debris. The evaporator will also tend to frost up in very low ambient temperatures; the heat pump will usually manage this by heating the coil for a short period to melt the frost. However, ensure that the drainage from the evaporator is not blocked.

4.1.2.3 CHP

Gas CHP (combined heat and power) units will usually require specialist servicing and maintenance. Repairs should not be attempted by operators unless they have relevant training and experience.

4.1.2.4   Other

In relation to other innovative plant and equipment repairs should not be attempted by operators unless they have relevant training and experience.

4.1.3   BACK-UP HEAT SUPPLY

Most modern heat networks will be provided with at least one back-up heat source. Often this will be gas or oil-fired boiler(s) located in the energy centre / plant room alongside the main low-carbon plant. Usually the back-up heat source will be configured to start-up as soon as the main source fails, however some systems rely on manual change-over. Older networks typically powered by fossil fuelled boilers, utilise a principle of having an extra boiler to provide redundancy, known as n+1, (e.g. when 2 boilers are needed for peak operation 3 are installed).

- Ensure you are aware of how the back-up heat source operates
- Ensure that the back-up heat source is available if needed (e.g. boiler servicing is up-to-date, and if oil fired, there is sufficient fuel for a few winter days operation i.e. long enough to get a fuel delivery)
  - In older systems it is common that parts are "borrowed" from the redundant boiler and therefore removing its capability as a back-up. Find out if this has happened and rectify where possible in advance of there being an issue.
- If a manual change-over is required, ensure that you are familiar with the change-over procedures. These should be displayed in the plant room and any critical valves or switches should be clearly labelled.
- Where possible test the back-up solution, some control systems have planned cycling of plant built in so that all plant items are used some of the time.

Sometimes, instead of a back-up heat supply, low carbon / renewable heating plant is installed in multiple modules (modular systems). This allows heat supply to be maintained even if one unit fails. However, it is important to recognise where there are common "points of failure" between the units. For instance, in a multiple biomass boiler system, where all boilers are provided with fuel from a single fuel store extraction auger, failure of that auger might shut down all boilers.

In a retrofit situation, it is possible that existing boilers in individual buildings might have been retained and these can be used as back-up systems for those particular buildings.

If there is a single heat source with no back-up, could a temporary boiler be hired in? These are often mounted on a trailer or skid (larger units may be containerised) and could plug into the existing heating system. This is easier to do if there are spare connection points provided on the pipework at the energy centre.

Even if the output of the back-up heat supply is less than the full design capacity of the network, it is still likely to be able to provide a useful heating service: most systems operate at less than 20% of the rated capacity for much of the time.

For systems where domestic customers have local hot water storage at their properties, the local hot water storage often has a back-up immersion heater. This can be activated to provide at least partial heating capacity for hot water.

Before operating a back-up heat source, whether centralised or local, it is important to ensure that the rest of the system is safe to operate.

4.2 NETWORK

Except where properties have local back-up, the heat network is critical to maintaining heating service to customers. Critical areas are:

4.2.1 UNDERGROUND NETWORK

Integrity of underground network. Minor leaks may go undetected for some time, but can be tolerated for a period albeit at the expense of frequent topping up of system water, and with it any treatment chemicals needed. The consumption of water by the system should be monitored weekly to detect any issues developing. The pressurisation unit may also record pump run time and provide a warning if this has exceeded a certain value, thus indicating a possible water loss. This should be treated as a warning sign that repairs are needed imminently.

A major leak is unusual, but obviously will require shut down and isolation of the affected areas. The location of the leak may be obvious from escaping water (or detected by alarm wires in a steel pipe network). However, in some cases the leak may flow straight into ground drains and not be visible from the surface. In either case specialist assistance will be required to excavate and repair the damage. Hidden leaks might be detected using acoustic techniques or a thermal imaging camera.

4.2.2 PRESSURISATION

The pressurisation unit maintains a minimum pre-set pressure in the network. Usually, if the network pressure falls below a minimum level, plant such as boilers will automatically shut off (this is to prevent the boiler running dry which could result in a major explosion). Most systems will have a pressurisation unit with twin pumps to provide back-up but are still vulnerable to failure of the pressurisation unit control panel or power supply. A replacement pressurisation unit can usually be sourced and installed quickly. Sometimes a pressurisation unit will "lock-out" due to excessive pump starts / run time: this indicates a potential water loss from the system and should be investigated urgently. Some smaller systems may have been installed with the system pressurised off of the incoming water mains; however, this is contrary to water bylaws for heating systems with a capacity in excess of 45kW unless a 'RPZ' valve has been installed. In such cases a pressurisation unit and break tank should be fitted.

4.2.3 CIRCULATION PUMPS

District heating circulation pumps need to be operating effectively. Normally multiple pumps are provided to cope with the variation in demand, which also provides some resilience against failure; provided any failed units are attended to promptly. Sometimes twin-head pumps will be installed, again providing resilience, although the network must still be shut down to replace a failed unit. If there is only a single pump, consideration should be given to providing a spare unit (pump) on site to avoid having to wait for delivery of a replacement if the unit fails. Pump speeds are usually controlled by a pressure sensor; if this fails it may be possible to set the pump to a fixed speed to maintain some operation, albeit much less efficiently. Maintenance of water quality and regular servicing will reduce the likelihood of pump failure.

4.2.4 CONTROL SYSTEMS

Control systems rarely fail completely but, in the event of some control system failure, it may be possible to set pumps, boiler etc. to operate using their inbuilt controller to provide a basic heating service.

4.2.5 ELECTRICITY SUPPLY

The electrical supply is needed to operate all energy centre plant. If only the energy centre is affected by loss of power, consider whether a temporary generator can be provided. Good practice is to include a generator connection socket and change-over switch to the energy centre switchboard/distribution board. If the electrical supply has failed to the wider area, including to customers buildings, it would be pointless restoring power to the energy centre alone as customer interfaces will still not be able to take any heat. In such instances, refer to the electricity network operator; they should be made aware of any vulnerable customers as they may be able to provide emergency assistance directly to those customers.

If the electricity supply to the energy centre has failed, some items of plant may need to be manually re-started when the supply is restored. Record the necessary procedures and have a plan for someone to be able to attend site to do this.

Even in the event of a network failure it may be worth considering temporary fixes provided they are safe to restore heat supply until it is more convenient to shut down the system for a permanent repair when the weather is milder and heat demands will be lower.

4.2.6 CUSTOMER INTERFACES (DOMESTIC)

Domestic customer interfaces typically referred to as a heat interface unit (HIU) usually form the basis of the customers (tertiary) heating system. Provided that there is power to the unit, they will usually be able to take heat from the network. Faults are more likely to occur on the tertiary side, particularly due to leaks (causing loss of system pressure) or faulty circulating pumps or controllers. For most systems with "indirect" heating, these faults are isolated to individual customer systems and can be quickly rectified by a plumber / heating engineer.

There should be isolating valves at the entry to each property to enable the primary network to be shut off in the event of a leak to the primary side system.

Some customer interfaces are the "direct" type with no heat exchanger between the primary and tertiary system. In the event of a leak on the customers system (e.g. leaking radiator), the water from the primary system will continuously leak into the customers premises and possibly adjoining properties. The loss of pressure can also cause the primary system and heat supply to all other customers to cease. It is thus very important for users to be able to locate and operate isolation valves for such systems. Isolation valves should be fitted outside of the property so that it can be isolated even if the property is vacant.

Where pre-payment credit control systems are installed, these will prevent heat supply when the customer has run out of credit, depending upon the organisation's credit control policy. This can usually be over-ridden by an instruction to the meter reading and billing provider, although in the event of a communications network failure it may be possible to over-ride manually at the customer interface. Operators should be familiar with these processes.

4.2.7 CUSTOMER INTERFACES (NON-DOMESTIC)

Non-domestic customer interfaces usually form part of a larger heating system plant room installation. Generally, faults are more likely to occur on other parts of the customers heating system than the interface itself. However poor maintenance of the customer heating system can result in water contamination which blocks up heat exchangers on the interface. Filters / dirt separators should be installed on the customer system and non domestic customers should be made aware of their responsibilities to maintain their systems.

Sometimes non-domestic buildings will have retained their existing boilers as a back-up. Sometimes this will active automatically (e.g. when it is detected that the district heating supply temperature is low), others will need manual switch-over. The procedures for this should be agreed and recorded. The procedure for switching back to district heating should be included as well.

4.4 METERING AND BILLING

4.4.1 METER READING AND RECORD KEEPING

Taking and recording meter readings is an important part of managing a heat network. Regular heat meter readings will be required for:

- Renewable Heat Incentive (RHI) claims
- Keeping track of heat sold – enabling correlation with revenues from customers, and together with:
- Keeping track of heat generated – to monitor system efficiency
- General operational information and fault finding

Heat meter register readings for all heat generation plant and customers should be recorded at least monthly. Customer data should be available from a meter reading and billing provider, if applicable. Using a simple spreadsheet it should be possible to track and compare heat generation against heat use and thus calculate losses. This should help with setting of heat charges to customers and in identifying potential faults on the network.

On most medium-higher temperature networks, average heat losses over a year are likely to be 20-30% of the heat consumed. The percentage will appear lower in the winter and higher in the summer, as losses are fairly constant whereas customer heat use varies considerably by season. However, higher or steadily increasing losses may indicate an inefficient system, deteriorating plant or a leak.

Fuel used for backup systems (gas, oil etc) should also be recorded and can be converted to heat produced.

The energy centre water supply should be fitted with a meter and the readings from this recorded at least monthly. An increasing trend might give early warning of a leak somewhere on the system.

Electricity use for the energy centre should also be recorded as it is another cost to be factored into the heat charge. Again, an increasing trend indicates a potential fault developing.

Even if you are not able to analyse meter readings yourself, having the data available will be invaluable if the organisation needs to get outside assistance, for instance to review the heat charges, business plan, supplier contracts, etc.

4.4.2 BILLING AND PAYMENT COLLECTION

Maintaining income is important to keep the organisation financially sustainable. Generally, income for heat networks will come from heat sales to customers and where applicable, non - domestic renewable heat incentive (RHI).

Heat sales income can be collected in a number of ways including:

- Fixed monthly charges, including heat-with-rent arrangements. This is simplest, the risks depend upon the effectiveness of the organisation collecting the payments and where applicable passing the payments onto the heat network operator. This mechanism is generally no longer permitted for new customers under the 2014 Heat Network Metering and Billing Regulations.
- Credit metering, where customers pay a unit charge for heat based on meter readings. This might involve monthly or quarterly invoicing or a monthly payment plan, reviewed annually based on actual consumption. There may also be a standing charge, or the standing charge element may be included in the unit charge. Either way, the heat network operator should make sure that the cost of maintaining the system and generating the heat is fully accounted for, including heat losses and plant efficiency.
- Prepayment or pay-as-you-go systems where a credit control unit is installed at the customer premises which can shut off the customers heat supply if they run out of credit.

Prepayment systems are popular with certain heat networks as they minimise the risk of bad debt building up. Prepayment systems are generally administered by a meter reading and billing bureau services provider, most of whom will also supply the credit control unit and communications systems needed, although this means some degree of "tie-in" to a certain provider. Customers can buy extra credit through local shop "Paypoint / Payzone" systems or via web portal.

In the current COVID-19 climate, it might be anticipated that there could be more issues with billing and payment collection including:

- Customers unable to pay because their incomes have fallen
- Customers unable to purchase credit top-ups as they are shielding or self-isolating at home and cannot visit a shop
- Customers hospitalised due to illness

It is recommended that the heat network manager evaluates the risks of these issues and prepares mitigation strategies. This may include:

- Allowing customers longer grace periods for paying bills or allowing negative balances to build up on pre-payment meters (friendly credit) to avoid instant disconnection (at risk of bad debt).
- Providing facilities for customers to top up their accounts over the phone / over the web

- Helping customers find support for heating costs including links to benefits systems, support charities, local energy agencies etc.
- Using or establishing company trust funds to help customers with unpayable debts make a fresh start, as in the gas and electricity industry
- Provision of pre-loaded prepayment keys or cards for customers unable to top up
- Suspension of disconnections as in the gas and electricity sectors
- Assess the impact of imposed prepayment and pay as you go meters and determine necessity
- Debt repayments and bill payments to be reassessed, reduced or paused where necessary, as in the gas and electricity sectors.

Another consideration for heat network operators who use an external billing provider to collect and pass customer payments to them is the security of customer payments. If the billing provider ceases trading, are the customer payments protected so that they would be passed on to the heat network operator? Ideally, customer payment monies should be held in a separate ring-fenced account. If not, the heat network operator should enquire what protection there is and if not robust, consider establishing a secure payment system or changing billing provider.

4.4.3 RHI METER READING AND CLAIMS

The Renewable Heat Incentive is an important income for many heat networks. It must be claimed by quarterly submissions to Ofgem. Guidance on the process for making claims can be found on the Ofgem website: https://www.ofgem.gov.uk/publications-and-updates/non-domestic-rhi-main-guidance or the RHI helpline: 0800 444 202.

Some companies will carry out administration and processing of RHI claims on behalf of a heat network operator. However, once the process is set up it is usually quite straightforward.

It will be necessary to take meter readings from renewable heat generating plant and other parts of the system as defined in the specific metering strategy for the system. This should form part of the business process for meter reading and record keeping.

Regardless of who processes the RHI claims, it is recommended that copies of the necessary paperwork, forms and records are kept somewhere that they can be accessed, and claims submitted in a timely manner in the absence of a key member of staff or unavailability of a contractor.

If there are any changes made to the system, such as additional connected buildings or replacement meters, these should be recorded in full. This includes details of meter type, serial number and location (with photographic record). An updated Independent Meter Assessor (IMA) report may need to be compiled and provided to Ofgem in support of any changes made.

4.4.4 HEAT NETWORK (METERING AND BILLING) REGULATIONS 2014 (AS AMENDED)

The Heat Network (Metering and Billing) (Amendment) Regulations 2020 amend the existing Regulations and will come into force on 27 November 2020. The government response to the consultation provides a high level description of changes made to the proposals, the amended requirements on heat suppliers, and a summary of stakeholder responses to the consultation (www.gov.uk/government/consultations/heat-network-metering-and-billing-regulations-2014-proposed-amendments).

The amendments to the Regulations introduce a number of changes to the notification, metering and billing requirements related to heat networks as well as support for their effective implementation and enforcement. The Regulations set out a 21-month period up to 1 September 2022 for heat suppliers to comply with new requirements.

Requirements related to the installation of building level meters (block meters) and mandatory customer level meters in newly constructed buildings supplied by district heat networks (as well as buildings undergoing major renovations) are unaffected.

More details and updated guidance on the legal requirements for heat suppliers with heat networks will be available from the OPSS website from 27 November 2020 (https://www.gov.uk/guidance/heat-networks).

5 FINANCIAL AND ORGANISATIONAL SUPPORT

5.1 SHORT-TERM FUNDING SUPPORT

Links to government and other funding support are provided in Appendix E: COVID-19 Business Support.

There might be circumstances and needs to address financial challenges which are beyond the funding available listed above.

The heat network sector is currently unregulated in the UK but, in response to recommendations from the CMA, government has committed to introducing a system of consumer regulation by 2022. As part of this framework we have consulted on introducing a system of step-in rights, similar to arrangements for troubled companies in the electricity and gas sector. However, this is still at an early stage and it is not envisioned that it will be operational for heat network companies in financial difficulties for a number of years.

During this winter period, if you find your business that operates a heat network in financial hardship, there are a few steps you may want to consider.

- Check this guidance and Supplier Directory for any offers suiting your need or post an ask on the Noticeboard relating to any services or products or operational guidance
- For financial support, as a first instance, you should consider the wide ranging COVID-19 financial support provided by the government as well as private finance via your bank
- You may also find it helpful to discuss the COVID-19 impact on your network and customers with your local authority
- You may also wish to reach out to one of the business representative organisations (listed in Appendix A: Business Representative Organisations) to understand potential introduction to other heat network operators and contractors
- If you are unable to resolve the issue after the steps listed above, you may want to consider discussing the concerns relating to the financial viability of your network with the relevant government clearly stating risks and issues, the options you have exhausted and the help you need, in:
    - England: HeatNetworks@beis.gov.uk
    - Northern Ireland: To be confirmed (use HeatNetworks@beis.gov.uk)
    - Scotland: HeatNetworks@gov.scot
    - Wales: Business Wales 03000 6 03000 or, for public sector organisations only, Welsh Government Energy Service: enquiries@energyservice.wales and EnergyPolicyMailbox@gov.wales
  The respective teams will do their best to respond in good time, you may however experience some delay if they receive a high volume of general and COVID-19 related enquiries.

5.2 ORGANISATIONAL SUPPORT

There are various national and regional agencies which can provide general business advice as well as Heat Trust which can provide advice on consumer related issues. See Appendix A: Business Representative Organisations.

5.3 OUTSOURCING / DIVESTMENT

Organisations experiencing financial distress may wish to consider selling off non-core assets, which may include heat networks. There are a number of companies that will consider buying out existing heat network operators, particularly if the system is receiving Renewable Heat Incentive (RHI) payments. In this case the balance of the RHI payments (i.e. the remaining 20 years' worth of payments from date of accreditation) would transfer to the new owner of the system.

Any such proposal should be examined carefully. Key considerations should include:

- Is the proposal for the buy-out of the whole system, or is it just part e.g. the renewable heat generation plant? If the latter, would this leave the heat network operator with maintenance responsibilities for the rest of the system? How would the cost of those maintenance responsibilities be covered?
- Who would be responsible for determining heat charges and heat supply agreements with customers? Who would be responsible for collecting heat payments from customers? Would this align with the organisations social and or charitable objectives?
- What would happen at the end of the contract or RHI period? Would the new owner be obliged to replace the heat source at end of life? Would the original operator have to contribute?
- Who would be responsible for customer service and handling customer queries?
- What provisions are there for early termination (e.g. in the event of unreliable heat supply)?

It may be worth considering re-financing the system, raising heat / standing charges or establishing some form of community ownership as an alternative to selling the system.

Business commercial and or legal advice should be sought.

6 APPENDICES

The following section contains the appendices to complement the content of this document.

6.1 APPENDIX A: BUSINESS REPRESENTATIVE ORGANISATIONS

6.1.1 UK WIDE

Industry and government have been working closely to support the national response to coronavirus.

Below is a list of organisations you can speak with to get advice. Many of these organisations are also happy to respond to non-member queries related to coronavirus.

Association for Decentralised Energy (ADE)
The Association for Decentralised Energy (ADE) is a trade association for decentralised energy, representing organisations across the industrial, commercial and public sectors.

Email external.affairs@theade.co.uk

Heat Trust
The Heat Trust is an independent, non-profit consumer champion for heat networks. For information for customers on heat networks about the Coronavirus situation please see more information here.

Email info@heattrust.org

UK District Energy Association (UKDEA)
The UKDEA brings together organisations from all parts of the district energy sector in the UK, including owners, developers, operators, contractors and suppliers of equipment and services.

Visit the UKDEA website for more information or email COVID19Support@ukdea.org.uk.

6.1.2 SCOTLAND SPECIFIC

Scottish Renewables
Scottish Renewables is the representative body of the Scottish renewable energy industry.
Visit the Scottish Renewables website for more information or email

info@scottishrenewables.com.

Scottish Federation of Housing Associations
Visit www.sfha.co.uk

Scottish Enterprise
Visit www.scottish-enterprise.com

H & I Enterprise (if you are a business in the Scottish Highlands)
Visit www.hie.co.uk

6.1.3 WALES SPECIFIC

Community Housing Wales

Visit https://chcymru.org.uk/en/

6.1.4 NORTHERN IRELAND SPECIFIC

Invest Northern Ireland

https://www.investni.com/

NI Business Info – Practical Advice for Northern Ireland Business

https://www.nibusinessinfo.co.uk/

6.2 APPENDIX B: IMPORTANT INFORMATION

6.2.1 TEMPLATE - FACTSHEET

It is recommended that operators compile a simple factsheet of key facts that would help to identify the skills and resources that an organisation might need to provide emergency assistance to a heat network. The factsheet could be compiled using the following template.

The Emergency Response Team will expect this document to be completed as far as reasonably possible as a prerequisite for the service. It is advised that copies are distributed to several people involved in the operation of the buildings and heating plant allowing staff to be unavailable at the time of an emergency and not hinder the flow of the information collected here.

Factsheet for		Network name
Basic Details	**Location** (energy centre address inc. postcode / grid reference)	
	Details of other key locations on network	
	Security and Access details	
	System owner (organisation name, address, telephone)	
	Maintenance provider (name, telephone email)	
	Key point of contact / Responsible person (name, telephone email)	
	Organisation type	Local authority / housing association or co-operative / private developer / private estate / community group / charity / other
Health and Safety	**Is asbestos present on site?** If so were (high level details) and how to access register	
	Overview of Hazards and Risks	
	Location of Hazard / Risk Whiteboard	
	Key Isolation Points for Gas, Electricity, Primary, Secondary, Tertiary Circuits and Steam	
	Isolation points locations for customer property types (if appropriate)	

	Are schematics available in plantroom?		
	COVID Risks		
	Location / Provision of Maintenance log book		
Network and customer details	**Type**	District heating scheme / community heating	
	Approx. age		
	Number of buildings connected	Individual domestic dwellings (i.e. flats / houses)	
		Multi-dwelling buildings (i.e. blocks of flats)	
		Residential non-domestic dwellings (e.g. care homes)	
		Non-residential non-domestic dwellings	
	Do any of the buildings have their own fixed back-up heating available? (i.e. own boiler)	Individual dwellings	All / some / none
		Residential non-domestic	All / some / none
		Other non-domestic	All / some / none
	Are any of the residents of the connected buildings likely to be classed as vulnerable (e.g. elderly, infirm)?		All / some / none
	Is the network in generally good working order?		Yes / no
Heat Source	**Primary heat source type** (e.g. heat pump, biomass, gas boiler etc)		
	Primary heat source output (kW) (If more than one, list all)		
	Is the primary heat source in generally good working order?	Yes / no	
	Is there a back-up or secondary heat source?	Yes / no	
	Back-up / secondary heat source type (gas, oil boiler etc)		
	Secondary heat source output (kW) (If more than one, list all)		
	Is the secondary heat source in generally good working order?	Yes / no	
Fuel supply (biomass only)	What fuel is required (chip, moisture content, wood pellet, straw, other)?		
	Are you experiencing problems sourcing reliable supplies of suitable fuel?	Yes / no	

6.3 APPENDIX C: OPERATION AND MAINTENANCE MANUALS

Below is an overview of what should be included in the operation and maintenance manuals for a heat network system. However, it is often found that operation and maintenance manuals are left incomplete or out of date. The latter is especially an issue where changes have been made to a system after initial commissioning. It is recommended that organisations audit their O&M documentation and try to obtain or update any relevant information.

O&M manuals should contain the following:

- Record drawings and schedules

- Plant room and switch room drawings, schedules and schematics

- Manufacturers operating and maintenance manuals

- Maintenance log book

Detailed recommendations are set out in documents such as CIBSE BG01/07 Handover, O&M Manuals and Project Feedback. However a simplified checklist of the key requirements are included below.

Section	Content Description	Check
1. Introduction	Title – name or identification of system	
	Date issued / revision history	
	Name, company name and address of the author of the O&M manual and telephone / email contact details	
	Company name, key personnel and contact details for all suppliers and contractors involved in the installation, commissioning and maintenance of the system	
	Contents / Index	
2. Contractual / legal	Details of ownership of the system (particularly where for instance, building substations may be owned by different parties) Details or location of any property leases or wayleave agreements	
	Construction / handover dates including installation start date(s), practical completion date and end of defects liability date	
	Details and copies of all manufacturers' guarantees or warranties together with maintenance agreements offered by sub-contractors or manufacturers. Include expiry dates.	
	Insurance inspection reports (if applicable)	
	Copies of local and public authority consents. For example, permissions required for access, alterations, noise or air quality limitations, drainage consents etc.	
	Safety and fire certificates. Certificates confirming that the premises and installed systems may be safely utilised. These shall include examination certificates by competent	

Section	Content Description	Check
	persons for pressure systems etc, together with written schemes of examination for pressure systems.	
	Software licence information.	
	Copies of Energy Performance Certificates (where applicable)	
3. Health and safety (a risk assessment should also be undertaken and updated regularly)	Details of features or characteristics that may produce a hazard. Flammable, toxic or otherwise deleterious substances necessary for the operation of systems; restricted access; pressure systems etc	
	Known hazards against which protection can be provided	
	Mandatory requirements relating to safety. To include details of all systems and equipment requiring periodic inspection/ examination/ testing to comply with relevant regulations, approved codes of practice etc	
	Relevant safety precautions. To include procedures to minimise the risk of damage or injury from recognised hazards. Requirements for special manual procedures, permits to work etc.	
	Details of recommended first aid equipment to be maintained on the premises	
4. Emergency Information	Contact information for: • Utility supplier (gas, water, electricity) emergency / loss of service helpline • Maintenance contractor's emergency call out • Provider of emergency call out service for customers (if applicable • Call out / helpline number for security/fire system maintainer	
	Location of main shut-offs for: • Water supply • Electricity supply • Gas supply • Heat mains isolation points (consider adding a coloured label or similar to identify important isolation valves	
	Instructions for safe shut down of key plant	
5. Description of services and design intent	Overview description of the system identifying all main components	
	Key design criteria to include; primary flow and return temperatures, secondary / and tertiary flow and return temperatures, pressure limitations, minimum and maximum static pressure settings, heating capacity in kW provided to all customers	
	Control strategy – an overview of how the system is to be controlled, what triggers plant to switch on and off and controls the output level	

Section	Content Description	Check
6. Equipment schedules	System by system schedules of all plant, equipment, valves, distribution boards etc including: • Component type • Unique asset number (if any) • System • Location • Number off • Duty and size • Performance figures • Manufacturer and supplier • Manufacturer's model and/or reference number • Manufacturer's serial number • Original order number	
7. System operation	Outline of general operating mode including any summer and winter operation	
	Start-up and shut down procedures. Description of procedures for whole system and individual items of plant, from fully off to fully operational, including interlocks etc.	
	Interlocks and inter-dependencies between plant and systems.	
	Precautions necessary to overcome known hazards when operating each system,	
	Procedures for bringing into operation any standby equipment (e.g. back-up boilers or pumps)	
	Instructions on fault finding and emergency in case of plant malfunction or equipment failure control sequences for all systems installed	
	Schedule of key control set-points. This would allow the system to be restored manually if the control system were completely erased. Information should include data such as temperature, flow and timeclock setpoints.	
8. Energy Management	Details of location, type and serial numbers of heat meters, electricity meters, gas meters, water meters	
	RHI metering schematic (if applicable)	
	Copies of all information submitted for RHI accreditation such as schematics, heat loss calculations etc.	
9. Maintenance instructions	Maintenance instructions for each item of plant. These may be manufacturer's standard instructions or may need to be written for the specific application.	
	Specific to this system, any adjustments, settings or calibration requirements	
	Programme / frequency of planned maintenance for each item of equipment	
	Recommended lubricants, filters or other consumables – with details of the suppliers	
10. Spares and tools	List of spare parts to be held on site, with details of suppliers Check are they all present?	

Section	Content Description	Check
	List of special tools to be held on site Check are they all present?	
11. Record drawings	Schedule (list) of all record (as-built) drawings, which should include:	
	Plant room schematic This is a vital drawing and a copy should be mounted in a convenient place in the plant room It should include a key to symbols where applicable and a valve chart with numbers cross referenced to valve tags.	
	Layout of the district heating network, showing the point of entry to buildings, the pipe sizes on each section and the location of any valves or inspection points	
	Layout or schematic of the district heating network leak detection system (where applicable) showing which alarm channel relates to which section	
	Electrical distribution and wiring diagrams for the plant room. This should include a key to symbols and should identify the plant or areas served by each circuit breaker	
	Mechanical and electrical schematics for any non-domestic customer substations or network substations	
	Mechanical and electrical schematics for any domestic customer hydraulic interface units (which not included in the manufacturer's O&M documentation	
12. Testing and Commissioning	Copies of commissioning certificates for key plant (e.g. boilers, heat pumps etc)	
	Electrical test certificates	
	Earthing test certificates	
	Copies of commissioning procedures and results of commissioning tests	
	A schedule showing the fixed and variable equipment settings established during commissioning	
13. Manufacturer's data	Product (manufacturer's) data/ literature for all items of equipment and plant installed. The information should be specific to the system and should include: - Technical datasheets - Installation, operation and maintenance instructions - Mechanical schematics - Electrical wiring diagrams - Troubleshooting guide - Parts list / assembly diagrams	
14 Materials and substances	Register of harmful substances. Details of any materials that could be hazardous to health, used in connection with or otherwise relevant to operational or maintenance activities.	
	COSHH details – materials data sheet for any hazardous materials used on the system	

Section	Content Description	Check
15 Modification information	Details of any modifications carried out on the system including: • Date • Why by • Why the modification was carried out • What modifications were made • Any impact on related systems or equipment (e.g. changed setpoints) • Result of modification Where applicable, amended mechanical schematics, wiring diagrams, control systems should be inserted as the current version and previous versions moved to a superseded folder.	
16. Maintenance log book	To be kept on site and used to record all maintenance visits. Operators should be encouraged to enter details of all maintenance operations undertaken, even if not part of a maintenance routine. For example, a record of increasing frequency of visits to re-set tripped plant or top up water levels can help to identify developing problems before they result in a breakdown.	

6.4 APPENDIX D: COVID-19 GUIDANCE

6.4.1 HOW TO RUN YOUR BUSINESS SAFELY

The link below leads to a list of 14 guides covering a range of different types of work. Many businesses operate more than one type of workplace, such as an office, factory and fleet of vehicles. You may need to use more than one of these guides as you think through what you need to do to keep people safe.

Priority actions are outlined at the top of each guide:
www.gov.uk/guidance/working-safely-during-coronavirus-covid-19

The 5 steps to working safely are:
- Carry out a COVID-19 risk assessment
- Develop cleaning, handwashing and hygiene procedures
- Help people to work from home
- Maintain 2m social distancing, where possible
- Where people cannot be 2m apart, manage transmission risk

Specific guidance is available for
Northern Ireland: www.nibusinessinfo.co.uk/campaign/coronavirus-updates-support-your-business
Scotland: https://www.gov.scot/publications/coronavirus-covid-19-returning-to-work/
Wales: https://gov.wales/keep-wales-safe-work

6.4.2 SPECIFIC GUIDANCE FOR THE CONSTRUCTION INDUSTRY

Site Operating Procedures (SOP) during COVID-19 have been published by the Construction Leadership Council. These are available from:
www.constructionleadershipcouncil.co.uk/news/site-operating-procedures-during-covid-19/

6.4.3 ACCESSING CHILDCARE AS A KEY WORKER

 "Key workers" are staff needed for *essential* service provisions for heat network operations are considered part of the critical sector under the umbrella of "utilities". The key worker status should include *essential* services for planned and reactive maintenance of heat networks under consideration of the social distancing and safer working guidance. *Companies should be mindful that not all workers in their organisations are key workers.*

Guidance can be accessed through the following link:

https://www.gov.uk/government/publications/coronavirus-covid-19-maintaining-educational-provision/guidance-for-schools-colleges-and-local-authorities-on-maintaining-educational-provision

The local restrictions differ, and companies will need to check what they are in the respective local guidance:
https://www.gov.uk/government/collections/local-restrictions-areas-with-an-outbreak-of-coronavirus-covid-19.

6.4.4 GETTING TESTED

Anyone with symptoms can get a coronavirus test, whatever their age.
www.gov.uk/guidance/coronavirus-covid-19-getting-tested

Priority access for key workers: Staff needed for essential service provisions for heat network operations are considered part of the critical sector under the umbrella of "utilities".

Specific guidance is available for
Northern Ireland: www.publichealth.hscni.net/covid-19-coronavirus/testing-and-tracing-covid-19/testing-covid-19
Scotland: www.gov.scot/publications/coronavirus-covid-19-getting-tested/
Wales: https://gov.wales/apply-coronavirus-covid-19-test

6.4.5 QUARANTINING AFTER TRAVELLING ABROAD

Coronavirus (COVID-19) regulations mean that you must self-isolate for 14 days when you arrive in the UK.
www.gov.uk/government/publications/coronavirus-covid-19-how-to-self-isolate-when-you-travel-to-the-uk/coronavirus-covid-19-how-to-self-isolate-when-you-travel-to-the-uk

This applies to UK residents and visitors to the UK – but there are exemptions:
   •   for any arrivals from countries on the travel corridor list.
   •   for highly specialised workers to carry out essential or emergency repairs on heat networks will be exempt.
Public health matters are devolved and rules for travel corridors on the arrivals in each nation.

Specific guidance is available for
England: www.gov.uk/guidance/coronavirus-covid-19-travel-corridors
Northern Ireland: www.nidirect.gov.uk/articles/coronavirus-covid-19-travel-advice
Scotland: www.gov.scot/publications/coronavirus-covid-19-public-health-checks-at-borders/pages/exemptions/
Wales: https://gov.wales/exemptions-self-isolation-coronavirus-covid-19-html

6.5 APPENDIX E: COVID-19 BUSINESS SUPPORT

The government offers wide ranging Coronavirus (COVID-19) support to businesses and households. This includes loans, tax relief and cash grants, support for employers and self-employed.

6.5.1 GENERAL RESOURCES

Links to UK government backed support schemes:

Business Support finder: www.gov.uk/business-coronavirus-support-finder

Finance and grant announcement: www.bgateway.com/resources/finance-and-grant-announcements

Treasury announcements including recent budget
https://www.gov.uk/government/organisations/hm-treasury

6.5.2 UK WIDE SUPPORT

6.5.2.1 Paying Your Employees

Available UK-wide
www.gov.uk/government/collections/coronavirus-job-retention-scheme

6.5.2.2 Paying Sick Pay

Available UK-wide
www.gov.uk/guidance/claim-back-statutory-sick-pay-paid-to-employees-due-to-coronavirus-covid-19

6.5.2.3 Paying Tax

Available UK-wide
Deferral of VAT payments due to coronavirus (COVID-19)
Defer your Self Assessment payment on account due to coronavirus (COVID-19)

6.5.2.4 Support for the Self-Employed

Available UK-wide
Check if you can claim a grant through the Self-Employment Income Support Scheme

6.5.2.5 Support for Small and Medium-Sized Businesses

Available UK-wide
The Coronavirus Business Interruption Loan Scheme (CBILS)
The Coronavirus Bounce Back Loan

6.5.2.6 Support for Large Businesses

Available UK-wide
The Coronavirus Large Business Interruption Loan Scheme (CLBILS)
The COVID-19 Corporate Financing Facility

6.5.2.7 Kickstart Scheme

The Kickstart Scheme provides funding to employers to create job placements for 16 to 24-year olds on Universal Credit
www.gov.uk/government/collections/kickstart-scheme

6.5.3 ENGLAND SPECIFIC SUPPORT

6.5.3.1 Support for Businesses During Lockdowns

England only
www.gov.uk/guidance/check-if-youre-eligible-for-the-coronavirus-local-restrictions-support-grant

6.5.4 SCOTLAND SPECIFIC SUPPORT

6.5.4.1 Coronavirus business support in Scotland

https://findbusinesssupport.gov.scot/coronavirus-advice

6.5.5 WALES SPECIFIC SUPPORT

6.5.5.1 Business Wales

Advice for Businesses in Wales on support available to help with the impact of coronavirus.
https://businesswales.gov.wales/coronavirus-advice/

6.5.5.2 Economic Resilience Fund

This fund is intended to support businesses in Wales with development projects to assist with recovery from the effects of the Covid-19 pandemic and future sustainability. The funding will remain open until 25 November 2020 or until funds are fully committed.
https://businesswales.gov.wales/coronavirus-advice/support/financial-support-and-grants

6.5.5.3 Welsh Government Energy Service

The energy service provides community organisations and the public sector with technical, commercial and procurement support to develop energy efficiency and renewable energy projects. The energy service helps with financial planning and funding, for example interest free loans and grants.
https://gov.wales/energy-service-public-sector-and-community-groups

6.5.6 NORTHERN IRELAND SPECIFIC SUPPORT

6.5.6.1 Invest Northern Irelands

https://www.investni.com/support-for-business

6.5.6.2 Guidance Information for Northern Ireland Business Employers

https://www.gov.uk/government/news/covid-19-guidance-information-for-ni-businesses-employers

6.5.7 ADDITIONAL GOVERNMENT RESOURCES TO SUPPORT BUSINESS DURING CORONAVIRUS DISRUPTIONS

The following link provides resources that may be applicable to businesses, employees and the self-employed. This includes:

- the business support helpline

- the HMRC helpline

- webinars

- Growth Hubs

- the Skills Toolkit

www.gov.uk/guidance/additional-government-resources-to-support-your-business-during-coronavirus-disruptions?priority-taxon=09944b84-02ba-4742-a696-9e562fc9b29d

If your business needs more workers as a result of COVID-19, post vacancies on:

https://findajob.dwp.gov.uk/

The Construction Industry Training Board (CITB) launch a Talent Retention Scheme to secure skills, talent and experience in the sector, employers can register their interest here:

www.trs-system.co.uk/construction

For latest updates please check the Financial support for businesses during coronavirus (COVID-19):
https://www.gov.uk/government/collections/financial-support-for-businesses-during-coronavirus-covid-19

6.5.8 NON-FINANCIAL CORONAVIRUS SUPPORT FOR BUSINESS

Government, public bodies, organisations and charities have produced additional resources that may be useful to employers and employees.

Coronavirus support for business from outside government
Find out how to make your workplace COVID-secure
How to carry out a COVID-19 risk assessment

6.6 APPENDIX F: HEALTH AND SAFETY

6.6.1 TEMPLATE – HEALTH AND SAFETY RISK ASSESSMENT

Front page and guidance

This is a standalone Risk Assessment Template and should only be used for location or workplace specific assessments. A hard copy of this form should be available on site throughout the duration of the works/tasks.

Project/Location	Example	Address	Anywhere
Risk Assessment Ref		Assessment Completed By	
Risk Assessment Date		Assessment Authorized By	

Assessor Signature / Date	
Authorisation Signature / Date	

• Identify the hazard(s) associated with the activity
• Identify the potential risks associated with the activity
• Consider the potential severity and likelihood that the risk may occur without any controls being in place using the prompts on the matrix to the right
• Identify the colour category that applies to the activity
• Identify effective, resourced and suitable control measures that eliminate, mitigate or control the risk(s)
• Re-evaluate the residual risks that remain and applicable colour code
• Identify those responsible for implementing those controls
• ALWAYS CARRY OUT A DYNAMIC/POINT OF WORK RISK ASSESSMENT BEFORE COMMENCING WORK
• Make sure those affected by the risks have been briefed, understand and are able to implement the controls
• If you are unsure about any part of this process contact your Line Managers or H&S advisor.

Identify the square which reflects potential severity and likelihood of a event occurring	Consequence or Severity	Trivial	Minor Injury/ First Aid/ Disease	Moderate Injury Beyond First Aid/ Disease	Serious Injury/ Disease	Fatal Injury/ Disease
Likelihood		1	2	3	4	5
Unlikely	1	Low	Low	Low	Moderate	Moderate
Seldom	2	Low	Moderate	Moderate	High	High
Often	3	Low	Moderate	High	High	Extreme
Frequent	4	Moderate	High	High	Extreme	Extreme
Certain	5	Moderate	High	Extreme	Extreme	Extreme

Risk assessment – add rows as required

Site Specific Risk Assessment							
Significant Hazards Identified	**Risk** *(who might be harmed and how)*	**Current Control Measures**	**Risk Rating (Likelihood Severity)**	**Risk Grading (from matrix)**	**Additional Control Measures**	**Risk Rating**	**Final Risk Rating (from matrix)**
Example - leak of hot water under pressure from district heating pipework within buildings	Residents/visitors, maintenance staff - scalding injury, wet surfaces causing slips and falls	Pipework insulated and clad to prevent direct contact with public. Pressure test at installation. Maintenance of water quality to avoid corrosion	2 / 4	**High Risk - Provide additional controls and review again**	Annual inspection of pipework to identify any deterioration	1 / 4	**Moderate Risk - Proceed**
			Likelihood / Severity			Likelihood / Severity	
			Likelihood / Severity			Likelihood / Severity	
			Likelihood / Severity			Likelihood / Severity	

Outstanding Actions					
Use this section to detail any outstanding actions including how the controls detailed above will be communicated to those concerned					
Activity/Situation Hazard	Action Required (Note: consider health surveillance requirements, additional engineering controls, Personal Protective Equipment, employee training)	Owner	Target Date	Completed by	Completed Date
Example - Leak from pipework; annual inspection required	Add annual pipework inspection to maintenance schedule	Operations Manager			

This has been provided as an excel document here for ease of use

Risk Assessment
Template.xlsx

6.7 APPENDIX G: BUSINESS CONTINUITY PLANNING

6.7.1 TEMPLATE – BUSINESS CONTINUITY PLAN

Below is a sample template for a business continuity plan.

Focus		Title		
Scope				
Description/Objectives				
Plan Owner		Last Reviewed		

Business Impact Analysis				Business Continuity		
Disruptive Event & Impact	Maximum Tolerable Period of Disruption	Recovery Time Objective	Possible Effect on Service as a Result of the Disruptive Event	Mitigating Actions	Business Continuity Actions	Action Owners
1						
2						
3						
4						
5						
6						
7						
8						
9						
10						
11						
12						

Guidance notes for business continuity plan:

Content	Guidance
Disruptive Event & Impact	"Description of a generic type of disruptive event e.g what is the impact 'Loss of' [avoid using a cause of disruption e.g. 'Fire')
Possible effect on service as a result of the disruptive event	Classify (e.g. minor, medium, severe) and a brief description
Mitigating Actions	The immediate response to a disruptive event that limits or negates the impact

Term (Acronym)	Definition
Business Continuity Actions	Description of the actions required to meet the RTO e.g. Additional steps beyond the immediate response to ensure continuation of services acceptable levels
Maximum Tolerable Period of Disruption (MTPD)	Time it would take for adverse impacts, which might arise as a result of not providing a product/service or performing an activity, to become unacceptable
Recovery Time Objective (RTO)	Period of time following a disruption/ incident within which: • product or service must be resumed, or • activity must be resumed, or • assets and resources must be recovered to the minimum level of acceptable service"

Business Continuity
Plan template.xlsx

This has been provided as an excel document here for ease of use

6.8 APPENDIX H – THE HEAT NETWORK EMERGENCY RESPONDERS

Below are the general principles and code of conduct of the emergency responders if you are interested in joining please email heatnetworks@beis.gov.uk using "**Joining heat networks emergency responders**" in the header.

6.8.1 GENERAL PRINCIPLES

We recognise the vital role that heat networks play in delivering heat across the United Kingdom.

We recognise supplying heat to many of the heat networks customers is vital for their health and wellbeing, for example in delivering to domestic customers, care homes and hospitals.

We also understand the importance of delivering heat to commercial organisations to enable them to continue working effectively. For example, in this emergency context there may well be operations producing vital COVID-19 related equipment and or services that rely on heat networks to continue activities

The heat network industry has been working hard to mitigate the continuing risks associated with COVID-19, however it is clear that not every heat network will have been able to plan for some potential risks to the supply of vital people and parts to ensure their networks can continue running safely throughout this heating season.

We, as representatives of the industry, commit to take all reasonable measures we can to offer our capabilities and capacity of our people and parts to work to deliver emergency response to those networks identified in need of emergency support when all other reasonable measures taken by them have failed.

We agree to continue to co-operate on these challenges and review the process regularly thought the heating season.

To be clear this is a service to support COVID-19 emergency response required for heat networks (district and communal) that have been self-identified as presenting risk to life if they fail to continue to work effectively due to a shortage and/or unavailability of skilled people or parts. The emergency response team will not be vehicle to take on commercially failing heat network operations.

6.8.2 EMERGENCY RESPONDERS CODE OF CONDUCT

We agree too:

1. Work safely and responsibly, noting that the safety of staff is our primary responsibility and they will not be expected undertake work if there is a safety issue

2. Prioritise those most in need, be it our own or other organisations, without compromising our existing responsibilities

3. Take reasonable endeavours to ensure heat is delivered to vulnerable customers as a priority within the scope of being a first responder

4. Provide support for heat networks allocated to our company through the triage system to identify the cause of the issue and advise and support the resolution of those issues

5. Work with other members of the heat network industry to support this endeavour in an open and transparent way

6. Seek reasonable and fair recompense for the service delivered

7. Respect competition law, confidentiality, and pre-existing contractual relationship where possible in the context of the emergency condition and available information at that time.

8. Share experience to ensure all benefit from the learning / experience