

## Working With Geothermal Energy | SAFE WORK METHOD STATEMENT (SWMS)

### TASK OR ACTIVITY: Working With Geothermal Energy

Business Name:	ABN:	SWMS#
Business Address:		
Contact Person:	Phone:	Email:

### THIS SAFE WORK METHOD STATEMENT IS APPROVED BY THE PCBU OF THE PROJECT

Under the Work Health and Safety Regulation (WHS Regulation), a person conducting a business or undertaking (PCBU) is required to ensure that a safe work method statement (SWMS) is prepared before the proposed work starts.

Full Name:		
Signature:	Title:	Date:
Details of the person(s) responsible for ensuring implementation, monitoring compliance of the SWMS as well as reviews and modifications of the SWMS.		
Full Name:	Title:	Phone:

### ALL PERSONNEL PARTICIPATING IN ANY ACTIVITY ON THIS SWMS MUST HAVE THE FOLLOWING COMMUNICATED

Safety meetings or toolbox talks will be scheduled in accordance with legislative requirements to first identify any site hazards, then to communicate those hazards and then to further take steps to either eliminate or control each hazard.

If an incident or a near miss occurs, all work must stop immediately. Depending on the severity of the incident, a meeting will be called with all workers to amend the SWMS if required. The meeting may also be an educational opportunity.

Any changes made to the SWMS after an incident or a near miss must be approved by the Person Conducting Business or Undertaking and communicated to all relevant personnel.

The SWMS must be kept and be available for inspection at least until the work is completed. Where a SWMS is revised, all versions should be kept. If a notifiable incident occurs in relation to which the SWMS relates, then the SWMS must be kept for at least two years from the occurrence of the notifiable incident.

### NAME OF ALL RELEVANT PERSONNEL WHO HAVE BEEN CONSULTED AND COMMUNICATED TO IN THE DEVELOPMENT AND APPROVAL OF THIS SWMS

### CLIENT OR PRINCIPAL CONTRACTOR DETAILS

Client:	SCOPE OF WORKS
Project Name:	
Project Address:	
Project Manager:	
Contact Phone:	
Date SWMS supplied to Project Manager:	

### ANY HIGH-RISK CONSTRUCTION WORK BEING CARRIED OUT

- |  |  |
|--|--|
| <input type="checkbox"/> involves a risk of a person falling more than 2 meters  | <input type="checkbox"/> is carried out on or near pressurised gas mains or piping                                     |
| <input type="checkbox"/> is carried out on a telecommunication tower   | <input type="checkbox"/> is carried out on or near chemical, fuel or refrigerant lines                                 |
| <input type="checkbox"/> involves demolition of an element of a structure that is load-bearing                         | <input type="checkbox"/> is carried out on or near energised electrical installations or services                      |
| <input type="checkbox"/> involves demolition of an element related to the physical integrity of a structure            | <input type="checkbox"/> is carried out in an area that may have a contaminated or flammable atmosphere                |
| <input type="checkbox"/> involves, or is likely to involve, disturbing asbestos  | <input type="checkbox"/> involves tilt-up or precast concrete  |
| <input type="checkbox"/> involves structural alteration or repair that requires temporary support to prevent collapse  | <input type="checkbox"/> is carried out on, in or adjacent to a road, railway, shipping lane or other traffic corridor |
| <input type="checkbox"/> is carried out in or near a confined space  | <input type="checkbox"/> is carried out in an area of a workplace where there is any movement of powered mobile plant  |
| <input type="checkbox"/> is carried out in/near a shaft or trench deeper than 2m or tunnel involving use of explosives | <input type="checkbox"/> is carried out in areas with artificial extremes of temperature.                              |
| <input type="checkbox"/> is carried out in or near water or other liquid that involves a risk of drowning.             | <input type="checkbox"/> involves diving work.   |

### ANY HIGH-RISK MACHINERY OR EQUIPMENT NEARBY

RISK MATRIX									
LIKELIHOOD	INSIGNIFICANT	MINOR	MODERATE	MAJOR	CATASTROPHIC	SCORE	ACTION	HEIRARCHY OF CONTROLS	
ALMOST CERTAIN	3 HIGH	3 HIGH	4 ACUTE	4 ACUTE	4 ACUTE			 <p><b>Elimination</b> Remove the hazard.</p> <p><b>Substitution</b> Replace the hazard.</p> <p><b>Isolation</b> Isolate People from the hazard</p> <p><b>Engineering</b> Isolate the hazard.</p> <p><b>Administrative</b> Change the work.</p> <p><b>PPE</b></p>	
LIKELY	2 MODERATE	3 HIGH	3 HIGH	4 ACUTE	4 ACUTE	4A ACUTE	DO NOT PROCEED		
POSSIBLE	1 LOW	2 MODERATE	3 HIGH	4 ACUTE	4 ACUTE	3H HIGH	Review before work starts.		
UNLIKELY	1 LOW	1 LOW	2 MODERATE	3 HIGH	4 ACUTE	2M MODERATE	Ensure control measures in place.		
RARE	1 LOW	1 LOW	2 MODERATE	3 HIGH	3 HIGH	1L LOW	Monitor and keep records		

**Notes on Hierarchy of Controls:** Elimination methods are the most effective and preferred when controlling a hazard. Substitution is the second most effective method of controlling a hazard. Engineering by isolation is the third most effective, while Administrative Controls by changing the work is the fourth most effective method. PPE (Personal Protective Equipment) is the least effective method.

PERSONAL PROTECTIVE EQUIPMENT (PPE)											
Select the appropriate PPE above suitable for the equipment used or the job task being performed (if applicable).											
FOOT PROTECTION	HAND PROTECTION	HEAD PROTECTION	HEARING PROTECTION	EYE PROTECTION	RESPIRATORY PROTECTION	FACE PROTECTION	HIGH-VIS CLOTHING	PROTECTIVE CLOTHING	FALL PROTECTION	SUN PROTECTION	HAIR/JEWELLERY SECURED
											
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Other PPE Required:											
Permit or Licenses Requirements						Mandatory Qualifications and Training					

JOB STEP	POTENTIAL HAZARDS	IR	CONTROL MEASURES	RR
SPECIFIC WORK STEPS	HAZARDS THAT MAY ARISE	INITIAL RISK	SPECIFIC MEASURES TO BE PUT IN PLACE TO ELIMINATE OR CONTROL THE RISKS	RESIDUAL RISK
1. Preparation	Hot surface exposure, accidental slip or trip	3H	<ul style="list-style-type: none"> <li>- Conduct a thorough risk assessment to identify specific hazards related to geothermal energy and the site conditions.</li> <li>- Ensure all workers have completed relevant training for handling geothermal equipment and understanding associated risks.</li> <li>- Implement appropriate personal protective equipment (PPE) requirements such as heat-resistant gloves, safety boots with non-slip soles, and flame-resistant clothing.</li> <li>- Install clear signage around areas with hot surfaces to alert workers to potential hazards and maintain safe distances.</li> <li>- Develop an emergency response plan specifically for incidents involving geothermal operations and ensure all personnel are familiar with it.</li> <li>- Schedule regular inspections of the work area to identify and address any potential trip hazards, ensuring pathways are clear and properly maintained.</li> <li>- Use thermal barriers or insulation on surfaces that can become dangerously hot to reduce the risk of burns.</li> <li>- Maintain effective communication systems among team members to report hazards and coordinate tasks efficiently.</li> <li>- Verify all tools and equipment used in the preparation phase are in good working condition and suitable for use near geothermal sources.</li> <li>- Provide slip-resistant mats or surfaces in areas prone to moisture accumulation to mitigate slipping risks.</li> <li>- Encourage a culture of safety where workers feel comfortable reporting any observed hazards or unsafe practices immediately.</li> <li>- Limit the exposure time of workers near hot surfaces by rotating tasks or allowing for sufficient rest periods to prevent overexertion.</li> </ul>	2M
2. Drilling	Noise-related hazards, vibration-related hazards	3H	<ul style="list-style-type: none"> <li>- Conduct regular noise monitoring to ensure exposure levels are within the acceptable limits set by workplace regulations.</li> <li>- Provide workers with appropriate personal protective equipment such as earplugs or earmuffs designed to reduce noise exposure.</li> <li>- Implement engineering controls like acoustic enclosures around noisy machinery and noise barriers on-site.</li> <li>- Schedule regular maintenance of drilling equipment to minimise noise output and prevent mechanical failures that could lead to increased noise levels.</li> <li>- Limit the time workers spend near high-noise areas by rotating tasks and ensuring adequate rest breaks away from noise sources.</li> </ul>	2M

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			<ul style="list-style-type: none"> <li>- Train workers on the potential risks associated with noise exposure and the proper use of hearing protection devices.</li> <li>- Utilise vibration-damping materials on handles and controls to reduce the transmission of vibrations to operators.</li> <li>- Design work schedules to minimise prolonged exposure to vibrating tools and equipment, ensuring operators have frequent rest breaks.</li> <li>- Conduct pre-operational inspections to identify and rectify any defects in equipment that may increase vibration levels.</li> <li>- Equip workers with anti-vibration gloves that meet Australian standards to help reduce hand-arm vibration exposure.</li> <li>- Use mechanised equipment where possible to limit manual handling and repetitive strain injuries caused by vibration-related hazards.</li> <li>- Develop and implement administrative controls, such as rotating employees between different tasks to minimise continuous vibration exposure.</li> <li>- Provide training to workers on recognising early symptoms of vibration-related disorders and encourage reporting incidents or health concerns promptly.</li> </ul>	
3. Installation	Fume inhalation, electrical	3H	<ul style="list-style-type: none"> <li>- Conduct risk assessment prior to starting installation to identify specific hazards and implement appropriate controls.</li> <li>- Ensure proper ventilation in areas where geothermal systems are being installed to minimise fume inhalation risks.</li> <li>- Provide personal protective equipment (PPE) such as respirators, gloves, and eyewear for workers during installation to protect against fume exposure.</li> <li>- Use fume extraction systems or fans to dissipate any build-up of hazardous fumes in confined spaces.</li> <li>- Implement a lockout/tagout system for electrical equipment to prevent accidental energisation during installation work.</li> <li>- Ensure all electrical installations are carried out by qualified personnel adhering to the relevant Australian standards and regulations.</li> <li>- Regularly inspect and maintain all tools and equipment used for installation to ensure they are in safe working order.</li> <li>- Train all workers on emergency procedures, including first aid response specific to fume inhalation and electrical shock incidents.</li> <li>- Establish a communication protocol to alert team members immediately in the event of a fume exposure or electrical hazard.</li> <li>- Schedule regular breaks for workers to reduce prolonged exposure to potential hazards and ensure they remain alert and focused.</li> </ul>	1L
4. Testing	Explosion hazards, thermal burn	3H		2M



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SPECIFIC WORK STEPS	HAZARDS THAT MAY ARISE	INITIAL RISK	SPECIFIC MEASURES TO BE PUT IN PLACE TO ELIMINATE OR CONTROL THE RISKS	RESIDUAL RISK
			<div></div> <div></div> <div></div> <div></div> <div></div> <div></div> <div></div> <div></div> <div></div> <div></div> <div></div> <div></div>	
6. Insulation	Electrical shock, dust inhalation	2M	<div></div> <div></div> <div></div> <div></div> <div></div> <div></div> <div></div> <div></div> <div></div> <div></div>	1L

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JOB STEP	POTENTIAL HAZARDS	IR	CONTROL MEASURES	RR
SPECIFIC WORK STEPS	HAZARDS THAT MAY ARISE	INITIAL RISK	SPECIFIC MEASURES TO BE PUT IN PLACE TO ELIMINATE OR CONTROL THE RISKS	RESIDUAL RISK
			[REDACTED]	
			[REDACTED]	
			[REDACTED]	
			[REDACTED]	
10. Steam Creation	Thermal burn, explosion hazard	4H	[REDACTED]	3H
			[REDACTED]	
11. Troubleshooting	Electrical shock, fume inhalation	3H	[REDACTED]	2M



JOB STEP	POTENTIAL HAZARDS	IR	CONTROL MEASURES	RR
SPECIFIC WORK STEPS	HAZARDS THAT MAY ARISE	INITIAL RISK	SPECIFIC MEASURES TO BE PUT IN PLACE TO ELIMINATE OR CONTROL THE RISKS	RESIDUAL RISK
13. Waste Disposal	Handling of sharp materials, toxic waste exposure	3H		2M
14. Shutdown and Dismantling	Falling objects, crushing or entrapment	4A		3H

JOB STEP	POTENTIAL HAZARDS	IR	CONTROL MEASURES	RR
SPECIFIC WORK STEPS	HAZARDS THAT MAY ARISE	INITIAL RISK	SPECIFIC MEASURES TO BE PUT IN PLACE TO ELIMINATE OR CONTROL THE RISKS	RESIDUAL RISK
			[REDACTED]	
			[REDACTED]	
			[REDACTED]	
			[REDACTED]	
			[REDACTED]	
			[REDACTED]	
			[REDACTED]	
			[REDACTED]	
			[REDACTED]	
			[REDACTED]	
15. Debrief	Mental stress, overexertion	2M	[REDACTED]	1L
16. Documentation	Overexertion, eye strain	2M	[REDACTED]	1L

[illegible]

[illegible]

JOB STEP	POTENTIAL HAZARDS	IR	CONTROL MEASURES	RR
SPECIFIC WORK STEPS	HAZARDS THAT MAY ARISE	INITIAL RISK	SPECIFIC MEASURES TO BE PUT IN PLACE TO ELIMINATE OR CONTROL THE RISKS	RESIDUAL RISK
19. Cleaning/servicing	Chemical exposure, slip or trip hazard			2M
20. Training on emergency procedures	Mental stress, misunderstanding procedures	2M		1L





## EMERGENCY RESPONSE – CALL 000 FOR EMERGENCIES

Ensure to have an Emergency Management Plan in place as well as adequate numbers of trained first aid staff with easy access to fully stocked first aid kits, rescue equipment, material safety data sheets, adequate access to emergency communication equipment and fire-fighting equipment suitable for all classes of fire and ignition sources.

## LEGISLATIVE REFERENCES

RELEVANT LEGISLATION AND CODES OF PRACTICE. DELETE THE LEGISLATIVE REFERENCES IF ANY STATE THAT ARE NOT APPLICABLE

### Queensland & Australian Capital Territory

Work Health and Safety Act 2011

Work Health and Safety Regulations 2011

Legislation QLD: <https://www.worksafe.qld.gov.au/laws-and-compliance/work-health-and-safety-laws>

Codes of Practice QLD: <https://www.worksafe.qld.gov.au/laws-and-compliance/codes-of-practice>

Legislation ACT: <https://www.worksafe.act.gov.au/laws-and-compliance/acts-and-regulations>

Codes of Practice ACT: <https://www.worksafe.act.gov.au/laws-and-compliance/codes-of-practice>

### Victoria

Occupational Health and Safety Act 2004

Occupational Health and Safety Regulations 2017

Legislation VIC: <https://www.worksafe.vic.gov.au/occupational-health-and-safety-act-and-regulations>

Codes of Practice VIC: <https://www.worksafe.vic.gov.au/compliance-codes-and-codes-practice>

### New South Wales

Work Health and Safety Act 2011

Work Health and Safety Regulations 2017

Legislation NSW: <https://www.safework.nsw.gov.au/legal-obligations/legislation>

Codes of Practice NSW: <https://www.safework.nsw.gov.au/resource-library/list-codes-of-practice>

### Western Australia

Work Health and Safety Act 2020

Work Health and Safety Regulations 2022

Legislation Western Australia: <https://www.commerce.wa.gov.au/worksafe/legislation>

Codes of Practice WA: <https://www.commerce.wa.gov.au/worksafe/codes-practice>

### Northern Territory

Work Health and Safety (National Uniform Legislation) Act 2011

Work Health and Safety (National Uniform Legislation) Regulations 2011

Legislation NT: <https://worksafe.nt.gov.au/laws-and-compliance/workplace-safety-laws>

Codes of Practice NT: <https://worksafe.nt.gov.au/laws-and-compliance/codes-of-practice>

### Safe Work Australia Links

Law and Regulation (All States): <https://www.safeworkaustralia.gov.au/law-and-regulation>

Model Codes of Practice: <https://www.safeworkaustralia.gov.au/resources-publications/model-codes-of-practice>

### Model Codes of Practice

- Managing noise and preventing hearing loss at work
- Confined spaces
- Labelling of workplace hazardous chemicals
- Managing risks of hazardous chemicals in the workplace
- Welding processes
- First aid in the workplace
- Managing the risk of falls at workplaces
- Hazardous manual tasks
- Managing the risk of falls in housing construction
- Managing electrical risks in the workplace
- Demolition work
- Excavation work
- Work health and safety consultation, cooperation and coordination
- Managing the work environment and facilities
- How to manage work health and safety risks
- Managing risks of plant in the workplace
- Construction work

### South Australia

Work Health and Safety Act 2012 (SA)

Work Health and Safety Regulations 2012 (SA)

Legislation for SA: <https://www.safework.sa.gov.au/resources/legislation>

Codes of Practice for SA: <https://www.safework.sa.gov.au/workplaces/codes-of-practice#COPs>

### Tasmania

Work Health and Safety Act 2012

Work Health and Safety (Transitional and Consequential Provisions) Act 2012

Work Health and Safety Regulations 2012

Work Health and Safety (Transitional) Regulations 2012

Legislation for TAS: <https://worksafe.tas.gov.au/topics/laws-and-compliance/acts-and-regulations>

Codes of Practice for TAS: <https://worksafe.tas.gov.au/topics/laws-and-compliance/codes-of-practice>

Details of permits, licenses or access required by regulatory bodies (add or delete as required):

- Permits from local council
- Authorisation to commence work
- Any required documents.

## SIGNATORIES OF THE SAFE WORK METHOD STATEMENT

The signed and dated personnel listed below have cooperated in the consultation and development of this Safe Work Method Statement which has been approved by the Person/s Conducting a Business or Undertaking (PCBU). In signing this Safe Work Method Statement each individual acknowledges and confirms that they have read this SWMS in full, having raised any questions for items on this Safe Work Method Statement that require clarification, and confirms that they are competent, skilled and knowledgeable for the task assigned to them. Every person acknowledges that they have received the relevant training and qualifications where required, before carrying out any work contained in this Safe Work Method Statement. By signing this Safe Work Method Statement each individual agrees to work safely, to follow any safe work instructions which are provided, and agrees to use all Personal Protective Equipment where appropriate.

Worker Name	Signature	Date

## SAFE WORK METHOD STATEMENT MONITORING AND REVIEW

**The SWMS must be reviewed regularly** to make sure it remains effective and must be reviewed (and revised if necessary) if relevant control measures are revised. The review must be carried out in consultation with workers (including contractors and sub-contractors) who may be affected by the operation of the SWMS and their health and safety representatives who represent that work group at the workplace.

When the SWMS has been revised the PCBU must ensure that all persons involved with the work are advised that a revision has been made and how they can access the revised SWMS, including all persons who will need to change a work procedure or system as a result of the review are advised of the changes in a way that will enable them to implement their duties consistently with the revised SWMS. All workers that will be involved in the work must be provided with the relevant information and instruction that will assist them to understand and implement the revised SWMS.

**The SWMS must be monitored regularly** for the effectiveness of ensuring hazard controls are effective in reducing the risk of incidents, keeping the workplace safe for all personnel. The person responsible for monitoring the effectiveness of the Safe Work Method Statement should employ a multi-faceted approach which includes but is not limited to:

1. Spot Checks.
2. Consultation with workers, contractors and sub-contractors.
3. Internal audits on a continual basis.

An approach of continuous improvement, promptly recording inconsistencies or deficiencies, followed up by immediate corrective action and consultation with all relevant personnel ensures that the PCBU is consistently developing ever-improving systems of safe work principles.

REVIEW NUMBER	1	2	3	4	5	6	7
NAME							
INITIALS							
DATE							

### SAFE WORK METHOD STATEMENT REVIEW CHECKLIST

This Safe Work Method Statement Review Checklist is to be followed and used upon initial development of the SWMS to help ensure that all steps have been adequately taken before work commences. Think of this document as an internal audit review checklist before commencing work, and may form part of a Toolbox Talk (safety meeting) and may be used as an opportunity for education and training.

ITEMS WHICH MUST BE INCLUDED IN THE SWMS	COMPLETED	COMMENTS
The company details have been entered, including the project name and address.	<input checked="" type="checkbox"/>	
All relevant personnel consulted during the development of the SWMS.	<input checked="" type="checkbox"/>	
Name, signature, position and date signed of the person approving the SWMS.	<input type="checkbox"/>	
Specific personnel and qualifications, experience is noted in the SWMS.	<input checked="" type="checkbox"/>	
Provides a step-by-step process of tasks required to carry out the activity or task.	<input checked="" type="checkbox"/>	
Adequate risk assessment of any identified hazards has been completed.	<input checked="" type="checkbox"/>	
Foreseeable hazards are identified and documented for each step.	<input checked="" type="checkbox"/>	
Any hazards listed in any site risk assessments have been added to the SWMS.	<input checked="" type="checkbox"/>	
SWMS initial risk (IR) column as well as residual risk (RR) column completed.	<input checked="" type="checkbox"/>	
Check control measures added to the SWMS are the most effective selected.	<input checked="" type="checkbox"/>	
Responsible person is assigned and listed on the SWMS for the implementation of control measures.	<input checked="" type="checkbox"/>	
Permit or licenses requirements specified, such as Hot Work, Electrical Work, Work at Heights etc.	<input checked="" type="checkbox"/>	
SWMS identifies plant and equipment to be used.	<input checked="" type="checkbox"/>	
Details of inspection checks required for any equipment listed as noted on the SWMS.	<input checked="" type="checkbox"/>	
Describes any mandatory qualifications, experience, training or skills required to perform the work.	<input checked="" type="checkbox"/>	
Applicable personal protective equipment is selected on the SWMS.	<input checked="" type="checkbox"/>	
Reflects and documents any legislative references and/or Australian Standards.	<input checked="" type="checkbox"/>	
Identifies any hazardous substances used with specific control measures in line with any SDS.	<input checked="" type="checkbox"/>	
<b>REVIEWED BY</b>		<b>DATE REVIEWED</b>
<b>SIGNATURE</b>		<b>DATE COMPLETED</b>