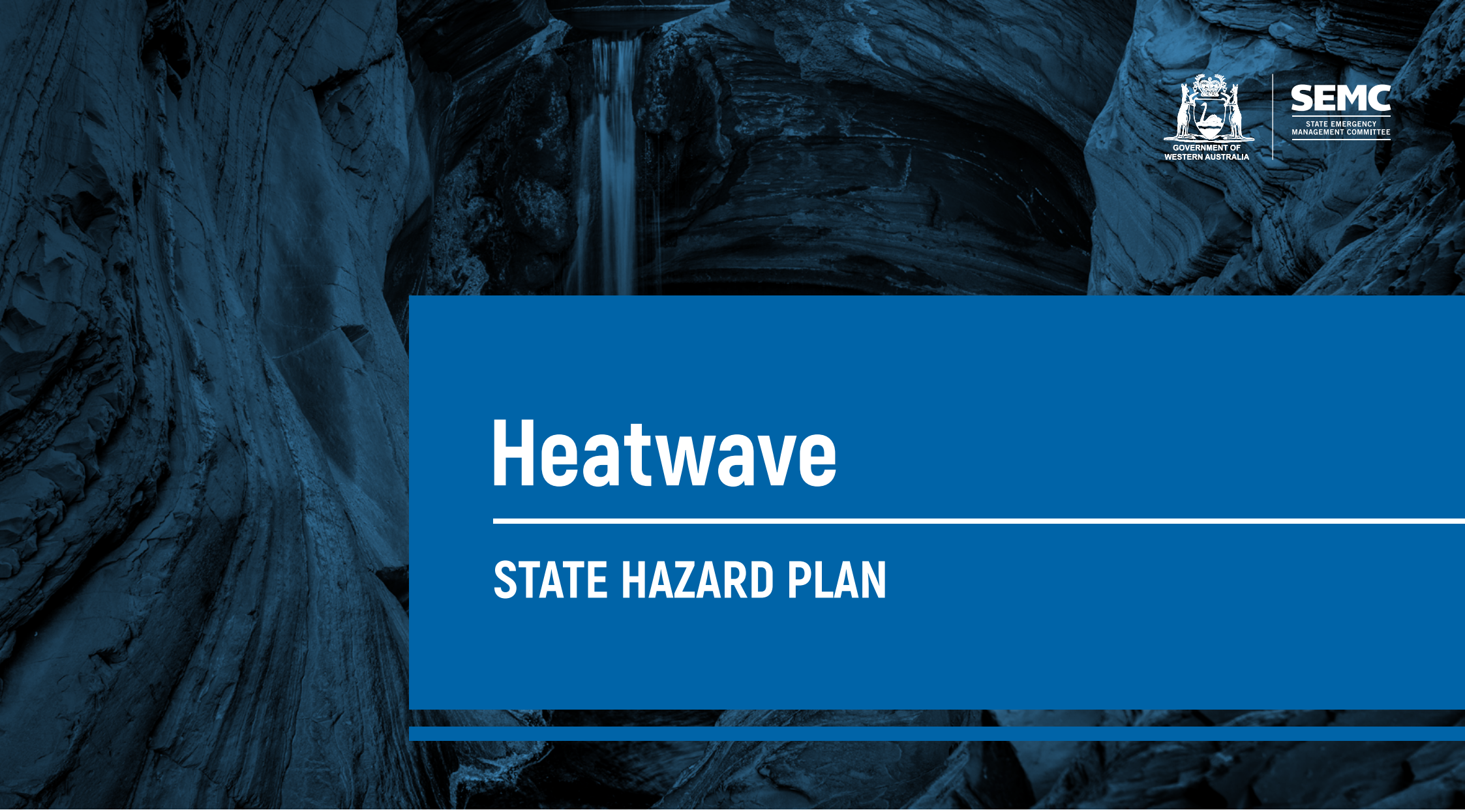

GOVERNMENT OF WESTERN AUSTRALIA

SEMC
STATE EMERGENCY MANAGEMENT COMMITTEE

Heatwave

STATE HAZARD PLAN

RESPONSIBLE AGENCY

Department of Health (Disaster Preparedness and Management Unit)

APPROVED BY

State Emergency Management Committee

RESOLUTION NUMBER	77/2023
VERSION NUMBER	3.02
DATE OF APPROVAL	04 OCTOBER 2023
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REVIEW DATE	OCTOBER 2027

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Amendments Table

Date	Details	Amended by
Oct 2012	Initial Issue	
May 2016	Statement of fact amendments	SEMC Secretariat
May 2018	New State Hazard Plan format, Statement of fact changes, removal of duplication, inclusion of assurance activities, Machinery of Government changes and substitute of calculation acronym Excessive Heat Factor (EHF) with Three Day Average Temperature (3DAT).	Department of Health
December 2018	Version 01.01 – Statement of fact amendments. Refer also to the generic amendments to the suite of State EM documents as per amendments table v02.00 approved by SEMC (Resolution Number 90/2018).	SEMC Business Unit
August 2019	Version 01.02 – Inclusion of Energy Policy WA's role and responsibilities under this plan.	Department of Health
October 2019	Version 01.03 – Minor amendments approved by SEMC (Resolution Number 91/2019) as per amendments table v02.02.	SEMC Business Unit

Date	Details	Amended by
June 2020	Version 01.04 – Amendments to align with amendments to the *Emergency Management Act 2005* and *Emergency Management Regulations 2006* and statement of fact amendments approved by SEMC (Resolution Number 39/2020) as per State EM documents amendments table v02.03.	SEMC Business Unit
December 2020	Version 01.05 – Amendments approved by SEMC (Resolution Number 84/2020) as per State EM documents amendments table v02.06.	SEMC Business Unit
October 2021	Version 2.00 - Accessibility redesign approved by SEMC (Resolution Number 32/2021). Statement of fact amendments and amendments to improve accessibility as per State emergency management documents amendments table October 2021.	SEMC Business Unit
October 2022	Version 3.00 Comprehensive review of plan. Change in heatwave measurement system to Excess Heat Factor. Adoption of the National Heatwave Warning Framework amendments table October 2022	Department of Health
December 2022	Version 3.01 Amendments approved by SEMC Executive Officer (Resolution Number 17/2021). Statement of fact changes and updated hyperlinks to new SEMC website as per amendments table December 2022.	SEMC Business Unit
October 2023	Version 3.02 - Consequential amendments approved by SEMC to reflect change in terminology from 'welfare' to 'emergency relief and support' and related terms (resolution number 77/2023) and statement of fact and accessibility amendments approved by the SEMC Executive Officer (resolution number 17/2021) outlined in State EM documents amendments table October 2023.	SEMC Business Unit

The SEMC acknowledges the Aboriginal peoples throughout the state of Western Australia as the Traditional Custodians of the lands where we live, work andvolunteer. We recognise Aboriginal peoples' continued connection to land, waters and community, and pay our respect to Elders both past and present.

This document was designed to be viewed electronically and aims to meet the West Australian Government's accessibility and inclusivity standard, including meeting the World Wide Web Consortium's Web Content Accessibility Guidelines version 2.1 (WCAG 2.1) at level AA. If anything in this document is inaccessible to you, or you are experiencing problems accessing content for any reason, please contact the State Emergency Management Committee Business Unit at semc.policylegislation@dfes.wa.gov.au.

All of the State emergency management legislation and documents can be accessed via the State Emergency Management Framework page of the State Emergency Management Committee website.

Contents

Part One:

Introduction

The State Hazard Plan for Heatwave (the Plan) provides an overview of arrangements for the management of heatwave in Western Australia and contains information on heatwave prevention, preparedness, response and initial recovery.

The Plan refers to a range of existing plans and documents relating to heatwave but does not duplicate the information contained in these, instead providing directions to websites or other sources where further information can be obtained if required.

The hazard of Heatwave has the potential to result in increased illness, hospitalisation and deaths in the community. Many people in Western Australia are generally acclimatised to living in hot weather and are resilient to hot conditions. This is particularly so in the north and inland locations of the state. Regional locations experience a large turnover in population and many industries employ a fly-in-fly-out workforce where extreme weather acclimatisation is not possible. People may be complacent about extreme heat and don't see themselves as affected or vulnerable. Furthermore, the cumulative effect on health from heat exposure increases, particularly when there is no ability to compensate from a heat event. Combined, this can lead to consequences to human health.

1.1 Scope

This Plan covers emergency management arrangements within the geographic boundaries of WA, for the hazard of heatwave. It describes risk reduction strategies, preparedness for, response to and initiation of recovery arrangements following the impact of a heatwave.

1.1.1 Out of scope

Incidents that may occur as a result of, or in conjunction with, a heatwave (e.g. bushfires, storms and power interruptions), are out of the scope of this Plan and are managed as separate incidents. Please refer to the relevant State Hazard Plan(s) or individual agency business continuity plans.

1.2 Hazard Definition

The event of heatwave is prescribed as a hazard under regulation 15(m) of the *Emergency Management Regulations 2006* (EM Regulations).

A heatwave is a period of abnormally and uncomfortably hot weather, that is unusual for the location and which could impact on human health, infrastructure and services.

For the purpose of this plan and in addition to the above, the heatwave:

- is protracted and forecast to occur for longer than 3 days at a level of extreme
- requires a significant coordinated response.

Contributing factors on the impact of heatwave include:

- maximum daily temperature and the minimum night time temperature
- duration of the high temperatures
- humidity and air quality
- urban and rural design
- local acclimatisation
- public events and school holidays
- successive heat events

1.3 Organisational Roles and Responsibilities

The Chief Executive Officer, Department of Health, is the Hazard Management Agency (HMA) for heatwave (regulation 22(b) of the EM Regulations).

It is recommended that each agency with a role or responsibility under

this Plan has appropriate operational procedures detailing their response arrangements in accordance with this Plan. These arrangements should be complementary to the agency's operational procedures detailing their roles and responsibilities under the State EM Plan.

Information regarding the response roles and responsibilities of relevant agencies under this Plan are detailed in Appendix C.

1.4 Bureau of Meteorology

The Bureau of Meteorology (the Bureau) as the Commonwealth weather forecasting service provide the forecasting of heatwaves. The Bureau has developed, tested and made operational a measure of heatwave, the Excess Heat Factor (EHF). The Bureau considers heatwaves to be three or more days of high maximum and minimum temperatures that are uncommon for that location. The Bureau will issue generic heatwave warning information and the HMA will manage the adverse effects of the heatwave emergency across the prevention, preparedness, response and recovery spectrum.

1.5 Related Documents and Legislation

This Plan is to be read in conjunction with the State Emergency Management Framework including the *Emergency Management Act 2005*, the *Emergency Management Regulations 2006*, State Emergency Management Policy, plans and procedures.

Legislation and codes relevant to this plan include but are not limited to:

- *Emergency Management Act 2005*
- *Emergency Management Regulations 2006*
- *Local Government Act 1995*
- *Meteorology Act 1955*
- *National Construction Code* (current)
- *Work Health and Safety Act 2020*
- *Public Health Act 2016*.

1.6 Activities Informing the Assurance Process

The WA health system engages with intrastate agency stakeholders and national stakeholders to ensure a consistent approach to heatwave. This plan adopts a nationally consistent heatwave measurement and aligns to the national approach of the Australian Warning System for hazards.

Specialist business units within the WA health system provide response planning and capability. Emergency and incident response support capability is legislated in the *Public Health Act 2016*. Health has internal standard operating procedures to manage the response to heatwave. The State Emergency Management Committee (SEMC) oversees compliance of plans with the State emergency management arrangements (e.g. State Hazard Plan reviews and exercises).

A heatwave event has the potential for increased fatalities that often do not present until weeks and months after the event. The heatwave measurement Excess Heat Factor (EHF) is recognised as the effective methodology of measuring heatwaves[1].

In March 2019, the State Government announced a Chief Health Officer Inquiry to investigate the implications of climate change, including more frequent and intense weather events, on health.

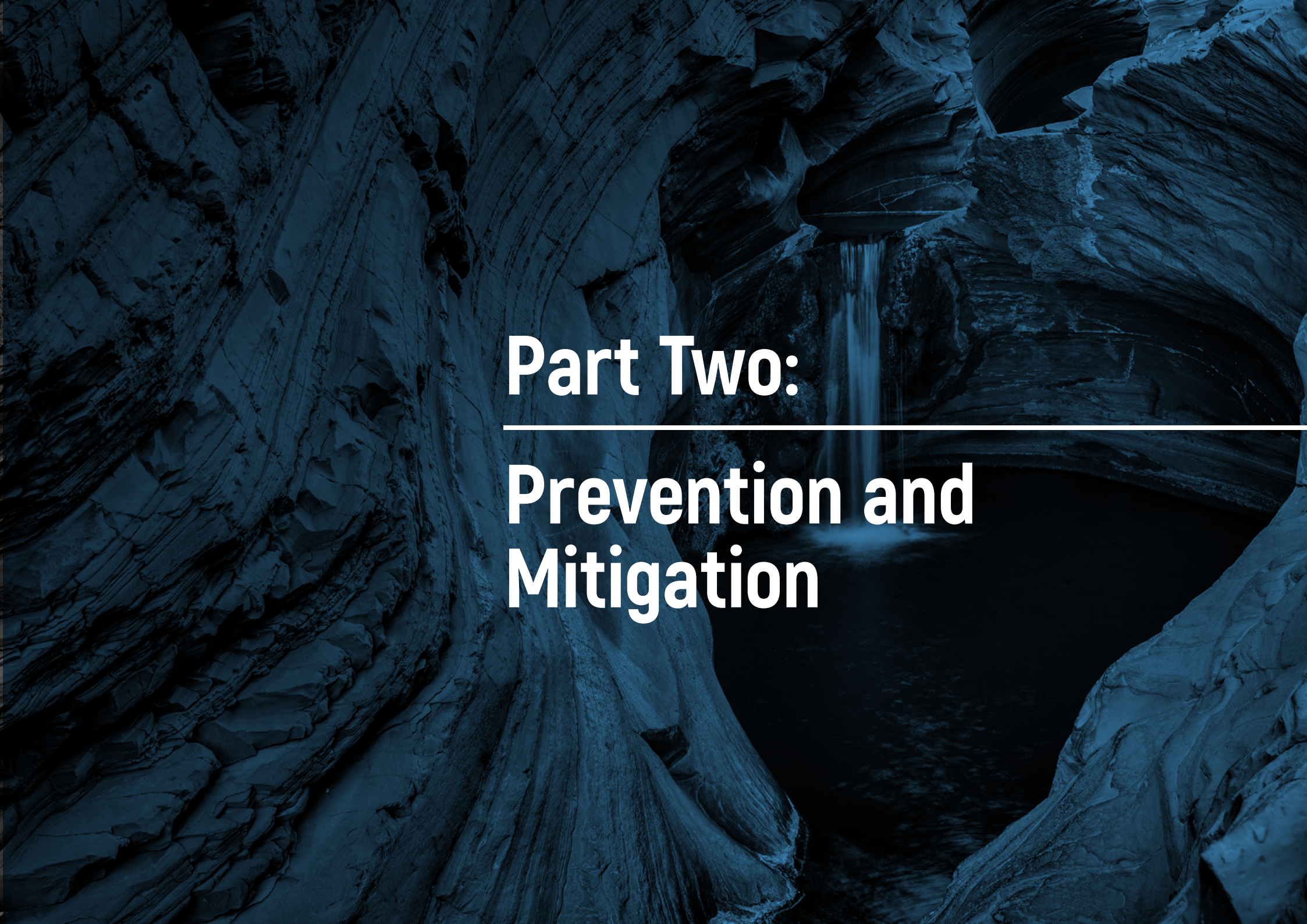
The Climate Health WA Inquiry report made recommendations for improvement with respect to climate change mitigation and public health adaptation strategies[2].

1 https://doi.org/10.1111/1753-6405.12421
2 https://ww2.health.wa.gov.au/Improving-WA-Health/Climate-health-inquiry/Climate-Health-WA-Inquiry-Final-Report

The WA health system assesses patient activity and trends as part of its general business activities. During a response phase, the WA health system undertakes increased levels of syndromic surveillance of public hospital emergency activity.

Information systems data is coded in accordance with International Classification of Disease, 10 revision (ICD-10 standards). Health service providers (i.e. Hospitals) are accredited under the National Safety and Quality Health Service Standards.

Following activation of the response section of this Plan, the Department of Health (WA Health) undertakes a post activation report of the event to ensure quality improvement process is maintained.



Part Two:

Prevention and Mitigation

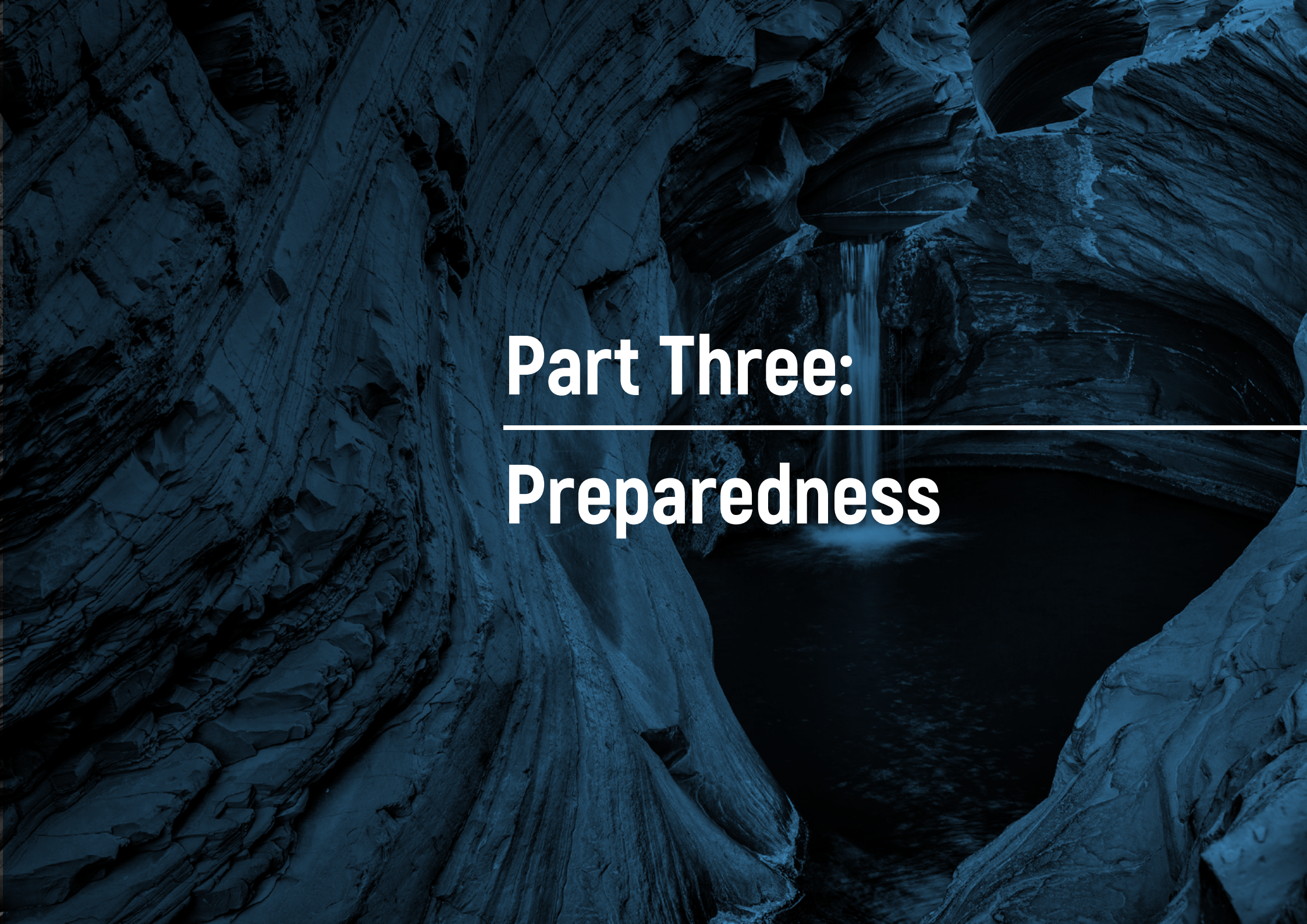
2.1 Prevention and/or Mitigation

As a naturally occurring event, a heatwave cannot be prevented. However, the adverse effects on communities can be mitigated through the implementation of community resilience and education strategies, such as:

- promotion and participation in community education campaigns in partnership with local government including at risk populations (Appendix E)
- participation in the research and development of Commonwealth mitigation programs
- improved community warnings and information dissemination
- establishment of liaison networks with industry groups to promote mitigation strategies
- promoting a clear understanding regarding the effect of heatwave exposure and the implementation of appropriate risk mitigation strategies (e.g. rescheduling events).

Urban planning that recognises the Urban Heat Island (UHI) effect and employs best practices to mitigate the effects of severe heat reducing the immediate impact in that location. Furthermore, reducing the UHI will reduce the heat load at a district level.

Building codes provide a base line for new construction and asset improvement. Employing contemporary passive design practices can reduce cooling costs during heat events. Where social housing providers support at-risk populations, enabling this cohort to compensate from heatwaves via sheltering in place provides broader community resilience.



Part Three:

Preparedness

3.1 Responsibility for Preparedness

Organisations, both government and private, should have strategies and operational plans in place to prepare for a heatwave event in line with this Plan.

Preparedness activities include:

- developing plans and procedures
- designing organisational structures
- providing ongoing training
- developing resource management systems
- community education.

Organisations should ensure preparedness activities are undertaken within their organisation. The WA health system can provide support and guidance to Local Government and other agencies in the development of any local plans for the management of a heatwave event, including identification of resources that may be required.

3.2 Capability Baseline

Climate modelling indicates heatwaves are going to become more frequent and more severe[3].

Agencies should structure their response based on a protracted heatwave event lasting more than six days. Planning should consider significant workforce non-attendance due to staff fatigue (heat effects) and absenteeism (e.g. as a carer). Public infrastructure and public utilities could also be affected by the same heat event, which may compound the ability of agencies to respond.

3.3 Planning and Arrangements

The planning and preparedness information below is intended to provide general advice to assist organisations to ensure they are prepared for a heatwave event.

Communication strategies, internally and for the public, must be developed and tested by organisations to ensure efficient, effective and appropriate distribution of relevant information. .

Communications by agencies must utilise information released by the Department of Health. The cornerstone of messaging consistently should be:

- Ensure you have a local plan for heatwave
- Stay hydrated
- Remain out of the sun, particularly from the middle of the day and into the afternoon.
- Keep cool, be this by staying in a cool location or moving to a cool location if safe to do so.
- Check on others.

Communications will occur through a tiered approach:

- To agencies with roles and responsibilities under this plan
- To agencies and organisations that provide care and support to vulnerable populations
- To the general public.

The activation of the State Support Plan - Emergency Public Information may be considered as required

3 Heatwaves: Hotter, Longer, More Often

Internal emergency management plans are to be developed and based on:

- best practice principles
- technical and scientific knowledge
- historical data and information
- local knowledge and experience.

3.3.1 At Risk Groups

Identification of at risk populations (as detailed in Appendix E), along with methods to access these populations in a timely fashion, to provide advice and support, are a critical part of the preparedness process.

Agencies caring for at risk populations (e.g. aged care facilities) need to ensure they have rigorous redundancy plans (e.g. power, water and evacuation) and business continuity plans to ensure resilience.

The cultural diversity within WA must also be considered so that heatwave information is tailored to effectively communicate across the state, reaching all Culturally and Linguistically Diverse (CaLD) communities.

3.3.2 National Heatwave Warning Framework

Jurisdictions around Australia have adopted or are working towards the adoption of the National Heatwave Warning Framework. The framework recognises there is a need for a heatwave metric that meet the following criteria:

- is easily measurable, predictable and repeatable
- can be applied consistently across Australia
- can be applied to past analysis and future projections
- is useful as an indicator of impact
- is supportive of an emergency management and health framework.

This plan is consistent with the national approach

3.3.3 Resources

Workforce

- Each organisation is responsible for their workforce. Workplace safety legislative requirements on safe working environments are in place, particularly for outside workers.
- Management of the workforce is critical. Strategies need to be established to mitigate staff fatigue (heat effects), absenteeism (e.g. resulting from potential school closures) and, where relevant, loss of volunteer support (e.g. state emergency services personnel, lifeguards, ambulance officers and firefighters).

Redundancy

- Electricity, gas, liquid fuels, water, roads and other modes of transportation are critical in enabling our emergency services to continue to function.
- Essential Service Network Operators (e.g. Western Power, Horizon Power, Main Roads, Water Corporation), Energy Policy WA and the Public Transport Authority have overall responsibility to maintain their business continuity, including during Heatwave events.

3.4 Community Information and Education

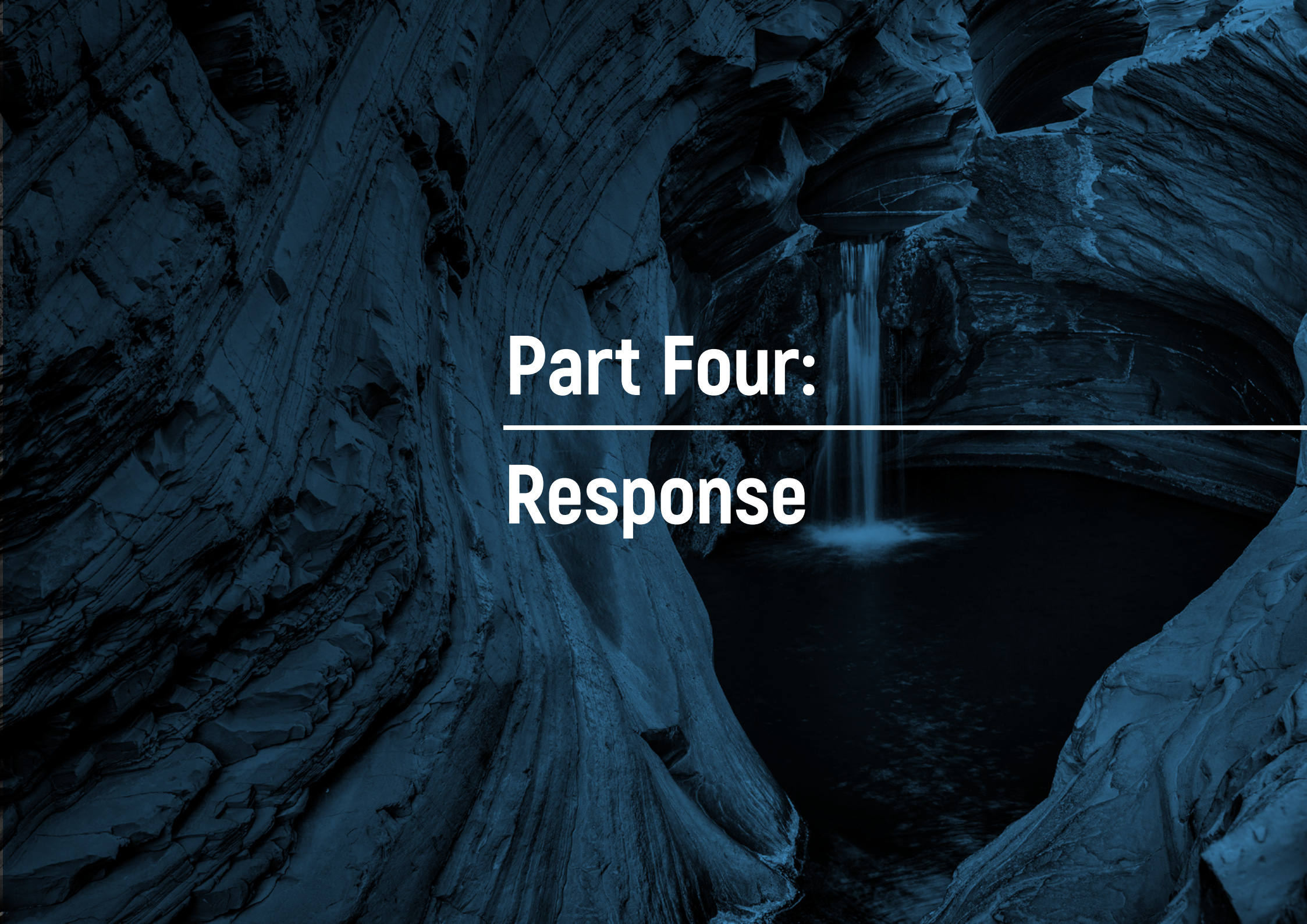
The WA health system, in collaboration with key stakeholders, will develop communication strategies to educate and advise the public on heatwave forecasting and personal health management, prior to and during a heatwave event.

Identified organisations (see Appendix D) will assist in the distribution of educational material and will work with the communities they service,

especially at risk populations/individuals, to help them develop resilience in advance of a heatwave event. E.g. Local Government (LG) and other organisations have strong community relationships through targeted community groups and electronic communication strategies.

3.5 Assistance Arrangements with other Jurisdictions

The arrangements for Interstate, including Commonwealth and Defence Force assistance, is available for a heatwave event as detailed in the State EM Plan section 5.6.



Part Four:

Response

4.1 Responsibility for Response

As the HMA, Chief Executive Officer, Department of Health, is responsible for the prevention, preparedness, response and recovery elements of heatwave. The HMA will appoint an Incident Controller (IC) to manage the response to a heatwave emergency.

4.2 Response Arrangements

A coordinated response to a heatwave event will require agencies to undertake a variety of agreed roles and responsibilities. These roles and responsibilities are detailed in Appendix C.

4.3 Triggers

Heatwaves are classified into three types based on severity determined by a EHF value between 0 to 3:

Classification	EHF Value
Low-Intensity Heatwaves are the most common type of heatwave and most people can cope during these heatwaves.	EHF severity > 0 and EHF severity < 1
Severe Heatwaves are less common and are likely to be more challenging for vulnerable people such as older people, particularly those with medical conditions.	EHF severity >= 1 and EHF severity < 3
Extreme Heatwaves are rare. They are a problem for people who don't take precautions to keep cool–even for people who are healthy. People who work or exercise out-doors are at greater risk of being affected.	EHF severity >= 3

The triggers for activating the State Hazard Plan – Heatwave occur when the Bureau Heatwave service is forecasting Extreme Heatwave conditions where the EHF>3. This trigger point has been determined as the threshold for sub-optimal health outcomes for the public and also a trigger point for essential services equipment failure/fatigue.

Activation decisions are made using a standard risk assessment of likelihood and impact. For example, a localised heatwave of extreme rating, occurring in an unpopulated area would be unlikely to activate the Plan. Heat Health messaging may still occur without the need to activate a multi-agency approach.

For the purpose of clarity, a low-intensity heatwave, a heatwave that is not expected to exceed severe, or a single abnormally hot day for the locality does not constitute the activation of this Plan. However, heat health messaging remains available on the healthywa.wa.gov.au website for other heat related events.

4.4 Notifications

The Bureau will notify the WA health system through a series of communications channels:

- The Heatwave Decision Support product
- Through a geospatial system data feed to internal health Information

Systems

- Via their duty forecasting service

Health will communicate through a tiered approach:

- To agencies with roles and responsibilities under this plan
- To agencies and organisations that provide care and support to vulnerable populations
- To the general public through community alerts.

4.5 Australian Warning System

The Australian Warning System (AWS) is a national approach to information and warnings for hazards like bushfire, flood, storm, tropical cyclone and extreme heat.

The AWS has been developed based on community research and input from Australia's emergency services and hazard agencies. The goal of the AWS is to deliver a more consistent approach to emergency warnings, no matter where you are in the country. It uses a nationally consistent set of hazard icons to show incidents on websites and apps, supported by calls to action.

4.6 Community Alerts

Heatwave community alerts will be issued to specific localities/ districts following assessment of forecast severity, the anticipated impact and known issues. Heatwave warnings follow a national warning framework[4]. The AWS has three alert levels with associated calls to action.

Advice: A severe heatwave has been forecast in a locality and longer-term forecast is indicating an extreme heatwave later in the week. There is no immediate danger. The key message to both the public and heatwave stakeholders is to stay up to date in case the situation changes.

Communication measures commence under the auspice of providing advanced notice to allow communities to commence their preparations and consider planning to protect themselves.

Watch and Act: There is a heightened level of threat. A severe heatwave has occurred over the preceding days and the extreme heatwave is imminent or has commenced. The public need to modify their plans and behaviours to prevent negative health outcomes. Conditions are changing and you need to start taking action now to protect you and your family.

Communication measures will increase rhetoric and are likely to include media briefings and targeted messaging that the heatwave threat is imminent/occurring.

Emergency Warning: An Emergency Warning is the highest level of warning. You may be in danger and need to take action immediately. The extreme conditions are prolonged at a locality, exceeding 3 days. Heatwave impacts are increasing. Any delay now puts your life at risk.

4.7 Activation

While a heatwave can be forecast, they are still unpredictable in behaviour. There may be occasions where a forecast heatwave does not eventuate, or the severity is lower than the initial forecast.

Pre-emptive activities will commence prior to the onset of the heatwave. The IC reserves discretion in activating and continuing response arrangements based on:

- Anticipated severity of the heatwave
- Observed maximum and minimum temperatures
- Public events and/or public holidays
- Longevity of the heatwave

4 https://knowledge.aidr.org.au/media/9104/aidr_handbookcollection_publicinfoandwarnings_2021.pdf

Refer also to section 4.3 triggers

The IC will:

- activate the SHICC or Regional Emergency Operations Centre to coordinate the response to the heatwave
- activate the Incident Management Team
- direct emergency management agencies as required and advise other relevant stakeholders that this Plan's response arrangements have been activated, including the level of response (see section 4.10)
- liaise with the WA Health Communications Directorate to ensure re-enforcement and promulgation of health messages via the media to the community and
- through multiagency liaison, disseminate information, monitor heatwave impacts and resolve outstanding issues.

The principal response strategies include:

- building on community resilience / preparedness and promoting 'Protect-in-Place', as first line response for communities
- identifying, supporting and providing advice to at risk populations
- emergency management and supporting agencies meeting their agreed roles and responsibilities as detailed in this Plan (see Appendix C)
- identifying liaison officers (within predetermined organisations, see Appendix C)
- depending on the level of the incident and size of impacted area(s)/ locality, establishing an Incident Support Group (ISG) and / or Operational Area Support Group (OASG) as required.

4.8 Stand Down and Debriefs

The IC will determine when stand-down will occur. A stand-down advice may not automatically be called when the extreme heatwave trigger abates. The IC will consider advice from the Bureau for the upcoming forecast period along with syndromic surveillance information associated to the heatwave event and observed impacts, along with the concurrence of public events and holidays.

Agencies involved in the response to a heatwave event conduct debriefs with their staff as required and appropriate.

Operational debriefing will be conducted for all WA health system staff, interagency partners and other personnel involved in the response to a heatwave event.

4.9 Public Warnings/Information

The WA health system will undertake the following media strategies and internal and external communication activities to inform the community of expected heatwave events and to promote resilience in advance of the occurrence:

- develop an information package containing fact sheets and a heatwave guide for distribution to the community
- prepare communication material and identify key health messages
- consider paid advertising
- introduce information early, especially to at risk groups, to strengthen community resilience prior to a heatwave event
- release media statements (WA Health to designate a spokesperson for press releases)

- utilise social media
- provide information on intranet and internet websites
- publish warnings on the Emergency WA Internet site
- share information with existing networks and stakeholders
- WA Health Communications Directorate to work in collaboration with local, State and non-government organisations to coordinate the media response and release of advice to the public. Agencies and event organisers should refer back to the Department of Health's messaging rather than creating their own heatwave content.

The IC is responsible for the provision of public health information during a heatwave emergency. Preparation of WA Health media statements and coordination of media inquiries during an emergency event lies with the Manager Communications Directorate, WA Health. The IC may request support from the State Emergency Public Information Coordinator, as required, as detailed in the State Support Plan - Emergency Public Information.

4.10 Heatwave Levels

The IC will determine the level of response to a heatwave event based on geographical location, population and duration. The IC is responsible for making and communicating a declaration in accordance with State EM Response Procedures 4.2 – Incident Level Declaration.

The below information is provided as a guide to declaration levels for heatwave.

Incident Level 1

- The thresholds for a heatwave are activated with an Extreme Heatwave for a locality/district with a duration of 1 – 3 days
- There are minimal impacts on the community with no residual effects to other agencies
- Hospitals and health services observe an increase in activity commensurate with the incident
- Community alert messaging may utilise Advice, Watch and Act for day(s) where the heatwave is occurring.

Incident Level 2

- The Extreme Heatwave forecast for a locality/district continues for approximately 3 - 6 days
- The weather event is resulting in compounding and longer utility outages that have extended resolution timeframes and there are anticipated impacts on human health and infrastructure
- Hospital and health service activity increases
- Community alert messaging utilises Advice, Watch and Act and Emergency Warning.

Level 2 incidents have actions under the State EM Procedure that are required to be completed.

Incident Level 3

The EHF of Extreme period is protracted, exceeding six days.

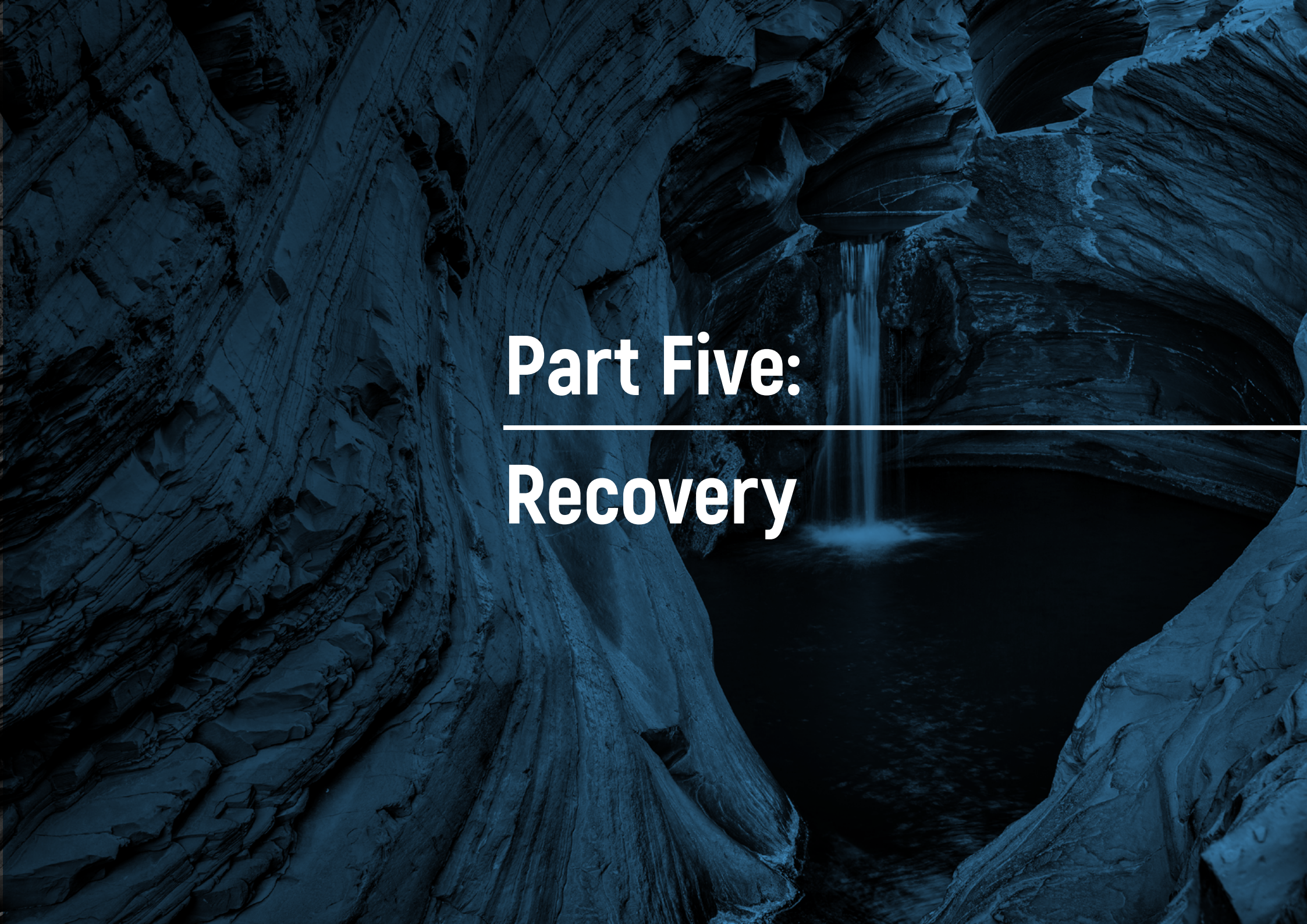
- Maximum temperatures for the locality are exceeded for what is normally expected and multiple days with significantly increased night-time temperatures.
- Public infrastructure is affected, especially power supply outages, compounding the heatwave and resulting in the public unable to seek respite from the heat.
- Businesses are taking significant actions to protect the welfare of their workers. There are a significant number of anticipated impacts.

- Public events are greatly affected by where they cannot execute a safe event resulting in cancellations.
- Abnormally high presentations to hospitals/health services for heat related illness are observed particularly for at risk populations.
- Community alert messaging utilises Watch and Act and Emergency Warning.

4.11 Financial Arrangements

Financial arrangements are in accordance with State EM Plan section 5.12 and State EM Policy section 5.4.

Note: There is no specific funding available for the hazard of heatwave – Disaster Recovery Funding Arrangements – Western Australia (DRFAWA) do not apply to heatwave emergency events. Agencies are advised to track their individual costs incurred during the response phase of a heatwave event, as other unspecified funding may become available depending on the circumstances.



Part Five:

Recovery

The HMA or Controlling Agency managing the response must initiate recovery activities as part of their response activities (State EM Policy section 6.2.2).

The impacted local government is responsible for managing the community recovery process.

It is the responsibility of the Controlling Agency to gain an understanding of known or emerging impacts during the response to an emergency incident and coordinate the completion of an Impact Statement prior to the transfer of recovery to the local government. The Impact Statement must be developed in consultation with the ISG, all affected local governments and the State Recovery Coordinator.

Recovery plans should address issues such as re-establishment of normal health services, school and work attendance that may have been interrupted during the event, and the psychosocial wellbeing of those who have been affected by the impact of a heatwave event.

The transition from response to recovery will be at the discretion of the HMA, in consultation with the impacted local governments, once the following conditions have been met:

- the Bureau forecasts suggest that heatwave conditions have passed and
- essential public services (e.g. power, transport and water), have been restored to adequate levels.

Appendices

Appendix A: Distribution List

This State Hazard Plan for [Hazard/Document Title] is available on the SEMC website. The agencies below will be notified by the HMA (unless otherwise specified) when an updated version is published on this website.

- Bureau of Meteorology
- Department of Communities
- Department of Education
- Department of Fire and Emergency Services
- Department of Health (Commonwealth), representing both the aged care sector and Aboriginal Community Controlled Health Organisations
- Department of Primary Industries and Regional Development
- Energy Policy WA
- Emergency Management Australia (SEMC Business Unit to notify)
- HealthDirect
- Local Government (WA Local Government Association to notify)
- Main Roads Western Australia
- Minister for Emergency Services (SEMC Business Unit to notify)
- Public Transport Authority
- Royal Flying Doctors Service
- State Emergency Management Committee (SEMC), SEMC subcommittee and SEMC reference group members (SEMC Business Unit to notify)
- State Library of Western Australia (SEMC Business Unit to notify)
- St John Ambulance Australia (WA) Inc
- WA Council of Social Service
- Water Corporation
- Western Australia Police Force.

Appendix B: Glossary of Terms/Acronyms

Terminology used throughout this document has the meaning prescribed in section 3 of the *Emergency Management Act 2005* or as defined in the State Emergency Management Glossary. In addition, the following hazard-specific definitions apply.

B1 Glossary of Terms

Term	Definition
Chief Executive Officer, Department of Health	The Chief Executive Officer, Department of Health is the Hazard Management Agency for the emergency of heatwave and is a representative of the Department of Health. The Chief Executive Officer has the authority to command the coordinated use of all health resources within WA for response and recovery activities arising from the impacts and effects of a major heatwave emergency or disaster situation.
Heatwave Alert	A forecast maximum temperature of 40 degrees Celsius or above on three or more consecutive days for the Perth metropolitan area.
State Health Incident Coordination Centre (SHICC)	The SHICC is a designated WA health system facility under the control of the SHC, which provides strategic coordination of the state health response following a major incident including operational control of health resources as required, as per the State EM Glossary definition of an incident control centre (ICC).
WA Health System	A combination of public and private providers that provide health services to the public. This includes public and community health service providers along with hospitals both public and private.

B2 Acronyms

Acronym	Meaning
CaLD	Culturally and Linguistically Diverse
EHF	Excess Heat Factor
DRFAWA	Disaster Recovery Funding Arrangements – Western Australia
HMA	Hazard Management Agency
IC	Incident Controller
ISG	Incident Support Group
OASG	Operational Area Support Group
SECG	State Emergency Coordination Group
SEMC	State Emergency Management Committee
SHICC	State Health Incident Coordination Centre

Appendix C: Response Roles and Responsibilities

The Department of Health has the primary role of coordinating the response to a heatwave emergency. The assistance and cooperation of other agencies and organisations operating within their functional areas are necessary for an effective and timely response.

The following are the response roles and responsibilities of agencies under this Plan. Brief all-hazards information is also provided for agencies who may have a role under this Plan – full details of these roles and responsibilities can be found in the State Emergency Management Plan, Appendix E.

All agencies should maintain appropriate internal plans and procedures in relation to their specific responsibilities.

Organisation	Response Responsibilities
Aboriginal Health Council WA	a. As the peak body of Aboriginal Community Controlled Health Organisations, maintain a register of key contacts for the purpose of communicating heatwave information. b. Assist in communicating messages to AHCWA health professionals: – before a heatwave, to assist the development of community resilience and – during a heatwave emergency to protect the community.
Bureau of Meteorology	a. Alert the WA health system to predicted heatwaves, through their Emergency Services Briefings and forecasting products. b. Assist in communication of WA health system's messages to the community. c. Ongoing support to the National Heatwave Policy. d. Participate in ISG, OASG and SECG meetings as requested. e. Provide a liaison officer to the SHICC if required.

Organisation	Response Responsibilities
Department of Communities	a. Coordinate emergency relief and support services for those impacted by the incident including providing crisis support services (emergency accommodation, emergency clothing and personal requisites, personal support services, financial assistance, emergency food), as required. b. Identify and provide advice and support to the Department of Communities at risk population client base. c. Participate in ISG, OASG and SECG meetings as requested. d. Provide a liaison officer to the SHICC if required.
Department of Education	a. Assist with the provision of information to school leaders, school staff, students and parents b. Liaise with the Catholic Education Office and the Association for Independent Schools in Western Australia to allow a collaborative education sector approach c. Participate in ISG, OASG and SECG meetings as requested

Organisation	Response Responsibilities
Department of Fire and Emergency Services	a. Undertake operations to control subsequent hazards and coordinate the activation of relevant State Hazard Plans and support plans if required. This considers the likelihood that a heatwave event has resulted in DFES responding to incidents within statutory responsibilities. b. Assist in communicating messages to the public: i. before a heatwave, to assist the development of community resilience and ii. during a heatwave by providing a capability for the HMA to issue heatwave community warnings on Emergency WA. c. Participate in ISG, OASG and SECG meetings as requested. d. Provide a liaison officer to the SHICC if required.
Department of Health	a. Discharge the duties of HMA for heatwave emergencies, on behalf of the Chief Executive Officer, Department of Health, in accordance with the *Emergency Management Act 2005*, State EM Policy section 5, State EM Plan section 5 and this Plan. b. Coordinate the activation of the State Health Emergency Response Plan and other support plans, as required. c. Convene an ISG and/or OASG, as required. d. Request the State Emergency Coordinator to establish an SECG, if required. e. Promulgate public messaging around heatwave and promote personal safety community advice during a heatwave. f. Provide advice to support agencies to assist with supporting at risk communities (Appendix D)

Organisation	Response Responsibilities
Department of Health (Commonwealth)	a. Coordinate the flow of information to the residential aged care sector b. Coordinate the flow of information to Aboriginal Community Controlled Health Organisations.
Department of Primary Industries and Regional Development	a. Provide relevant information to the HMA for public messaging on welfare of animals during a heatwave when requested. b. Assist in communicating messages to stakeholders on welfare of animals during a heatwave.
Energy Policy WA	a. Provide advice to the WA health system regarding potential disruptions or known pending disruptions to state energy supplies. b. Participate in ISG, OASG and SECG meetings as requested.
HealthDirect	a. Provide support to the WA health system, including additional telephony, as required. b. Provide extreme heat health advice to the public.

Organisation	Response Responsibilities
Local Government	a. Assist in communicating messages to the public: i. before a heatwave, to assist the development of community resilience and ii. during a heatwave emergency to protect the community. b. In consultation with Department of Communities, identify venues that can be utilised as emergency relief and support facilities for at-risk populations in the community (e.g. local libraries, community recreation facilities, respite areas). c. Provide resources to assist the WA health system when requested. d. Ensure event management plans have effective heat management strategies. e. Negotiate with event organisers relating to incident specific requests. f. Promote heat safety messages to tourists where the LG support tourist information services. g. Undertake community recovery activities, as required h. Participate in ISG, OASG and SECG meetings as requested. i. Provide a liaison officer to the SHICC if required.
Main Roads Western Australia	a. Provide details on road conditions to the WA health system for assets on the Main Roads Network. b. Participate in ISG, OASG and SECG meetings as requested. c. Provide a liaison officer to the SHICC if required.
Public Transport Authority	a. Provide frequent updates on affected public transport to relevant agencies (SJA, DFES, WA Police Force) and the public. b. Participate in ISG, OASG and SECG meetings as requested.

Organisation	Response Responsibilities
Royal Flying Doctors Service	a. Participate in ISG, OASG and SECG meetings as requested. b. Provide a liaison officer to the SHICC if required.
St John Ambulance Australia (WA) Inc	a. Participate in ISG, OASG and SECG meetings as requested. b. Provide a liaison officer to the SHICC if required.
Tourism WA	a. Participate in ISG, OASG and SECG meetings as requested. b. Provide advice on key tourism activities that occur during the high threat season. c. Act as liaison with the event organisation.
Water Corporation	a. Provide advice to the WA health system in respect to water and wastewater services to Water Corporation customers. b. To maintain business continuity, including the provision of safe water during heatwave events. c. Minimise the disruption to the water supply and wastewater system, and the impact to people, properties and the environment from interruptions, contaminations and overflows. d. Participate in ISG, OASG and SECG meetings as requested.

Organisation	Response Responsibilities
Western Australian Council of Social Service (WACOSS)	a. As the peak body of social services, maintain a register of key contacts for the purpose of communicating heatwave information. b. Assist in the promulgation of messages to key social service agencies: – before a heatwave, to assist the development of community resilience and – during a heatwave emergency to protect the community.
Western Australia Police Force	a. Provide assistance to the WA health system as requested and mutually agreeable. b. Provide a liaison officer to the SHICC if required. c. Participate in ISG, OASG and SECG meetings as requested.
Western Power and Horizon Power	a. Respond to potential electrical hazards and maintain the integrity of the power system. b. Liaise with WA Health around the customer restoration priorities during a heatwave when power reliability or supply is at risk or compromised. c. Consult WA Health Media in relation to media statements pertaining to demand management communications during a heatwave. d. Participate in ISG, OASG and SECG meetings as requested.

Appendix D: Agencies and Organisations Supporting At Risk Populations

The following listed agencies and organisations have responsibilities to advise and / or provide support to at risk populations by way of communicating messages to the public before a heatwave; assisting in the development of community resilience, and during a heatwave emergency; to protect the community:

- aged care facilities – Department of Health (Commonwealth)
- Aboriginal Health Council of Western Australia
- all health care providers (e.g. hospitals, general practices, mental health services)
- child care centres
- Culturally and Linguistically Diverse Groups
- Department of Communities
- Department of Education
- Department of Local Government, Sport and Cultural Industries
- HealthDirect
- Local Government (targeted community groups)
- Tourism Western Australia

The WA Council of Social Service will communicate to their community service provider stakeholders with heatwave related information.

Appendix E: At Risk Population List

Health At Risk Populations

Those over 65 years old, especially:

- in care homes
- living alone or are socially isolated.

Those taking multiple medications, particularly:

- anticholinergics
- vasoconstrictors
- antihistamines
- diuretics
- psychoactive drugs
- antihypertensive.

The chronically unwell, including those with:

- heart conditions
- diabetes
- respiratory disease
- renal insufficiency
- Parkinson's disease
- severe mental illness
- impaired sweating, due to burns, skin or genetic disorder
- conditions requiring community / ambulatory care (e.g. Hospital In The Home, home continuous Positive Airways Pressure, dialysis).

Those unable to adapt their behaviour to keep cool, due to:

- dementia
- disability
- being bedridden
- being babies and the very young
- substance abuse
- being very overweight or obese
- being a pregnant or breastfeeding mother.

Additional populations who may be vulnerable to the effects of a heatwave including:

- Aboriginal people
- cultural and linguistically diverse people, who may have limited understanding of the impacts
- other acutely unwell patients living in urban heat islands, such as the Perth Central Business District, where the temperature gradient across urban areas may be higher by several degrees Celsius due to reduction in green space, high building density and the nature of street surface coating material
- homeless
- suboptimal housing conditions
- workers in hot workplaces, such as kilns in a brickwork factory
- outdoor workers
- adult and children's sport and athletic groups.

Appendix F: Excess Heat Factor Calculation

The Excess Heat Factor (EHF) is calculated based on average daily temperatures over three consecutive days. This is measured in relation to the local long-term climate (by comparing the three days to a climatological threshold for that particular location) and to the local recent past (by comparing the three days to observed temperatures over the previous thirty days at that particular location).

The raw EHF values are scaled to severity quantities, called EHFsev. These quantities are based on reproducible and objective statistics founded on the Pareto principle which holds that most impact is felt in conditions that are outside the normal range.

A heatwave day is defined as any day for which EHFsev is positive (greater than zero). It is the first day of a three day period with unusually high temperatures. A heatwave event is defined as one or more consecutive heatwave days.

Heatwaves are further classified into three levels (low severity, severe, extreme), based on EHF values exceeding EHFsev thresholds within an event.

Low-Intensity Heatwave

- Lower positive EHFsev values (EHFsev > 0 and EHFsev < 1) – i.e., greater than zero but less than one
- Most common
- Most people can cope

Severe Heatwave

- Higher EHFsev values (EHFsev >= 1 and EHFsev < 3) – i.e., between one and three
- Less frequent
- Can impact vulnerable people

Extreme Heatwave

- Highest EHFsev values (EHFsev >= 3) – i.e., greater than three
- Rarest
- Capable of causing widespread health issues
- Can impact infrastructure such as power and transport

The different levels of heatwave (i.e. low intensity, severe and extreme), with an increasing risk profile, enable the generation of tiered arrangements to manage heatwaves with defined activation triggers and escalating response levels.