

BUSINESS CONTINUITY PLAN

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Related Documents	Major Incident Plan, Pandemic Flu Plan
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PREFACE

1.	Preface	
	<p>Business Continuity is a planned process that endeavours to provide a framework for organisational response to any adverse or disruptive event that may alter normal service provision.</p> <p>BS25999 parts 1&2 define Business Continuity as “Strategic and tactical capability of the organisation to plan for and respond to incidents and business disruptions in order to continue business operations at acceptable pre-defined levels within agreed time frames.”</p> <p>The Civil Contingencies Act (2004) identifies all NHS organisations as Category 1 responders this legislation places the burden of responsibility on such organisations to “plan, test and train for response against a range of disruptive challenges.”</p> <p>Business Continuity is required to be robust, with a clearly defined risk assessment, strategy for resilience and strategy for recovery of usual service provision.</p>	

SECTION 1

OPERATIONAL ARRANGEMENTS

SECTION 1

OPERATIONAL ARRANGEMENTS

1.2	Purpose of Plan	
	<p>This guidance aims to describe:</p> <ul style="list-style-type: none"> • The Business Continuity objectives for the Trust • How the plan will be activated & alerting procedures • Roles and responsibilities • The Business Continuity planning process and the risk assessment process • The critical services that require maintaining during an adverse event • The recovery process the Trust will undertake following a period of disruption (contained within individual Divisions and Departments Business Continuity Plans) • Business Continuity plans for certain predictable adverse/ disruptive events such as a fuel crisis or stoppage, loss of communications and management of extreme weather conditions. (contained within the Appendices) • Division and Department specific Business Continuity Plans (Contained within the Appendices) 	

1.3	Objectives	
	<p>The primary objective of the Trust Business Continuity Plan is to minimise disruption and speed recovery following adverse events, whether they be internal or external.</p> <p>The Trust Business Continuity Plan is expected to “have the ability to be without key utilities for up to three days and restart priority clinical services at seven days” (NHS Resilience and Business Continuity Management Guidance 2008), additionally national guidance insists that the Trust identifies the assets that will need to be available to maintain critical services for the first hour, 24hours, 3 days and for 7 days. The consequences of not having such plans in place may include:</p> <ul style="list-style-type: none"> • Loss of life or irreparable injury • Loss of public confidence and adverse publicity • Exposure to the potential to legal action • Financial penalties <p>It is the ambition of Business Continuity Planning that the Trusts response to disruption is made in a coordinated manner, in which all stakeholders are fully informed of the challenges and solutions to managing the period of disruption.</p> <p>The Business Continuity Plan must also provide for recovery and restoration of normal service thereby avoiding additional financial penalties or loss of public confidence following a period of disruption. Additionally the Trust must ensure at an early stage the engagement of external distributors and suppliers to ensure that their Business Continuity arrangements are in place. This will entail Business Continuity</p>	

	<p>being agreed with suppliers at the commissioning and contracting stage of negotiation and engagement.</p> <p>Business Continuity is also an essential component of the external review and monitoring performed by the “Standards for Better Health” and is now a British Standard BS25999 which provides both a code of practice and certification.</p>	
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1.4	Activation of the plan	
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Other than for training purposes, it is intended that this plan is activated whenever there is an internal or external event that causes disruption or interruption to services. This may be in the form of energy shortages, water or food restrictions, strike action or pandemics etc.

The plan will be activated by the Executive Team (ET) in direct consultation with the Emergency Planning Lead. It is likely that the alert to an external disruptive event will be communicated by the LRF eg. Fuel shortages.

Alert to an internal event may be triggered by any member of staff, patient or visitor. When responding to an internal disruptive event it may only be necessary to initiate part of the Business Continuity Plan. Equally an internal alert to a disruptive event that may require activation of the Business Continuity Plan may escalate to affect partner agencies.

Communication with all partners is therefore of paramount importance. It will be at the discretion of the LRF and ET whether the disruptive event that has required activation of the Business Continuity Plan also warrants that activation of the Major Incident Plan and in the case of a pandemic or other highly infectious diseases the activation of the Pandemic Flu Plan.

The command and control structure is shown below.

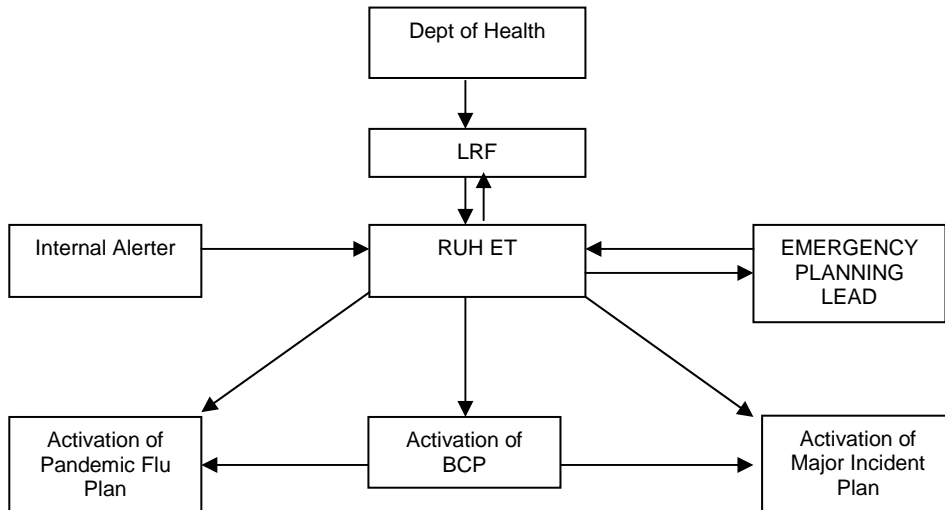


Figure 1. Command and Control arrangements for the activation of the Business Continuity Plan

1.5

Business Continuity Planning Process

The NHS Resilience and Business Continuity Management Guidance 2008 describes 5 key stages in the Business Continuity Planning process these are:

- Programme management; establish and maintain business continuity capability
- Understanding your business; identify critical services, recovery priorities and assess risks that could disrupt service provision
- Determining Business Continuity strategies; identifying the alternative strategies available to mitigate loss
- Developing and implementing a business continuity response; develop plans, procedures, education, training and awareness
- Exercising, maintaining and reviewing; ensuring plans are fit for purpose, updated and quality assured.

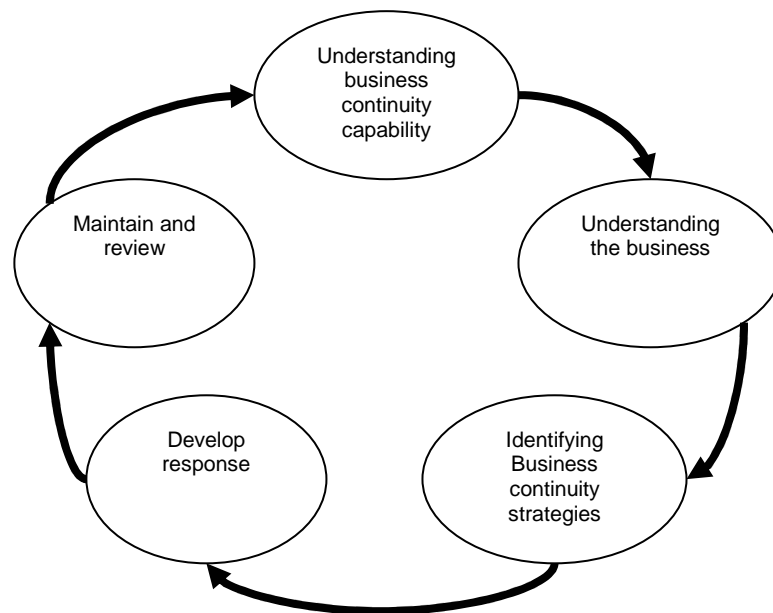


Figure 2. The Business Continuity Planning Cycle

1.6	Programme Management	
	<p>The NHS Resilience and Business Continuity Management guidance 2008 identifies the Chief Executive of the Trust as having responsibility for ensuring that there is a Business Continuity plan in place that will confidently address the needs of the Trust as per the CCA 2004. It is therefore imperative that Business Continuity is achieved at every level of the organisation. All participants must be familiar with and have a responsibility and commitment towards ensuring its success. Business Continuity must become part of every manager's normal daily responsibility. The inclusion of Business Continuity as a standing agenda item must become usual practice at relevant divisional and departmental meetings.</p> <p>Within the Trust the Director of Patient Care delivery holds executive responsibility for ensuring that the Trusts Business Continuity Plan is robust, resilient, and can be readily activated.</p> <p>It is each Divisions responsibility to ensure that every ward and department has a Business Continuity Plan, and that such plans are regularly tested and reviewed. These plans can be found at Appendix 5 Within the remit of all managers within the Trust it is vital that Business Continuity becomes embedded into daily work streams. The benefits of such embedding are:</p> <ul style="list-style-type: none"> • A more efficient Business continuity plan • Increased confidence in the Trusts ability to manage disruptive challenges • Increased resilience to disruptive challenges • Minimising of the impact of disruption <p>The Emergency Planning Lead will act as a liaison point between the Trusts risk manager and Divisional/ Departmental managers to ensure that all critical services identified are entered onto the Trusts risk register. In addition to the Divisional and Departmental Business Continuity Plans it is the responsibility of the Emergency Planning Lead, in liaison with the Trust risk manager, to identify and plan for known external disruptive events, e.g. Heatwave, Fuel crisis etc.</p> <p>The Emergency Planning lead also holds responsibility, in liaison with the Manager of facilities and the Trust risk manager, for planning for events that may cause Trust wide disruption. E.g. Communications failure, loss of energy etc.</p> <p>Effective Business Continuity is built on the Seven P's (Emergency Preparedness, Civil Contingencies Secretariat, 2005):</p> <ul style="list-style-type: none"> • Programme- proactively managing the process • People- roles and responsibilities, awareness and education • Processes- all organisational data and processes, including ICT • Premises- buildings, facilities and equipment • Providers- supply chain, including outsourcing and utilities • Profile– brand, image and reputation • Performance– benchmarking, evaluation and audit <p>These key points will form the basis of every Division and Department Business Continuity Plan.</p>	

The Business Continuity Plan is accessible in paper format via the EPLO for the Trust or electronically via the intranet.

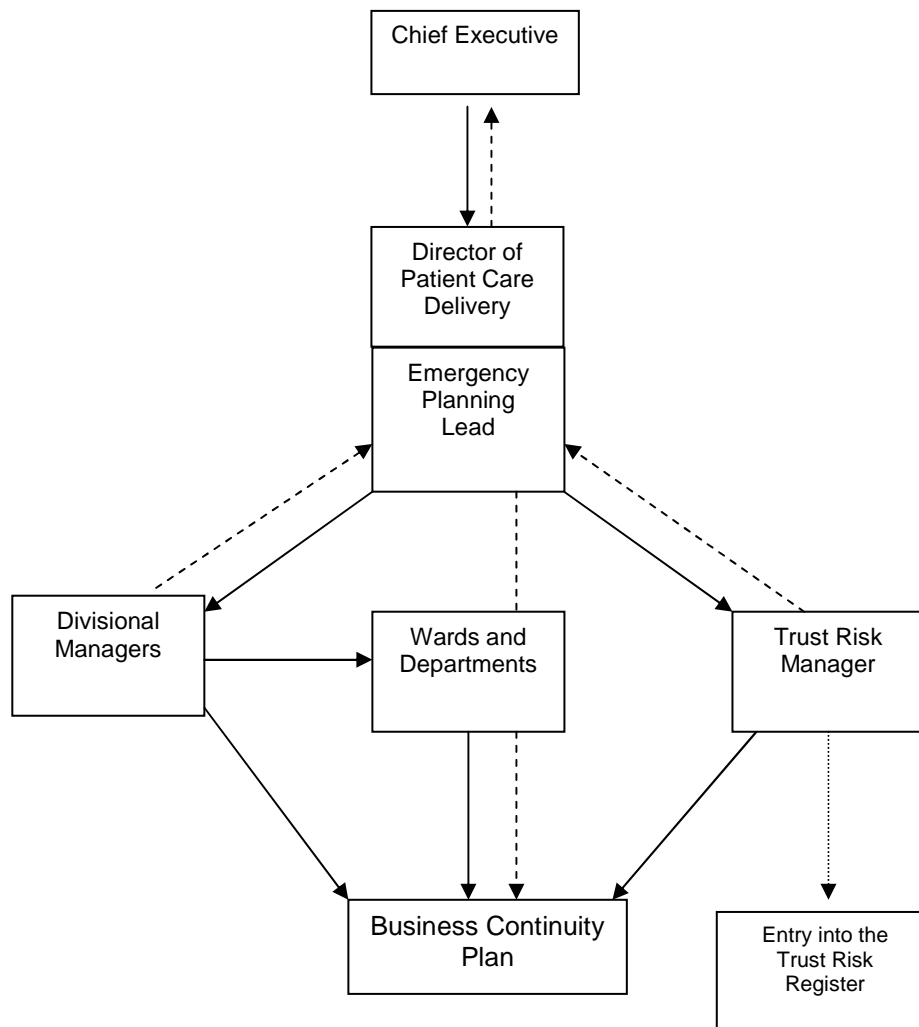


Figure 3. The Business Continuity Planning Process

1.7	Identify Critical services	
	<p>To develop a complete Business Continuity plan it is very important that the business is fully understood with an all-inclusive list of critical services.</p> <p>It is each Division and Department managers' responsibility for identifying which services they consider to be critical and which services can be suspended to reallocate resources to critical services.</p> <p>All identification of critical services must be done in collaboration with the Trust risk assessment process, this involves scoring the risk as per the risk assessment matrix, see Appendix 4</p> <p>Once the critical services have been identified and the risk assessed against the risk assessment matrix the next step in the Business Continuity planning process is to decide what action to take in response to the risk:</p> <ul style="list-style-type: none"> • Accept the risk 	

	<ul style="list-style-type: none"> • Transfer or end the process • Insure • Mitigate • Plan for business continuity <p>When examining critical services the responsible manager must define the Maximum Tolerable Period of Disruption (MTPoD). This is the period defined by BS 25999 as “the duration after which an organisations viability will be irrevocably threatened if the service delivery cannot be resumed.” This must be balanced against the Recovery Time Objective (RTO) which is “the target time set for the resumption of a service delivery after an incident.” (BS25999)</p>	
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1.8	Determining Strategies for Business Continuity	
	<p>The NHS Resilience and Business Continuity Management Guidance 2008 describes a four step process to determine Business Continuity Strategies:</p> <p>Incident Response: For the Trust to manage disruptive events an Incident Response Structure (IRS) is required to ensure that the organisation can respond at the speed of the incident. To aid clarity and minimise confusion the Trust will use the same Structure as that used during a Major Incident. This will also aid a seamless move from disruptive event to Major incident plan activation if the situation dictates:</p> <p>Operational (Bronze) coordination of a disruptive challenge will be firstly by the Site manager as they provide a 24hr 7 day a week service and secondly by a senior manager.</p> <p>If required an Operational Control Room (OCR) will be located in the South corridor. The OCR normally provides accommodation for the patient access team and the nurse bank.</p> <p>Tactical (Silver) Coordination will be managed by the Duty Director, The main role of Silver command will be to liaise with other silver control areas in other Trusts and allied areas. Silver control will also have responsibility for reallocation of resource for the cancellation of elective work and for calling a major incident if the level of disruption is considered severe enough.</p> <p>If required a Tactical Control Room (TCR) will be located in the Directors Offices on the first floor above the OCR.</p> <p>If email contact with either the OCR or TCR is required the major incident email accounts will be utilised:</p> <p>majorincident-bronze@ruh-bath.swest.nhs.uk</p> <p>majorincident-silver@ruh-bath.swest.nhs.uk</p> <p>Gold command would only be utilised if a large scale disruptive challenge</p>	

	<p>that requires strategic decisions to be made. Gold command will be based in the Local Emergency Centre at the Headquarters of the Avon and Somerset Constabulary at Portishead or at Wiltshire Police Headquarters in Devizes.</p> <p>Selecting the strategy: When selecting the appropriate Business continuity strategy there are 3 levels at which the strategy can be set; cannot fail, recovery within RTO, suspend. When considering the resumption of service managers are expected to produce plans that enable the sharing of information about the timescales involved with key stakeholders. This may include producing a timetable of staged return to normal service.</p> <p>Relationships with key stakeholders: The Trust must maintain excellent communication with stakeholders as during a period of disruption expectations of the Trusts capabilities will be high. The Trust will adopt the same communication strategy that is mobilised during a major incident. Once again this ensures a smooth transition to major incident operating procedures if the major incident plan is activated.</p> <p>Restoration of non critical services: It is a key part of the Trusts response to disruption to resume non critical services within an agreed timeframe to minimise the “back log trap”.</p>	
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1.9	Developing and implementing plans	
	<p>The Trust Business Continuity plans must be developed to provide answers to the following questions:</p> <ul style="list-style-type: none"> • What needs to be done • When • Where are the alternative resources located • Who is involved • How will continuity be achieved <p>(NHS Resilience and Business Continuity Management Guidance 2008) This guidance also provides headings for how Business continuity plans should be structured, these can be found within Appendix 1 When implementing plans a corporate awareness of roles and responsibilities is essential so that the culture of Business continuity is managed from the top down and is embedded throughout the organisation.</p>	

1.10	Exercising, maintaining and reviewing	
	<p>The Trust Emergency Planning Lead/EPLO holds responsibility for the annual (or earlier if required) review and exercising of the Business continuity plan. Further details can be found at http://www.ukresilience.info/preparedness/ccat/goodpractice/exercising.aspx</p>	

SECTION 2

HEATWAVE GUIDANCE

SECTION 2

HEATWAVE

2.1 Introduction

A heatwave is described as a period of abnormally high ambient temperature lasting for a couple of days or more. With the continuing problem of climate change it is anticipated that the UK will continue to see heatwaves such as those experienced in 2003 and 2009 when there were approximately 300 excess summer deaths; the majority of these deaths occurred in the over 75 year olds. The Climate Change Act 2008 now make it a requirement for all statutory sectors, including the health sector, to have robust adaptation plans in place to manage heatwave situations.

2.2 Heat-Health Watch system

A heat-health watch system will be in operation from 1 June to 15 September based on Met Office forecasts, which will trigger levels of response from the Department of Health and other bodies.

Level 1: Summer preparedness and long term planning

During the summer months, the Trust needs to ensure that awareness and background preparedness are maintained by the measures set out in the Heatwave plan. Long term planning includes year round joint working to reduce the impact of climate change and ensure maximum adaptation to reduce harm from heatwaves. Changes to the built environment should introduce ways to cool buildings and make them more energy efficient.

Level 2: Alert and readiness

This is triggered as soon as the Met Office forecasts that there is a 60% chance of temperatures being high enough on at least two consecutive days to have significant effects on health. This will normally occur 2-3 days before the event is expected. As death rates rise soon after temperature increases, with many death occurring in the first two days, this is an important stage to ensure readiness and swift action to reduce harm from a potential heatwave.

Level 3: Heatwave action

This is triggered as soon as the Met Office confirms that threshold temperatures have been reached in any one region or more. This stage requires specific actions targeted at high risk groups.

Level 4: Emergency

This is reached when a heatwave is so severe and/or prolonged that its effects extend outside health and social care, such as power or water shortages, and/or where the integrity of health and social care systems is threatened. At this level, illness and death may occur among the fit and healthy, and not just in high-risk groups and will require a multi-sector response at national and regional levels.

2.3 Health Guidance

There are a number of key messages for the care and protection of patients, staff and visitors during a heatwave.

Heatwave conditions can result in the following illnesses:

- **Heat cramps** – caused by dehydration and loss of electrolytes, often following exercise
- **Heat rash** – small, red, itchy papules
- **Heat oedema** – mainly in the ankle, due to vasodilation and retention of fluid
- **Heat syncope** - dizziness and fainting, due to dehydration, vasodilation, cardiovascular disease and certain medications
- **Heat exhaustion** – is more common. It occurs as a result of water or sodium depletion, with non-specific features of malaise, vomiting and circulatory collapse, and is present when the core temperature is between 37°C and 40°C. Left untreated, heat exhaustion may evolve into heatstroke.
- **Heatstroke** – can become a point of no return whereby the body's thermoregulation mechanism fails. This leads to a medical emergency, with symptoms of confusion; disorientation; convulsions; unconsciousness; hot dry skin; and core body temperature exceeding 40°C for between 45 minutes and 8 hours. It can result in cell death, organ failure, brain damage or death. Heatstroke can be either classical or exertional (e.g. in athletes).

In moderate heatwave conditions it is mainly high-risk groups noted below who are affected. However, during extreme heatwave conditions normally fit and healthy people can also be affected.

- Older age especially in women over 75 years of age
- Chronic and severe illness
- Inability to adapt behaviour to keep cool – e.g. babies, older people
- Environmental factors and overexposure

2.4 Keeping Cool

The body normally cools itself using four mechanisms:

- Radiation in the form of infrared rays
- Convection via water or air crossing the skin
- Conduction by a cooler object being in contact with the skin
- Evaporation of sweat

Ways to reduce the effects of excessive heat:

- Keep out of the sun between 11am and 3pm
- Wear loose fitting clothing
- Ensure patients have light cotton bedding
- Ensure windows are opened to their fullest extent
- Keep wards and bed spaces shaded where practicable
- Take a cool shower, bath or body wash. Sprinkle water over skin or clothing
- Drink plenty of cold fluids, avoid caffeine and hot drinks
- Offer cold foods particularly salads and fruit with high water content
- Turn on air conditioning/fans if available

- Ensure alternative fluids are prescribed and administered appropriately for those unable to drink e.g. IV, NG
- Maintain accurate fluid balance charts for those at risk of dehydration
- Ensure that you identify those patients with chronic illnesses as described above
- Ensure there are ward thermometers

2.5 Divisional/Departmental Duties and Responsibilities

Alert Level 1:

The primary level of responsibility of the Divisions/Departments at this stage is to raise awareness amongst staff about the health problems related to a heatwave and the steps that can be taken to reduce this risk. In addition the Heatwave plan for England states a number of actions that Trust must take at this stage of preparedness:

- Indoor thermometers should be installed in areas that are responsible for looking after vulnerable people.
- During a heatwave thermometers should be monitored at least four times a day.
- Temperatures throughout the hospital must not exceed 26°C
- Cool areas and cool rooms must be identified with a constant temperature of less than 26°C particularly for high-risk patients
- Sufficient staff should be available in the event of a heatwave
- The Trust must consider shading, insulating and 'greening' the environment
- The Emergency Planning Officer is the nominated person for receiving and communicating heatwave emergency information

Alert Level 2:

- Ensure cool rooms/areas have been identified and ready to receive patients
- Ensure that thermometers are in place and procedures established to check and record temperatures at least four times a day
- Identify naturally cooler rooms which can be used if necessary
- Identify particularly vulnerable individuals who may be prioritised for time in a cool room
- Obtain and ensure that sufficient supplies of ice/cool water are available
- Examine staffing and ensure that staffing levels are sufficient to cover the anticipated heatwave period
- Reiterate messages on risk and protective measures to staff
- Continue with level 1 responsibilities

Alert Level 3:

- Implement appropriate protective factors, including regular supplies and assistance with cold drinks
- Ensure cool rooms are consistently below 26°C as this is the temperature threshold at which many vulnerable patients find it difficult to cool themselves
- Check that indoor temperatures are recorded four times a day for all patient areas
- Identify particularly vulnerable individuals for prioritisation in cool rooms
- Monitor and minimise temperatures in all patient areas and take action if the temperature is a significant risk to patient safety

- Reduce internal temperatures by turning off unnecessary lights and electrical equipment
- Consider moving visiting hours to mornings and evenings to reduce afternoon heat from increased numbers of people
- Use cross ventilation to cool but staff should be aware of the potential for cross infection
- Continue with Level 1 and 2 responsibilities

Alert Level 4:

It is possible that a major incident may be declared at this level. In the event of a major incident being declared, all existing emergency procedures will apply in addition to the Alert levels 1-3 guidance above.

2.6 Trust Management Duties and Responsibilities

Level 1:

- Currently in the RUH some wards and departments have a thermometer available to monitor temperature. It is the individual ward/department manager's responsibility to purchase a thermometer, ensure it is correctly calibrated and to perform readings at the required intervals. See Appendix 3 (Temperature recording template) of the Business Continuity plan.
- Within each ward/department area the manager must identify an area that can be cooled sufficiently to less than 26°C. If no such area is available then ward managers are tasked with identifying particularly vulnerable patients and providing bedside cooling for such patients e.g. with the use of fans.
- In areas that cannot be sufficiently cooled e.g. Labs alternative strategies must be sought. Security presence will need to be increased to enable windows to be left open overnight to ensure adequate cooling of the environment.
- Patient areas that are known to be hotter than other parts of the hospital will be prioritised for allocation of fans. The ward manager/nurse in charge must identify particularly vulnerable patients to the site manager to be moved (where possible and clinically appropriate) to alternative cooler areas, e.g. top floor OPU wards.
- All heatwave communication must be via the Emergency Planning Officer.
- All planned development within the hospital site will take into account the need for cooling, reducing climate change, reducing the carbon footprint and increasing the greenness of the environment.

Level 2:

- Every ward within the Trust has mains drinking water access and most departments have either mains drinking water access or water fountains. In the event of an ongoing heatwave additional supplies of drinking water will be purchased in vac packs from NHS Logistics to supplement supplies.
- The pharmacy stores have sufficient crystalloid fluids available to allow for a 2x increase in consumption of IV fluids for one week. Delivery time for IV fluids is approx 72 hrs, if a heatwave is anticipated Pharmacy stores will give consideration to the volume of fluids in stock and the ordering of further supplies. See Appendix 4 (Fluid stocks held in RUH Pharmacy Stores) of the Business Continuity Plan.

- Ward Managers allocate staffing 6 weeks in advance and work in close liaison with senior nurses and staffing solutions.
- Alert level 1 responsibilities continue

Level 3:

- The Trust will liaise closely with partner organisations such as the LAs and PCTs to ensure that all patients are safely discharged and able to manage self care in respect of the heatwave. All patients should be given the leaflet “Looking after yourself and others during hot weather” on discharge from the hospital during a heatwave. This can be downloaded from:

http://www.dh.gov.uk/prod_consum_dh/groups/dh_digitalassets/@dh/@en/documents/digitalasset/dh_116025.pdf

SECTION

3

TELECOMMUNICATIONS FAILURE

SECTION 3

TELECOMMUNICATIONS FAILURE

3.1	Introduction	
	<p>This section of the Business Continuity plan aims to describe the actions to be taken on the event of a partial or total telecommunications failure. This section has been taken from the Major Incident plan and will be used in conjunction with the Major Incident plan as a total telecommunications failure would in all probability lead to a declaration of a major incident. The numbering in brackets of the sub sections is taken from the Major Incident plan.</p>	
3.2 (13.1.1)	<p>Public Telephone Network Failure General Information</p> <p>The Trust uses two Telephone Service providers. Incoming traffic is carried by British Telecom (BT) and outgoing traffic is routed via Telewest Communications as a first option and BT as a second. If the Telewest Communications service is not available, outgoing traffic will automatically divert to BT.</p> <p>Incoming calls to the Switchboard on the Trust's main number are carried on digital trunk lines. Calls made direct to extension numbers (Direct Dial In or DDI) are carried on a separate set of digital trunk lines. The Switchboard and DDI connections may fail together or independently.</p> <p>Pay phones and other independent exchange lines such as the Major Incident lines may still work, dependant on the scale of the PSTN failure.</p> <p>Failure of the PSTN will not affect the internal phone system or site paging (bleeps).</p> <p>Failure of the PSTN may be due to:</p> <ul style="list-style-type: none"> • Failure of the service providers' equipment on our site • Failure of the service providers' equipment or distribution network off-site • Congestion on the networks causing the service providers' exchange to become jammed <p>Either service provider can diagnose the cause of any failure remotely, and in some cases can correct the fault in the same way.</p>	

3.3 (13.1.2)	Incoming Service <ul style="list-style-type: none"> • Any suspected fault should be reported to BT quoting the Trusts full telephone number • Site Manager is informed of the developing situation • If calls coming in to the Trusts main number are disrupted, BT may be asked to divert calls to the Telewest Communications service • DDI calls cannot be diverted • If no incoming calls can be received see "Total Failure" Below 	
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3.4 (13.1.3)	Outgoing Service <p>a) Failure of BT Service Traffic will divert automatically to Telewest Communications lines; report fault to BT quoting the Trusts full telephone number</p> <p>b) Failure of Telewest Communications Service Traffic will divert automatically to BT lines; report fault to Telewest Communications quoting the Trust's account number</p> <p>c) Total Failure (or unavailability of the PSTN due to congestion)</p> <ul style="list-style-type: none"> • Advise Site manager • Contact BT quoting the Trusts full telephone number and advise "Major Service Failure" • Contact Telewest Communications, quoting the Trust's account number • Emergency Incoming and Outgoing messaging using Major Incident Phones situated in Major Incident Rooms and ED. (exchange line numbers are on the phones) • Emergency Incoming and Outgoing messaging using Mobile Phones • Emergency Incoming and Outgoing messaging via RAYNET/Emergency Department Radio Link. If RAYNET are not on site contact Ron Amblin, RAYNET Controller B&NES Area 	
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3.5 (13.1.4)	<p>The Trust uses an ISDX 3000L switchboard maintained by British Telecom (BT) on "Total Care" cover which provides for an active response within 2 hours of a "major service failure" being notified.</p> <p>BT can diagnose the extent and in some cases the cause of any hardware or software failure remotely, and can often correct the fault in the same way.</p>	
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	<p>The Switchboard is situated in the frame room opposite the Drs. Mess on the ground floor of the South block; keys and combination from the Telephonists room.</p> <p>Incoming and outgoing communications on the Trusts main Switchboard number will be unaffected but it will not be possible to transfer calls to, from or between internal extensions.</p> <p>Direct Dial In (DDI) numbers will not function under Internal Telephone System (Switchboard) failure.</p> <p>Failure of the Internal Telephone System will affect site paging (bleeps) from internal telephones however switchboard staff can access bleeps via their master console.</p> <p>Pay phones and exchange lines (including Major Incident phones) are independent of the Internal Telephone System (Switchboard) and will continue to function.</p> <p>Failure of the Internal Telephone System (Switchboard) may be due to:</p> <ul style="list-style-type: none"> • Failure of the power supply • Failure of the air conditioning system • Failure of system hardware • Failure of system software 	
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<p>3.6 (13.1.5)</p>	<p>Action</p> <ul style="list-style-type: none"> • Advise Site Manager of the need to implement contingency • Contact BT quoting the Trusts full telephone number Advise “Major Service Failure” and describe the problem in as much detail as possible and request that BT advise of progress towards rectification • Contact Portering Supervisor to initiate contingency; arrange distribution of two-way radios to key personnel and allocate Porters with two-way radios to act as runners between wards • Notify Wards to report Cardiac Arrest via Infogram to Porters • Porters network printer to be switched to Telephonists room & Portering • Supervisor with two-way radio to be based in Telephonists room (Telephonists room to become communications centre) • Contact Facilities Systems Manager, by runner • Establish if power is available to the ISDX and that the air conditioning in the frame room is functioning correctly – if in doubt contact the On-Call Electrician 	
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	<ul style="list-style-type: none"> • Emergency Incoming and Outgoing messaging using Major Incident Phones situated in Major Incident Rooms and ED. (exchange line numbers are on the phones) • Emergency Incoming and Outgoing messaging using Mobile Phones • Emergency Incoming and Outgoing messaging via RAYNET/ Emergency Department RadioLink/ satellite phone. If RAYNET are not on site contact Ron Amblin, RAYNET Controller B&NES Area 	
<p>3.7 (13.1.6)</p>	<p>The Trust uses a Multitone Access 3000 site paging system maintained by Multitone. All critical parts of the system are duplicated so that if one system fails the second can be brought into operation.</p> <p>The service Agreement with Multitone provides for a response (a contact from an engineer) within 2 hours of the service call being received between 08.00 and 17.00 hrs Mon-Fri only.</p> <p>The Paging System hardware is situated in the frame room opposite the Drs. Mess on the ground floor of the South block; keys and combination from the Telephonists room. Control consoles are in the Telephonists Room and Switchboard Supervisors office; transmitters are in the Supplies Building and in a tank room above the South Block.</p> <p>The most critical function of the Site Paging System is the notification of Cardiac Arrest, Trauma and other critical teams and individuals.</p> <p>Failure of the Site Paging System may be due to:</p> <ul style="list-style-type: none"> • Failure of the power supply • Failure of system hardware • Failure of system software 	
<p>3.8 (13.1.7)</p>	<ul style="list-style-type: none"> • Establish if power is available to Site Paging System – if in doubt contact the On- Call Electrician • Switch to the back-up system – follow instructions in the Telephonists room • If switching is unsuccessful, advise Site Manager of the need to implement contingency • Contact Multitone and request that the company advise of progress towards rectification • Contact Portering Supervisor to initiate contingency; arrange distribution of two-way radios to key personnel and allocate Porters with two-way radios to act as runners between wards • Notify Wards to report Cardiac Arrest via Infogram to Porters • Porters network printer to be switched to Telephonists room & Portering 	

	<p>Supervisor with two-way radio to be based in Telephonists room (Telephonists room to become communications centre)</p> <ul style="list-style-type: none"> • Contact Facilities Systems Manager 	
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<p>3.9 (13.1.8)</p>	<p>Portering Services Response</p> <p>In the event of Internal Telephone System (Switchboard) Failure or Site Paging System (Bleep) Failure all routine movement will cease.</p> <p>Members of the Portering Department will be located at designated points throughout the hospital.</p> <p>These staff should only be contacted in an Emergency Situation (i.e. Cardiac Arrest).</p>	
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RUH NORTH

PORTERS STATION	AREA COVERED
Porter No 1 :- North Corridor (by T-Junction top of Physiotherapy corridor)	Physiotherapy; Hydrotherapy; Diabetes; Centre; William Budd Ward; Radiotherapy;
Porter No 2 :- Outside of Kinghorn Dermatology area	Pain Clinic; Oral Surgery/Orthodontics; Albert Ward
Porter No 3 :-	Main Laboratories area

PORTERS STATION	AREA COVERED
Porter No 5 :- Ground Floor by main stairs	Children's Out-Patients; Neurology Out- Patients; Neurology In-Patients; Breast Unit
Porter No 6 :- First Floor by main stairs	Day Surgery Ward; Day Surgery Theatres; Eye Ward; Eye Clinic; Short Stay Unit; Pre- Admissions Clinic
Porter No 7 :- Second Floor by main stairs	Cardiology; Gastro/Surgical Unit; Respiratory Unit; Vascular Studies
Porter No 8 :- Third Floor	Cardiac Centre

PORTERS STATION	AREA COVERED
Porter No 9 :- Ground Floor - ITU	Intensive Therapy Unit ONLY
Porter No 10 :- Ground Floor - by the lifts	Children's Ward
Porter No 11 :- First Floor - by the lifts	Phillip Yeoman Ward; Forrester Brown Ward; Pierce Ward
Porter No 12 :-	Outside of Main Theatres ONLY

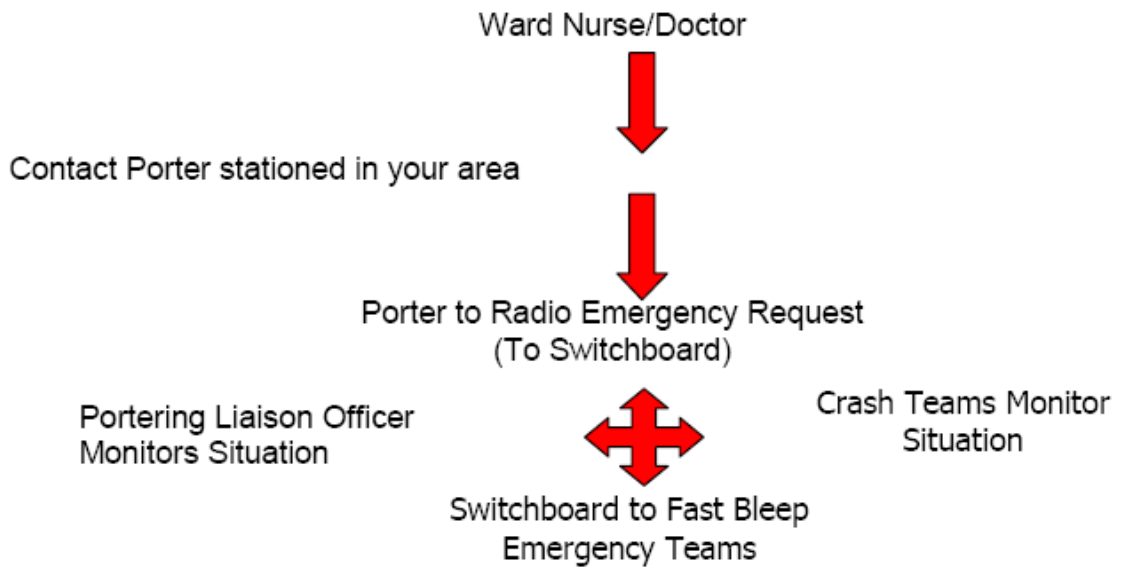
First Floor - Main Theatre Reception	
Porter No 13 :- (Second Floor)	Haygarth Ward; Parry Ward; Waterhouse Ward

PORTERS STATION	AREA COVERED
Porter No 14 :- Ground Floor	Medical Assessment Unit
Porter No 15 :- First Floor	Victoria Ward; Helena Ward; A + E Observation Ward; Surgical Admissions Suite
Porter No 16 :- Second Floor	Marlborough Ward; ENT Clinic; Hamilton Ward

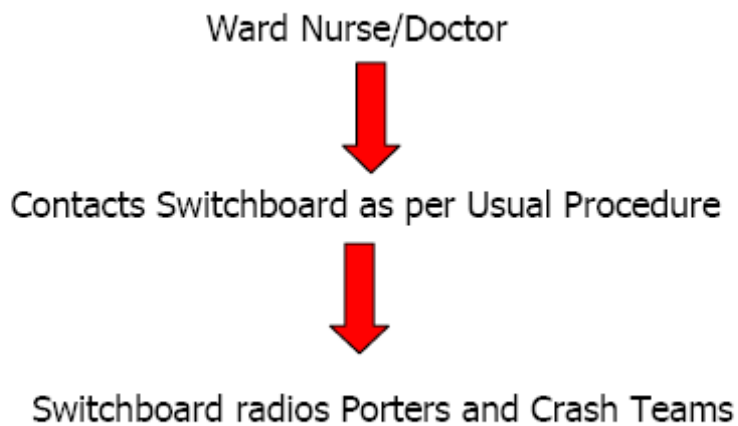
PORTERS STATION	AREA COVERED
Porter No 17 :- Ground Floor	Central Delivery Suite; Newborn Intensive Care Unit; PAW Theatres
Porter No 18 :- First Floor	Charlotte Ward; Cheselden Ward; Cheseldon Out-Patients; Mary/Alexandra Wards

3.10 (13.1.9)	Two Way Radio Distribution Check List – Site Staff Portering and Switchboard staff have copies of this list. Staff collect their radios from porters and return them after use.	
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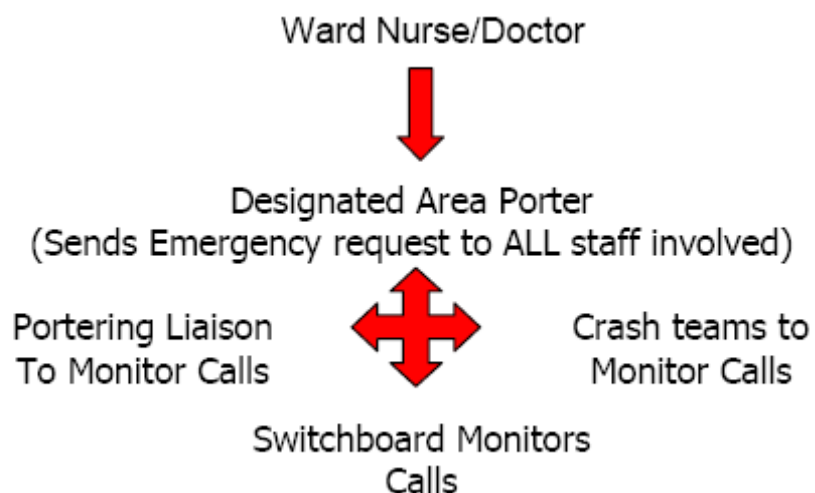
3.11 (13.1.10)	How to Use Emergency Porters in the case of Telephone Systems Failure This procedure will ONLY be instigated; when/if there is a Telephone Systems breakdown <ul style="list-style-type: none"> • On notification of emergency all airway traffic must cease • ALL staff involved in an emergency situation MUST acknowledge they have received and understood the message, by calling in their radio number and stating that they have received the call • Portering procedures state that they will issue the emergency call twice 	
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<p>3.12 (13.1.11)</p>	<p>How to Use the Emergency Porters in Bleep System Failure</p> <p>This procedure will ONLY be instigated; when/if there is a bleep system failure.</p> <ul style="list-style-type: none"> • On notification of emergency all airway traffic must cease • ALL staff involved in an emergency situation MUST acknowledge they have received and understood the message, by calling in their radio number and stating that they have received the call • Portering procedures state that they will issue the emergency call twice 	
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3.13 (13.1.12)	<p>How to use the Emergency Porters in case of Total Systems Failure</p> <p>This procedure will ONLY be instigated; when/if there is a Combined Internal Telephone and Site Paging Systems Failure.</p> <ul style="list-style-type: none"> • On notification of emergency all airway traffic must cease • ALL staff involved in an emergency situation MUST acknowledge they have received and understood the message, by calling in their radio number and stating that they have received the call • Portering procedures state that they will issue the emergency call twice 	
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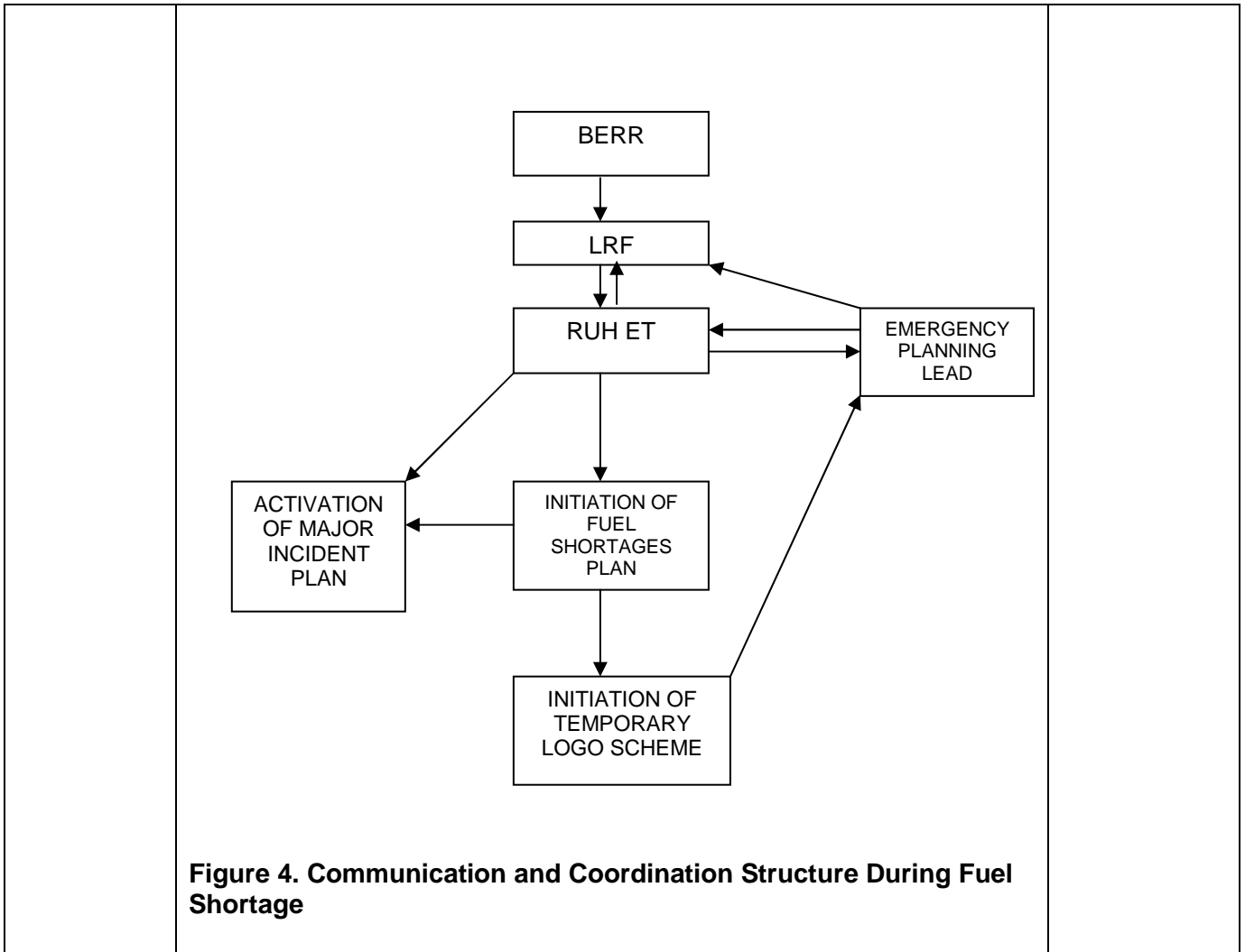


SECTION 4

FUEL SHORTAGE

SECTION 4 FUEL SHORTAGE

4.1	Introduction	
	<p>Fuel shortages may be due to a number of reasons: industrial action, delivery and supply problems. For the purposes of this document the term fuel may apply to oil, gas, petroleum and diesel.</p> <p>This guidance is based upon the National Emergency Plan for Fuel (NEP-F) published by The Department for Business, Enterprise and Regulatory Reform (BERR). If fuel supplies are threatened then BERR will invoke emergency powers under the Energy Act 1976, “these powers allow the regulation or prohibition of the production, supply, acquisition or use of substances used as fuel.”</p> <p>This guidance describes the actions the RUH NHS Trust will take in the event of fuel shortages.</p>	
4.2	Communication	
	<p>Nationally LRFs will be made aware of potential and actual fuel shortages by the Department for Business, Enterprise and Regulatory Reform (BERR). BERR will also hold responsibility for relaying public messages to minimise public anxiety and discourage panic buying. There are 4 levels of response to fuel shortages:</p> <ul style="list-style-type: none"> • Level 1: Potential fuel shortage • Level 2: Fuel shortage, less than 10 days • Level 3: Fuel shortage, more than 10 days • Level 4: National Emergency <p>Within the Trust the Communication and coordination strategy will follow that of the Major Incident Plan to allow for a seamless move across to activation of the Major Incident Plan if the fuel shortages create significant disruption for the Trust. The Trust Fuel plan will be initiated at Level 2 or above.</p>	



4.3	Emergency Response Tools	
	<p>Demand Calming: These measures should be aimed at reducing consumption of fuel such as:</p> <ul style="list-style-type: none"> • Working from home • Lengthening work days • Reducing number of days worked. • Use of tele/video conferencing • Use of public transport wherever practicable • Consider car sharing. • Maintenance of cars to maximise energy efficiency • Avoid travelling at peak times • Remove excess weight from cars and vehicles • Restrict speed, cars and HGVs should aim to drive no faster than 50mph for a 10% reduction in fuel usage • Turn off air conditioning <p>Within the Trust fuel conservation measures such as encouraging staff, where possible, to work from home and to adopt car sharing strategies will be initiated at Level 2 fuel shortage. Before applying for a Temporary Logo, managers must ensure that all</p>	

alternative methods of accessing work and fulfilling work roles have been explored and discounted.
Managers are encouraged to think creatively about how work may be completed.

Further details of local bus services can be found at:

<http://www.bathnes.gov.uk/BathNES/transportandstreets/travel/buses/Maps>

Further details of train services can be found at:

<http://www.nationalrail.co.uk/>

Forecourt Supply

The aim of forecourt supply management is to:

- To conserve available fuel
- To provide a fair allocation of fuel
- To discourage panic buying

Forecourt supply will encompass Emergency and priority fuel schemes, these schemes aim to ensure that fuel is provided for those services defined as emergency responders (ESS). The ESS scheme is likely to be implemented once a fuel shortage reaches 10 days or when fuel supplies become critical.

Staff must be made aware that criminal penalties may be imposed if fuel is used for purposes other than priority use.

Fuel supplies will be limited by use of a maximum purchase scheme (MPS) this is likely to be implemented when fuel supplies are limited but not critical.

Designated Filling Stations (DFS) Designated filling stations will receive supplies of fuel that will be for priority use only. Drivers will access this fuel by identification of vehicle type and logo. Once the DFS scheme is implemented a list of DFS will be published on the BERR website.

www.berr.gov.uk

The LRF and GOSW hold a list of organisations that will qualify for fuel under the DFS scheme.

Logos

Providers of essential services that do not drive logoed vehicles will be provided with a temporary logo by Avon LRF. These services are defined as those that provide essential healthcare, social care or life saving services. Fuel obtained by use of a logo should not be used to get to and from work, however it is recognised that staff travelling to the RUH may come from rural areas that are not provided with public transport. Additionally a large proportion of staff work shift patterns that make travel to and from work by public transport unfeasible.

It is each ward and department manager's responsibility to maintain up to date lists of those members of staff that are essential users and would require a temporary logo in the event of a fuel shortage.

The process for obtaining a temporary Logo will be as follows:

1. Department/ward manager nominates member of staff using the application form (see Appendix1) submitted to the Trust Emergency Planning Lead
2. The Emergency Planning Lead will validate the application, deny the application or return the application to the manager for further information to be added.
3. Once validated the Emergency Planning Lead will pass the application to the LRF for issue of temporary Logo.
4. The Emergency Planning Lead will issue a code of use with the Temporary Logo (see Appendix)

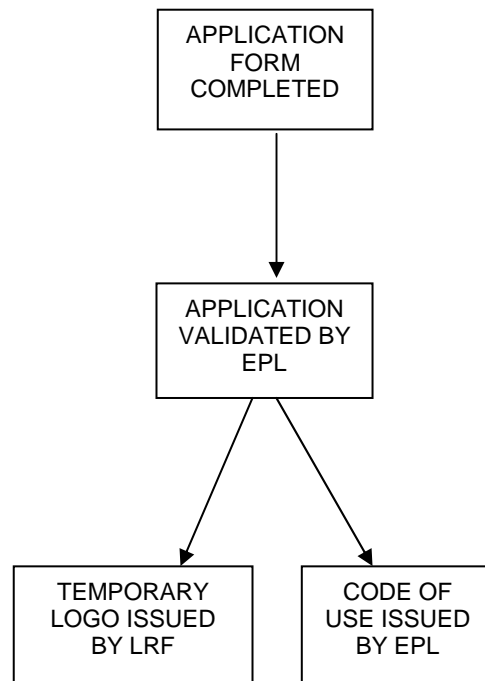


Figure 5 . Process for obtaining a Temporary Logo

SECTION 5

ACTION CARDS

VIRAL DIARRHOEA AND VOMITING ACTION CARD

Event:	Outbreak of viral diarrhoea and vomiting
Impact:	Ward closures affecting normal business of the Trust particularly elective admissions and discharges to other healthcare providers in the community
Building/Ward/Dept:	Any

Risk Assessment			
	Severity	Likelihood	Risk
Assessment	Moderate	High	Moderate
Is it on the risk register?		No	

Actions	
Immediate Actions (0-6 hours):	Responsibility
<ul style="list-style-type: none"> • Ward assessed and closed on advice of infection control nurses • Site team informed • Key staff and managers informed via e mail • Cleaning department informed and to commence use of Chlorclean • Matron for area informed • Signs to be put up at ward entrances to inform visitors • Provide advice on transfer of patients • Specimens to be sent for virology and MC&S • Information provided to external NHS agencies 	<ul style="list-style-type: none"> • Ward staff to report cases of diarrhoea and vomiting to ICNs • ICN to visit ward within one hour of call to assess • ICNs to cascade information to key staff and managers • Nursing staff
Interim Actions (< 48hrs):	

<ul style="list-style-type: none"> • Ward to be assessed twice daily by ICNs • If symptoms are not consistent with an outbreak the ward may be reopened • Daily e mail to key staff and managers to update on situation • Continue liaison with Site team • Where possible provide relevant staff with guidance on likely duration of ward closure • Provide advice on transfer of patients • Provide advice and information to staff 	<ul style="list-style-type: none"> • Infection control nurses • Ward staff to provide accurate up to date information using outbreak record sheets
Subsequent Actions (>48HRS):	
<ul style="list-style-type: none"> • Continue to assess ward twice daily • Continue e mail and verbal communication • Attend site team briefings at 14.15hrs to update on situation • Liaise with virology lab for positive viral or bacterial isolates • Undertake risk assessment of cases to determine date for deep cleaning • Inform cleaning team when a deep clean is required • Liaise with elective admission teams when ward closure will affect normal business • Ensure plans for possible opening are in place especially at weekends • Liaise with communication staff to prepare press releases and public information • Ensure information available for staff and relatives 	<p>Infection control nurses</p> <p>Site team</p>
<p>Related Policies Documentation</p> <p>Management of viral outbreaks of diarrhoea And vomiting</p>	<p>Location</p> <p>Infection Control Policy folders in all clinical areas Intranet policy</p>

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Other issues

(e.g. Staff/timing/impact on other services/external links/stop service)

Communication across a range of staff is key during outbreaks. Advice should always be sought from the infection control team as they have an overview of cases and the situation across the Trust.

Consideration for opening wards early must always be discussed with the ICT, in these circumstances the ultimate decision to open against infection control advice lies with the On Call Executive.

LOSS OF BUILDING/ FACILITY ACTION CARD

Event:	Loss of building/ facility
Impact:	Unable to provide service from location.
Building/Ward/Dept:	Local or site wide issue

Risk Assessment			
	Severity	Likelihood	Risk
Assessment	5	1	5

Included on Risk register yes/no

Actions	
Immediate Actions (0-6 hours):	Responsibility
<ol style="list-style-type: none"> 1. Investigation asap (out of hours call in additional staff) 2. Make area/ building safe, services structural, closure restrict access 3. Inform site team to ensure appropriate placement of patients & potential move of patients 4. identify options for service re provision 	<p>On call estates officer Site team</p> <p>On call estates officer Site team</p> <p>On call estates officer Site team</p>
Interim Actions (< 48hrs):	
<ol style="list-style-type: none"> 1. Identify options to bring area back into use. Temporary / permanent 2. If affecting a large area - review patients admissions & admitted patients 	<p>Estates manager</p> <p>Site team/ divisional manager</p>
Subsequent Actions (>48HRS):	
<ol style="list-style-type: none"> 1. Arrange more capacity 2. Full investigation & risk assessment 3. Review implications on patient access/admissions 	<p>Estates manager</p> <p>Site team/divisional manager</p> <p>Director of Facilities</p>
Related Policies Documentation	Location
Emergency Manual (Facilities)	Facilities (operational office)

Other issues (e.g. Staff/timing/impact on other services/external links/stop providing a service)
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- | |
|--|
| <ul style="list-style-type: none">- Ability to operate & undertake certain procedures- Appropriate placement of patients- Staffing Estates staff to carry out repairs- Impact on routine maintenance duties |
|--|

LOSS OF VACUUM ACTION CARD

Event:	Loss of piped Vacuum to terminal units
Impact:	Cannot operate suction equipment
Building/Ward/Dept:	ITU/CCU/theatres/NICU/wards (local or site wide issue)

Risk Assessment			
	Severity	Likelihood	Risk
Assessment	5	1	5

Included on Risk register yes/no

Actions	
Immediate Actions (0-6 hours):	Responsibility
<ol style="list-style-type: none"> 1. Duplex Vacuum plant automatically starts 2. investigation asap (out of hours call in additional staff) 3. manual contingency system put in place e.g. Open link lines / emergency portable units 4. inform site team to ensure appropriate placement of patients & potential move of patients 5. arrange repairs 	<p style="text-align: center;">On call estates officer</p> <p style="text-align: center;">On call estates officer Site team</p> <p style="text-align: center;">On call estates officer</p>
Interim Actions (< 48hrs):	
<ol style="list-style-type: none"> 1. ensure back up supplies are sufficient and available 2. oversee repairs 3. if affecting a large area - review patients admissions & admitted patients 	<p style="text-align: center;">Mechanical engineering manager or building officer</p> <p style="text-align: center;">Site team/ divisional manager</p>
Subsequent Actions (>48HRS):	
<ol style="list-style-type: none"> 1. Arrange more capacity 2. Full investigation & risk assessment 3. Review implications on patient access/admissions 	<p style="text-align: center;">Mechanical engineering manager or building officer</p> <p style="text-align: center;">Site team/divisional manager Director of Facilities</p>

Related Policies Documentation Medical Gas policy Emergency Manual (Facilities)	Location Intranet Facilities (operational office)
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Other issues (e.g. Staff/timing/impact on other services/external links/stop providing a service)
<ul style="list-style-type: none"> - ability to operate & undertake certain procedures - appropriate placement of patients - staffing Estates staff to distribute emergency portable units to affected areas prioritised by site manager. - impact on routine maintenance duties

LOSS OF MEDICAL AIR ACTION CARD

Event:	Loss of piped Medical air to terminal units
Impact:	Cannot operate items of medical equipment, serious patient risk for those on CCU/ITU.
Building/Ward/Dept:	ITU/CCU/theatres/NICU/wards (local or site wide issue)

Risk Assessment			
	Severity	Likelihood	Risk
Assessment	5	1	5

Included on Risk register yes/no

Actions	
Immediate Actions (0-6 hours):	Responsibility
<ol style="list-style-type: none"> 1. automatic contingency systems implemented (bottle banks reserve) 2. alarm via switch to on call estates officer 3. investigation ASAP (out of hours call in additional staff) 4. manual contingency system put in place e.g. open/close link line, move bottled gas to affected area 5. inform site team to ensure appropriate placement of patients & potential move of patients 6. arrange repairs 	<p style="text-align: center;">On call estates officer</p> <p style="text-align: center;">On call estates officer Site team</p> <p style="text-align: center;">On call estates officer</p>
Interim Actions (< 48hrs):	
<ol style="list-style-type: none"> 1. ensure back up supplies are sufficient and available 2. oversee repairs 3. if affecting a large area - review patients admissions & admitted patients 	<p style="text-align: center;">Mechanical engineering manager or building officer</p> <p style="text-align: center;">Site team/ divisional manager</p>
Subsequent Actions (>48HRS):	
<ol style="list-style-type: none"> 1. Arrange more capacity 2. Full investigation & risk assessment 3. Review implications on patient access/admissions 	<p style="text-align: center;">Mechanical engineering manager or building officer</p> <p style="text-align: center;">Site team/divisional manager Director of Facilities</p>

Related Policies Documentation Medical Gas policy Emergency Manual (Facilities)	Location Intranet Facilities (operational office)
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Other issues (e.g. Staff/timing/impact on other services/external links/stop providing a service)
<ul style="list-style-type: none"> - ability to operate & undertake certain procedures - appropriate placement of patients - staffing (portering staff) to deliver Air bottles around site - impact on routine maintenance duties

LOSS OF SUPPLIES ACTION CARD

Event:	Loss of supplies to trust
Impact:	Increasing inability to carry out medical care
Building/Ward/Dept:	Patient areas

Risk Assessment			
	Severity	Likelihood	Risk
Assessment	5	1	5

Included on Risk register yes/no

Actions	
Immediate Actions (0-1 Hour):	Responsibility
<ol style="list-style-type: none"> 1. Call Stores to report issue. Out of hours barrow from adjacent area. 2. On receiving notification of interrupted delivery from NHS logistics distribution manager identifies expected next delivery and informs site management if necessary. 	<p style="text-align: center;">Linen /distribution manager/</p> <p style="text-align: center;">Distribution manager/ site management.</p>
Interim Actions (< 48hrs):	
<ol style="list-style-type: none"> 1. Materials management team assess stock levels across site and commence redistribution of stock. 2. Arrange site delivery – extra delivery etc 3. If affecting a large area - review patients admissions & admitted patients and prioritise usage. 	<p style="text-align: center;">Distribution manager</p> <p style="text-align: center;">Site Team</p>
Subsequent Actions (>48HRS):	
<ol style="list-style-type: none"> 1. Arrange more capacity working with NHS logistics 2. Review implications on patient access/admissions 	<p style="text-align: center;">Distribution manager</p> <p style="text-align: center;">Site team/divisional manager Director of Facilities</p>
Related Policies Documentation	Location

Purchasing policy	Intranet
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Other issues (e.g. Staff/timing/impact on other services/external links/stop providing a service)
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- | |
|---|
| <ul style="list-style-type: none">- Ability to operate & undertake certain procedures- Appropriate placement of patients- Staffing distribution staff may require reinforcement- Impact on routine duties- Media attention |
|---|

LOSS OF WATER ACTION CARD

Event:	Loss of water to site or local area.
Impact:	Loss of drinking, process, washing water.
Building/Ward/Dept:	Local or site wide issue

Risk Assessment			
	Severity	Likelihood	Risk
Assessment	5	1	5

Included on Risk register yes/no

Actions	
Immediate Actions (0-6 hours):	Responsibility
<ol style="list-style-type: none"> 1. Investigation ASAP (out of hours call in additional staff) 2. Manual contingency system put in place e.g. Open by pass lines, alternative site supply temporary feeds, Drinking water 3. Inform site team to ensure appropriate placement of patients & potential move of patients 4. If site disruption contact Wessex water to establish action plan and expected outage. 5. Arrange repairs 	<p>On call estates officer Site team</p> <p>On call estates officer Site team</p> <p>On call estates officer Site team</p>
Interim Actions (< 48hrs):	
<ol style="list-style-type: none"> 1. Ensure back up supplies are sufficient and available 2. Oversee repairs 3. If affecting a large area - review patients admissions & admitted patients 	<p>Mechanical engineering manager or building officer</p> <p>Site team/ divisional manager</p>
Subsequent Actions (>48HRS):	
<ol style="list-style-type: none"> 1. Arrange more capacity 2. Full investigation & risk assessment 3. Review implications on patient access/admissions 	<p>Mechanical engineering manager or building officer</p> <p>Site team/divisional</p>

	manager Director of Facilities
Related Policies Documentation	Location
Emergency Manual (Facilities)	Facilities (operational office)

Other issues (e.g. Staff/timing/impact on other services/external links/stop providing a service)
<ul style="list-style-type: none"> - Ability to operate & undertake certain procedures - Appropriate placement of patients - Staffing Estates staff to carry out repairs - Staffing Catering / porters to distribute drinking water - Impact on routine maintenance duties

LOSS OF OXYGEN ACTION CARD

Event:	Loss of piped oxygen to terminal units
Impact:	Cannot operate, serious patient risk for those on CCU/ITU.
Building/Ward/Dept:	ITU/CCU/theatres/NICU/wards (local or site wide issue)

Risk Assessment			
	Severity	Likelihood	Risk
Assessment	5	1	5

Included on Risk register yes/no

Actions	
Immediate Actions (0-6 hours):	Responsibility
<ol style="list-style-type: none"> 1. automatic contingency systems implemented (bottle banks reserve) 2. alarm via switch to on call estates officer 3. investigation asap (out of hours call in additional staff) 4. manual contingency system put in place e.g. open/close link line, move bottled gas to affected area 5. inform site team to ensure appropriate placement of patients & potential move of patients 6. arrange repairs 	<p style="text-align: center;">On call estates officer</p> <p style="text-align: center;">On call estates officer Site team</p> <p style="text-align: center;">On call estates officer</p>
Interim Actions (< 48hrs):	
<ol style="list-style-type: none"> 1. ensure back up supplies are sufficient and available 2. oversee repairs 3. if affecting a large area - review patients admissions & admitted patients 	<p style="text-align: center;">Mechanical engineering manager or building officer</p> <p style="text-align: center;">Site team/ divisional manager</p>
Subsequent Actions (>48HRS):	
<ol style="list-style-type: none"> 1. Arrange more capacity e.g VIE (oxygen supply unit) 2. Full investigation & risk assessment 3. Review implications on patient access/admissions 	<p style="text-align: center;">Mechanical engineering manager or building officer</p> <p style="text-align: center;">Site team/divisional manager Director of Facilities</p>

<p>Related Policies Documentation</p> <p>Medical Gas policy Emergency Manual (Facilities)</p>	<p>Location</p> <p>Intranet Facilities (operational office)</p>
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<p>Other issues (e.g. Staff/timing/impact on other services/external links/stop providing a service)</p>
<ul style="list-style-type: none"> - ability to operate & undertake certain procedures - appropriate placement of patients - staffing (portering staff) to deliver oxygen bottles around site - impact on routine maintenance duties

LOSS OF NITROUS OXIDE ACTION CARD

Event:	Loss of piped Nitrous Oxide to terminal units
Impact:	Cannot operate anaesthetic and pain relief equipment in theatre areas.
Building/Ward/Dept:	Theatres (Main, Day, maternity)

Risk Assessment			
	Severity	Likelihood	Risk
Assessment	5	1	5

Included on Risk register yes/no

Actions	
Immediate Actions (0-6 hours):	Responsibility
<ol style="list-style-type: none"> 1. automatic contingency systems implemented (bottle banks reserve) 2. alarm via switch to on call estates officer 3. investigation ASAP (out of hours call in additional staff) 4. manual contingency system put in place e.g. move bottled gas to affected area 5. inform site team to ensure appropriate placement of patients & potential move of patients 6. arrange repairs 	<p style="text-align: center;">On call estates officer</p> <p style="text-align: center;">On call estates officer Site team</p> <p style="text-align: center;">On call estates officer</p>
Interim Actions (< 48hrs):	
<ol style="list-style-type: none"> 1. ensure back up supplies are sufficient and available 2. oversee repairs 3. if affecting a large area - review patients admissions & admitted patients 	<p style="text-align: center;">Mechanical engineering manager or building officer</p> <p style="text-align: center;">Site team/ divisional manager</p>
Subsequent Actions (>48HRS):	
<ol style="list-style-type: none"> 1. Arrange more capacity 2. Full investigation & risk assessment 3. Review implications on patient access/admissions 	<p style="text-align: center;">Mechanical engineering manager or building officer</p> <p style="text-align: center;">Site team/divisional manager Director of Facilities</p>
Related Policies Documentation	Location
<p style="text-align: center;">Medical Gas policy Emergency Manual (Facilities)</p>	<p style="text-align: center;">Intranet Facilities (operational office)</p>

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Other issues (e.g. Staff/timing/impact on other services/external links/stop providing a service)
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- | |
|--|
| <ul style="list-style-type: none">- ability to operate & undertake certain procedures- appropriate placement of patients- staffing (portering staff) to deliver Nitrous Oxide bottles around site- impact on routine maintenance duties |
|--|

LOSS OF GAS SUPPLY (catering) ACTION CARD

Event:	Loss of utility (gas)
Impact:	Potential change of menu and reduced meal choice
Building/Ward/Dept:	All wards

Risk Assessment			
	Severity	Likelihood	Risk
Assessment	2	3	Medium

Included on Risk register no

Actions	
Immediate Actions (0-6 hours):	Responsibility
<ol style="list-style-type: none"> 1. Inform Estates of utility lost and determine length of time before it will be restored 2. Review menus to revert all cooking to electricity and steam only. 3. Consider changes to patient menu if necessary 	Catering Manager/Kitchen Manager
Interim Actions (< 48hrs):	
<ol style="list-style-type: none"> 1. As above actions 	Catering Manager/Kitchen Manager
Subsequent Actions (>48HRS):	
<ol style="list-style-type: none"> 1. Consider hiring additional electrical cooking equipment 	Catering Manager/Kitchen Manager
Related Policies/Documentation	Location

FIRE ACTION CARD

Event:	Fire
Impact:	Loss of facility and or life.
Building/Ward/Dept:	Local or site wide issue

Risk Assessment			
	Severity	Likelihood	Risk
Assessment	5	2	5

Included on Risk register yes/no

Actions	
Immediate Actions (0-1 Hour):	Responsibility
<ol style="list-style-type: none"> 1. Investigation ASAP (out of hours call in on call electrician) 2. Confirm if false or real. 3. Security officer to meet fire brigade (false stand down otherwise:) 4. On duty site manager attends incident and takes command. 5. Co ordination and evacuation as required. 6. Assess service termination e.g. oxygen 7. Fire Brigade arrive 7-9 mins and commence to extinguish fire (not assist in evacuation) 8. Extinguish fire. 9. Make area and adjacent areas safe and secure. 10. Investigate & Report to SHA and DH within 24 hrs 	<p>One security officer Electrician,</p> <p>On duty site manager. Site team</p> <p>On duty site manager.</p> <p>On duty site manager. Brigade</p> <p>Brigade Estates staff and Brigade</p> <p>Fire risk manager, Brigade.</p>
Interim Actions (< 48hrs):	
<ol style="list-style-type: none"> 2. Identify options to bring area back into use. Temporary / permanent 3. If affecting a large area - review patients admissions & admitted patients 	<p>Estates manager</p> <p>Site team/ divisional manager</p>
Subsequent Actions (>48HRS):	
<ol style="list-style-type: none"> 1. Arrange more capacity 2. Full investigation & risk assessment 3. Review implications on patient 	<p>Estates manager Site team/divisional</p>

access/admissions	manager Director of Facilities
Related Policies Documentation	Location
Emergency Manual (Facilities) Fire procedures policy	Facilities (operational office) Intranet

Other issues (e.g. Staff/timing/impact on other services/external links/stop providing a service)
<ul style="list-style-type: none"> - Ability to operate & undertake certain procedures - Appropriate placement of patients - Staffing Estates staff to carry out/ arrange repairs - Impact on routine maintenance duties - Media attention

LOSS OF ELECTRICITY ACTION CARD

Event:	Loss of Electricity
Impact:	Cannot operate items of medical equipment, serious patient risk for those on CCU/ITU theatres, refrigeration etc
Building/Ward/Dept:	Local or site wide issue

Risk Assessment			
	Severity	Likelihood	Risk
Assessment	5	1	5

Included on Risk register yes/no

Actions	
Immediate Actions (0-6 hours):	Responsibility
<ol style="list-style-type: none"> 1. Automatic contingency systems implemented UPS, emergency generation 2. Alarm via switch to on call estates officer 3. Investigation ASAP (out of hours call in additional staff) 4. Manual contingency system put in place e.g. temporary electricity feeds local generation, load shedding. 5. Inform site team to ensure appropriate placement of patients & potential move of patients 6. Resetting of essential plant med gas, steam plant etc. 7. If site feed failure contact Southwest power to identify outage and expected outage time. 8. Arrange repairs. 	<p style="text-align: center;">On call estates officer</p> <p style="text-align: center;">On call estates officer Site team</p> <p style="text-align: center;">On call estates officer</p>
Interim Actions (< 48hrs):	
<ol style="list-style-type: none"> 1. Ensure back up supplies are sufficient and available e.g. additional generation 2. Oversee repairs 3. If affecting a large area - review patients admissions & admitted patients 	<p style="text-align: center;">Electrical engineering Manager/ Operational maintenance manager.</p> <p style="text-align: center;">Site team/ divisional manager</p>
Subsequent Actions (>48HRS):	
<ol style="list-style-type: none"> 1. Arrange more capacity 2. Full investigation & risk assessment 	<p style="text-align: center;">Electrical engineering Manager/ Operational</p>

4. Review implications on patient access/admissions	maintenance manager Site team/divisional manager Director of Facilities
Related Policies Documentation Emergency Manual (Facilities)	Location Facilities (operational office)

Other issues (e.g. Staff/timing/impact on other services/external links/stop providing a service)
<ul style="list-style-type: none"> - Ability to operate & undertake certain procedures - Appropriate placement of patients - Staffing Estates staff to monitor and operate standby equipment, operate plant and arrange and supervise repairs / bring site back on line. - Impact on routine maintenance duties

LOSS OF STEAM ACTION CARD

Event:	Loss of utility (steam)
Impact:	Potential change of menu and reduced meal choice
Building/Ward/Dept:	All wards

Risk Assessment			
	Severity	Likelihood	Risk
Assessment	2	3	Medium

Included on Risk register no

Actions	
Immediate Actions (0-6 hours):	Responsibility
<ol style="list-style-type: none"> 1. Inform Estates of utility lost and determine length of time before it will be restored 2. Review menus to revert all cooking to electricity and gas only. 3. Consider changes to patient menu if necessary 	Catering Manager/Kitchen Manager
Interim Actions (< 48hrs):	
<ol style="list-style-type: none"> 1. As above actions 	Catering Manager/Kitchen Manager
Subsequent Actions (>48HRS):	
<ol style="list-style-type: none"> 1. As above actions 	Catering Manager/Kitchen Manager
Related Policies/Documentation	Location

LOSS OF SIGNIFICANT PLANT ACTION CARD

Event:	Loss of significant plant eg main boiler house, theatre chillers
Impact:	Unable to provide service.
Building/Ward/Dept:	Local or site wide issue

Risk Assessment			
	Severity	Likelihood	Risk
Assessment	5	1	5

Included on Risk register yes/no

Actions	
Immediate Actions (0-6 hours):	Responsibility
<ol style="list-style-type: none"> 1. Investigation ASAP (out of hours call in additional staff) 2. Make plant safe, services structural, closure, restrict access 3. implement any standby equipment. 4. Inform site team to ensure appropriate placement of patients & potential move of patients 5. identify options for service re provision 	<p>On call estates officer Site team</p> <p>On call estates officer Site team</p> <p>On call estates officer Site team</p>
Interim Actions (< 48hrs):	
<ol style="list-style-type: none"> 1. Identify options to bring plant back into use. Temporary / permanent 2. If affecting a large area - review patients admissions & admitted patients 	<p>Estates manager</p> <p>Site team/ divisional manager</p>
Subsequent Actions (>48HRS):	
<ol style="list-style-type: none"> 1. Arrange more capacity 2. Full investigation & risk assessment 3. Review implications on patient access/admissions 	<p>Estates manager</p> <p>Site team/divisional manager</p> <p>Director of Facilities</p>
Related Policies Documentation	Location
Emergency Manual (Facilities)	Facilities (operational office)

Other issues (e.g. Staff/timing/impact on other services/external links/stop providing a service)

- Ability to operate & undertake certain procedures
- Appropriate placement of patients
- Staffing Estates staff to carry out repairs
- Impact on routine maintenance duties

LOSS OF WATER ACTION CARD

Event:	Loss of utility (water)
Impact:	Potential change of menu and reduced meal choice
Building/Ward/Dept:	All wards

Risk Assessment			
	Severity	Likelihood	Risk
Assessment	2	1	Low

Included on Risk register no

Actions	
Immediate Actions (0-6 hours):	Responsibility
<ol style="list-style-type: none"> 1. Inform Estates of utility lost and determine length of time before it will be restored 2. Review patient's menus. 3. 	Catering Manager/Kitchen Manager
Interim Actions (< 48hrs):	
<ol style="list-style-type: none"> 1. It is anticipated that supply would be restored 2. Purchase of bottled water from approved supplier 	Catering Manager/Kitchen Manager
Subsequent Actions (>48HRS):	
<ol style="list-style-type: none"> 1. It is anticipated that supply would be restored 2. Purchase of bottled water from approved supplier 	Catering Manager/Kitchen Manager
Related Policies/Documentation	Location
Approved Suppliers List	Catering Office

LOSS OF GAS ACTION CARD

Event:	Loss of gas to site or local area.
Impact:	Loss of steam, DSSU, patient kitchen Heating DHW.
Building/Ward/Dept:	local or site wide issue

Risk Assessment			
	Severity	Likelihood	Risk
Assessment	5	1	5

Included on Risk register yes/no

Actions	
Immediate Actions (0-6 hours):	Responsibility
<ol style="list-style-type: none"> 1. investigation ASAP (out of hours call in additional staff) 2. If gas leak make area safe and shut off gas. 3. manual contingency system put in place e.g. Oil burners 4. inform site team to ensure appropriate placement of patients & potential move of patients 5. If site disruption contact Transco to establish action plan and expected outage. 6. arrange repairs 	<p>On call estates officer Site team</p> <p>On call estates officer Site team</p> <p>On call estates officer Site team</p>
Interim Actions (< 48hrs):	
<ol style="list-style-type: none"> 1. ensure back up supplies are sufficient and available order oil 2. oversee repairs 3. if affecting a large area - review patients admissions & admitted patients 	<p>Operational maintenance manager & team</p> <p>Site team/ divisional manager</p>
Subsequent Actions (>48HRS):	
<ol style="list-style-type: none"> 4. Arrange more capacity 1. Full investigation & risk assessment 2. Review implications on patient access/admissions 	<p>Operational maintenance manager & team</p> <p>Site team/divisional manager Director of Facilities</p>

Related Policies Documentation	Location
Emergency Manual (Facilities)	Facilities (operational office)

Other issues (e.g. Staff/timing/impact on other services/external links/stop providing a service)
<ul style="list-style-type: none"> - ability to operate & undertake certain procedures - appropriate placement of patients - staffing Estates staff to carry out repairs - Staffing Estates officers to arrange and supervise repairs. - impact on routine maintenance duties

LOSS OF LINEN SUPPLY ACTION CARD

Event:	Loss of linen supply to trust
Impact:	Unable to put patients in beds No surgeon gowns, drapes
Building/Ward/Dept:	Patient areas

Risk Assessment			
	Severity	Likelihood	Risk
Assessment	5	1	5

Included on Risk register yes/no

Actions	
Immediate Actions (0-1 Hour):	Responsibility
<ol style="list-style-type: none"> 1. Call linen room or porters out of hours. 2. Items delivered from Linen reserve stock. 3. On site reserve of 1 day at normal use 	Linen /distribution manager/ portering manager
Interim Actions (< 48hrs):	
<ol style="list-style-type: none"> 1. Investigation in to failure of site delivery, and expected time to reinstatement of service. 2. Arrange site delivery – extra delivery etc 3. If affecting a large area - review patients admissions & admitted patients and prioritise usage. 	Distribution manager Site Team
Subsequent Actions (>48HRS):	
<ol style="list-style-type: none"> 1. Arrange more capacity local purchase/ borrow / rent/ steal 2. Review implications on patient access/admissions 	Distribution manager Site team/divisional manager Director of Facilities
Related Policies Documentation	Location
Linen policy	Intranet

Other issues (e.g. Staff/timing/impact on other services/external links/stop providing a service)

- Ability to operate & undertake certain procedures
- Appropriate placement of patients
- Staffing distribution staff may require reinforcement
- Impact on routine duties
- Media attention

LOSS OF ELECTRICITY ACTION CARD

Event:	Loss of utility (electricity)
Impact:	Potential change of menu and reduced meal choice
Building/Ward/Dept:	All wards

Risk Assessment			
	Severity	Likelihood	Risk
Assessment	2	3	Medium

Included on Risk register no

Actions	
Immediate Actions (0-6 hours):	Responsibility
<ol style="list-style-type: none"> 1. Inform Estates of utility lost and determine length of time before it will be restored or if temporary supply can be arranged i.e. hire of generator 2. Review menus to revert all cooking to gas and steam only. 3. If electrical supply cannot be reinstated arrange to move all patient food trolleys to Lansdown Restaurant if electrical supply is available there. 4. If no electrical supply in Lansdown Restaurant consider reviewing menu to provide hot soup, cold salad/sandwich choice 	Catering Manager/Kitchen Manager
Interim Actions (< 48hrs):	
<ol style="list-style-type: none"> 1. It is anticipated that temporary electrical supply would be provided in this timescale. 	Catering Manager/Kitchen Manager
Subsequent Actions (>48HRS):	
<ol style="list-style-type: none"> 1. It is anticipated that temporary electrical supply would be provided in this timescale. 	Catering Manager/Kitchen Manager

Related Policies/Documentation	Location
Approved Suppliers List	Catering Office
In the event of reduced patient kitchen staffing levels it may be necessary to reduce staff and visitor catering services to redirect catering staff to patient catering services.	

LOSS OF STEAM ACTION CARD

Event:	Loss of steam
Impact:	Loss of, dssu, heating, Hot water.
Building/Ward/Dept:	local or site wide issue

Risk Assessment			
	Severity	Likelihood	Risk
Assessment	5	1	5

Included on Risk register yes/no

Actions	
Immediate Actions (0-6 hours):	Responsibility
<ol style="list-style-type: none"> 1. investigation ASAP (out of hours call in additional staff) 2. manual contingency system put in place e.g. Change main boilers to alternative fuel oil, shut out areas if pipe failure, change over to operational boiler) 3. inform site team to ensure appropriate placement of patients & potential move of patients 4. arrange repairs 	<p>On call estates officer Site team</p> <p>On call estates officer Site team</p> <p>On call estates officer Site team</p>
Interim Actions (< 48hrs):	
<ol style="list-style-type: none"> 1. Arrange for oil deliveries 2. Oversee repairs 3. Dependant on reason for steam failure arrange for mobile steam generation. 4. if affecting a large area - review patients admissions & admitted patients 	<p>Mechanical engineering manager / operational maintenance manager</p> <p>Site team/ divisional manager</p>
Subsequent Actions (>48HRS):	
<ol style="list-style-type: none"> 1. Arrange more capacity 2. Full investigation & risk assessment 3. Review implications on patient access/admissions 	<p>Mechanical engineering manager or building officer</p> <p>Site team/divisional manager Director of Facilities</p>
Related Policies Documentation	Location
Emergency Manual (Facilities)	Facilities (operational office)

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Other issues (e.g. Staff/timing/impact on other services/external links/stop providing a service)

- ability to operate & undertake certain procedures
- appropriate placement of patients
- staffing Estates staff to carry out repairs and manual operation as required
- impact on routine maintenance duties
- DSSU to arrange alternative sterilization of instruments.
- Catering to change menu to use alternative cooking methods.

LOSS OF FOOD ACTION CARD

Event:	Loss of cook freeze contracted food supply
Impact:	Unable to provide patient meal service
Building/Ward/Dept:	All wards

Risk Assessment			
	Severity	Likelihood	Risk
Assessment	3	3	Medium

Included on Risk register no

Actions	
Immediate Actions (0-6 hours):	Responsibility
<ol style="list-style-type: none"> 1. Contact main frozen food supplier, who will advise if their contingency arrangements can be arranged. Catering have a minimum of three days supply in deep freezers for 650 patients. 2. Contact all other frozen food suppliers on the approved supplier list to understand food delivery service they can provide if main supplier contingency is not robust. 	Catering Manager/Kitchen Manager
Interim Actions (< 48hrs):	
<ol style="list-style-type: none"> 1. If insufficient frozen food supplies are available fresh food approved suppliers will be contacted to understand food delivery service that they can provide. The main kitchen has sufficient cooking equipment to revert to traditional cooking in the event of frozen meal provision being unavailable. 	Catering Manager/Kitchen Manager
Subsequent Actions (>48HRS):	
<ol style="list-style-type: none"> 1. Review catering staffing levels 2. Review patient menus and potentially reduce choice if supplies are limited. 3. Communicate any menu changes to wards 	Catering Manager/Kitchen Manager
Related Policies/Documentation	Location

Approved Suppliers List	Catering Office
In the event of reduced patient kitchen staffing levels it may be necessary to reduce staff and visitor catering services to redirect catering staff to patient catering services.	

SECTION 6

APPENDICES

APPENDIX 1

Business Continuity Assessment

	24 hours	3days	7 days
PROGRAMME			
Priorities			
Purpose of Scope			
PEOPLE			
Roles and Responsibilities			
Staff Issues			
Contact details			
Mutual Aid			
PROCESSES			
Invoking the plan			
Triggers and activation protocols			
Documents and resources			
Log sheets			
Action sheets and checklists			
PREMISIES			
Alternative locations			
PROVIDERS			
Supply chain			
PROFILE			
Public profile			

PERFORMANCE			
Salvage			
Return to normal			

APPENDIX 2

Risk Assessment Matrix

LIKELIHOOD OF RECURRENCE	NONE	MINOR	MODERATE	MAJOR	CATASTROPHIC
ALMOST CERTAIN					
LIKELY					
POSSIBLE					
UNLIKELY					
RARE					

APPENDIX 4

Fluid Stocks held in RUH Pharmacy Stores

Name	NaCl	Hartmanns Solution	5% Dextrose	Gelofusine
Amount available in Litres	2400	1600	400	100

APPENDIX 5

Temporary Logo Application Form

TEMPORARY LOGO APPLICATION FORM				
To be completed by Ward / Department Manager				
Name				
Dept				
Tel No				
Job Title				
Role				
Brief Description of Reason for Fuel Requirement				
Reason for not adopting alternative work strategy e.g. work from home/ car sharing				
Manager Name				
Position				
Signature				
Date				
TO BE COMPLETED BY EMERGENCY PLANNING LEAD OR NOMINATED DEPUTY ONLY				
Reviewed by				
Position				
Outcome	<table style="width: 100%; border: none;"> <tr> <td style="width: 33%; text-align: center;">VALIDATED</td> <td style="width: 33%; text-align: center;">DENIED</td> <td style="width: 33%; text-align: center;">RETURNED</td> </tr> </table>	VALIDATED	DENIED	RETURNED
VALIDATED	DENIED	RETURNED		
Date				
Signature				

APPENDIX 6

Temporary Logo Code of Use

Temporary Logo Code of Use

The Temporary Logo you have been issued with MUST only be used to obtain fuel for travel to and from the Royal United Hospital Bath and for duties recognised as the provision of essential services.

The Temporary Logo is only valid for the vehicle for which it has been issued.

Abuse of the Temporary logo is a criminal offence under section 18(2) of the Energy Act 1976 and offenders may be prosecuted

APPENDIX 7

IT Business Continuity Overview

Royal United Hospital Bath



NHS Trust

IT Business Continuity Overview

Author / Manager Responsible:	<i>Rich James</i>
Review Date:	
Reviewed by:	
Version:	1.0
Last Edited	11/02/2008 15:52

Related Documents	
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This document is intended as an overview to the operations and premises of the IT Business Continuity team. For a more in depth view of the systems and procedures, please reference the DR Team document repository on the server Tatoonie (or the hardcopy folders available from the IT DR offices).

To support continuity of service, plans are required to determine where the flaws and risk exposure exists, and how best to ameliorate it. This covers an analysis from the macro scale (whole network risk) to individual systems.

Analysing Risk

To facilitate the correct assessment of risk, a series of surveys are passed out to departmental managers, and also staff identified as responsible for department owned and vendor maintained systems. These surveys are intended to capture the operating risk of the system being interrupted, or lost, along with the corresponding issues that may arise from lack of availability of this system for increasing lengths of time.

This allows a hierarchy of priority to be established in the case of a wide scale critical failure occurring (and will allow different stages of recovery to be established for different systems over time, such that some systems may be recovered to essential operation only, while secondary systems are also brought online to this level before more advanced functionality of the initial system is recovered).

Above this level of functionality lies the Risk Analysis for loss of service for logical groups of service (network areas, security compromise), routing failures, database outages etc. The consideration of these is in the remit of the IT Business Continuity Team, who are tasked with ensuring the resources are available to service the individual systems.

Research

To enable translation of the Risk documentation to a working method of aiding the continuity of service, an ongoing task of research is in constant progress. This includes investigating various methods of archiving data, securing it, and ensuring it may be recovered in a timely fashion.

It also (and especially) includes research into systems monitoring such that minor issues may be detected on operational machines, and corrected (with a planned maintenance window if necessary) before they escalate into major issues causing outage.

Once areas are identified that would provide support for the tasks of both continuity of service, and recovery, processes are devised such that this new technology may be simply integrated into existing methods of operation, enhancing their efficacy.

Current promising research projects include collating the MIBs for all available servers to allow for automated SNMP monitoring using open tools, and utilising virtual servers to provide snapshots of critical live machines, such that they could run as a virtual server in case of impending failure, or utilization of the last snapshot in the event of a critical failure of the primary machine.

Another aspect of the research function is testing: This involves creation (in a testing area) of a functionally equivalent system (where possible), and deliberately creating fail conditions. From these fail conditions, methods of recovery are developed, such that they are either scriptable, or may be performed by a person familiar with generic systems of the type (i.e. web servers, database server, mail servers etc.) by following a series of instructions that have been shown to work in the test environment.

Infrastructure

Once areas are identified, and processes evaluated to determine their utility, they are then translated into a technical implementation.

In some cases, this will involve a financial outlay (such as the cost of a backup server, and agents for each system that will be used for a client system), in others, this will involve time and application of skills (such as coding modules for the adopted monitoring systems, or scripts for transfer and integrity checks of particular backups, along with any encryption and testing necessary).

Due to tight budgetary constraints, the main thrust is to determine ways of leveraging the existing infrastructure to refine operations, giving a greater resilience and/or more efficient service.

Examples of resilient systems employed at the time of writing in the RUH are:

- **1 to 1 replication of file systems and database servers:** This involves using the DoubleTake software to perform a filesystem level replication from the primary server to the secondary. In the event of a failure of the primary, the secondary will be as near as possible to the current state without physically reading the media the primary was writing to. This is a distributed replication, such that the loss of one comms room will not affect the secondary.
- **1 to many replication of databases:** This utilises the GeoCluster remote clustering software (based on the above mentioned DoubleTake software). It provides the ability to geographically decouple nodes of a cluster. From this clustered database, individual databases are replicated outwards to subscribing database servers using SQL Transactional Replication. This ensures that a loss of the master database will not affect the operation of the subscribing databases (apart from data becoming progressively more stale until operation is resumed). Also, failure of a subscribing database server will not affect the flow of information to the master database from the interfaces, and will not affect any other subscribing databases.

Backups are provided via two methods:

- Utilising agents to backup filesystem level data to a central repository (in this case, CommVault backup system). Each covered server runs an agent which encrypts and copies data to the central repository, where it is held on disk for rapid recovery, and also archived to tapes on a large carousel.
- Utilisation of 'warm spare' servers for database archival. In this case, a day's operational data is cached on the local server with a copy of that also being stored on a resilience server. The resilience server also maintains the archive store for 7 days of historical data, with a monthly checkpoint archived to the filesystem data store. For high priority databases, log shipping is also performed to ensure that the archived backups and transaction log dumps are able to be restored. As all databases are referred to by a DNS name unique to the database itself, service may be easily restored by altering the DNS pointer for the database to the appropriate resilience server, performing a recovery to the last available point, and allowing the service to resume on resilience (archiving to the alternate of the two resilience servers).

To support the technical work performed to provide resilience, a set of processes and plans are developed to support the organisation from a workflow perspective during times of normal operation and also during recovery times.

These plans are a distillation of the Risk Analysis documents (as far as outage and effect are concerned), the technical infrastructure available, and the base recovery procedures.

The general overview of this is that the documents contain the following:

- A list of contacts who are:
 - Responsible for the System (System Managers etc.)
 - Primary User Contacts for the System.
 - IT Support for the System
 - Vendor Support
- System Warranty information (contact telephone numbers, serial numbers etc)
- Location of System
- System Configuration Details
- Escalation Notification Hierarchy:
 - Helpdesk notifies Continuity Team
 - Continuity evaluates scenario and escalates to Line Management.
 - List of Technicians who have skills to assist Continuity Team in this event.
 - Details of secondary staff that may be utilised in the event that Continuity members are unavailable.

- Detailed process of escalating above Line Management of Continuity, and conditions that need to be met for each escalation.
- Details of resilience machines available to be brought on line to cover for loss of primary hardware (will include virtuals when this is deemed suitable).
- Details of scripts that need to be applied as part of the recovery process.
- Step by step details of processes that need to be followed to perform recovery of machine from known partial, or complete fail states.

CDs of scripts are due to be left in all comms rooms with copies of scripts that are required for recovery, along with an electronic copy of the Continuity Team document repository.

REFERENCES

Documents	<p>DH – Heatwave Supporting Vulnerable people before and during a heatwave, April 2007</p> <p>DH – Heatwave a plan for England, April 2007</p> <p>National Emergency Plan for Fuel, June 2006</p> <p>Energy Act, 1976</p> <p>DH- NHS resilience and Business Continuity Management Guidance, June 2008</p>
Websites	<p>The Met office – Heat- Health Watch Alert Level pages (http://www.metoffice.gov.uk/weather/uk/heathealth/index.html)</p> <p>DH- Heatwave web pages (http://www.dh.gov.uk/en/Publicationsandstatistics/Publications/PublicationsPolicyAndGuidance/DH_074539)</p> <p>BERR- pages http://www.berr.gov.uk</p> <p>Downstream oil and gas resilience pages http://www.og.berr.gov.uk/downstream/emergencies</p>