Kuga Energy
1/4 Bridge Road, Keysborough VIC 3173
Phone: 13 58 42 ABN: 39 616 409 584

Safe Work Method Statement

Working at Heights & Installation of Solar PV

Principal Contractor (PC)	Contact Number	Works Manager	Date SWMS provided to PC
Kuga Energy	13 58 42	Mark Avery	15/04/2025

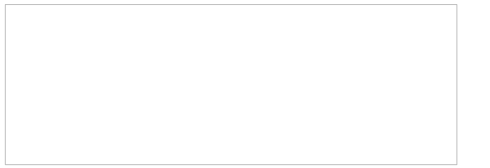
Work Activity	Working at heights-Installation of Roof Mounted PV systems
Site Name and Address	G09 -Noel Martin Building 20 Codrington St, Darlington NSW 2008
Codes or Standards Applicable to Works	• AS 3000 Wiring Rules; AS 3012 Construction Sites • AS 3760 In-Service Safety Inspection and Testing • AS 1891 Fall Arrest Systems; AS 1982 Portable Ladders • AS/NZS 3000 Electrical Wiring Rules • AS 4777 Grid Connections of Energy Systems via Inverters • COP How to Manage Work Health and Safety Risks 2011 • COP Managing Electrical Risks in the Workplace 2013 • COP Managing the Risk of Falls at Workplaces
Work Health and Safety or Environmental Legislation	• Work Health & Safety Act 2011 • Work Health & Safety Regulation 2017
Licenses, Permits, Competencies (Must be written into the Sign-On page of SWMS)	✔ Electrical License ✔ Industry Card ✔ CEC Accreditation Rescue & Resuscitation ✔ Work at Heights ✔ Permit to work /other

High Risk Construction Work
(Select all that apply)

- [x] Risk of a person falling more than 2 metres (Note: in some jurisdictions this is 3 metres)
- [ ] Work on, in or adjacent to a road, railway, shipping lane or other traffic corridor in use by traffic other than pedestrians
- [ ] Work on or near pressurised gas mains or piping
- [ ] Tilt-up or precast concrete elements
- [ ] Work in or near water or other liquid that involves a risk of drowning
- [ ] Work on a telecommunication tower
- [ ] Work on or near chemical, fuel or refrigerant lines
- [ ] Work in an area that may have a contaminated or flammable atmosphere
- [ ] Demolition of load-bearing structure
- [x] Work on or near energised electrical installations or services
- [ ] Work in or near a confined space
- [ ] Temporary load-bearing support for structural alterations or repairs
- [ ] Likely to involve disturbing asbestos
- [ ] Use of explosives
- [x] Work in an area with movement of powered mobile plant
- [ ] Work in areas with artificial extremes of temperature
- [ ] Work in or near a shaft or trench deeper than 1.5 m or a tunnel
- [ ] Work near overhead power lines

Person responsible for ensuring compliance with SWMS	Title	Email
Mark Avery	Site Manager	m.avery@kuga.energy
Version Date	**Last Reviewed Date**	**Date received**
15/04/2025	15/04/2025	15/04/2025
Signature		

Digital signature signed by:



5NbVimp5bqz3XRAxYf6jV91NIcF5URIcoHS…

This document does not replace training; it is provided as a guide for the development of a SWMS for your organisation. This is a non-specific document and must be assessed against your hazards and the working environment. Further modification and customisation must be undertaken in consultation with “competent persons” and the workers undertaking this work.

PPE REQUIRED

✔ Hard Hat	✔ Hearing Protection	✔ Long Sleeved Clothing	Respiratory Protection	✔ High Vis Vest, Polo top or Shirt
✔ Safety glasses/ goggles	✔ Gloves Example of gloves are below. 	✔ Safety Boots Boots to have ankle support and steel caps. Example below. 	✔ Safety Harness Safety harness, lanyard, snap hook attached and temporary anchor is required on site at all times. Safety harness to meet AS/NZS1891.1:2020, AS1891.5.2020 standard or relevant Australian Standard. 	✔ Signs/ Barriers/ Sun protection A minimum of SPF 50+ sunscreen is required to be used along with weather specific weather protection like hats or rain jackets.

Potential Environmental Impacts with the tasks		Hierarchy of Controls	
	✔ Air Pollution (dust)		Eliminate
	✔ Contamination to ground		Substitute
	✔ Noise Pollution (ambient)		Engineer
	Soil erosion		Administration
	Contamination to water		PPE
	Hazards to flora & fauna		

ADDITIONAL HAZARDS

Are there any additional hazards or addition tasks identified now at this stage (ie. before work starts) that are NOT inc. in the SWMS below? No, all covered ☒
If YES, there are additional hazards, then use the follow table as an identification tool. Please mark in far right column below and provide details on the next page.

Haz #	What could hurt me? (Hazard)	How could it hurt me? (Consequence)	Potential Controls	Additional Hazard (Y)
1	Other work activities in area	Collisions, ergonomics, incompatible activities.	Communication, barriers, awareness	✔
2	Tools and Equipment	Impact, entanglement, friction / abrasion, cutting, vibration, Cuts and Lacerations	Check tools before starting work.	✔
3	Manual handling	Back injury, strain and sprain. Injury from pushing, pulling, lifting	Team lift, use mechanical aid, crane, forklift, hoist	✔
4	Surfaces - Uneven, slippery	Slip, Trip, Fall	Awareness , barricades, signage	✔
5	Vehicles, PIVS in vicinity	Hit, property damage, crushing , tipping over	Training, Qualification, Exclusion zones	
6	Driving hazards, slippery	Road condition, other vehicles, uneven terrain, vehicle condition	Training, Qualification, Exclusion zones	✔
7	Noise	Hearing damage	Ear protection, separate noisy tasks	✔
8	Visibility / Lighting	Hit / collision / eye strain	Additional lighting	
9	Foreign Body in eye	Eye damage , puncture wound	Safety Glasses, Face Shield	✔
10	Heights	Impact injury, unguarded openings, damaged rungs. Lack of barricading	**Working at Height Licence**	
11	Falling objects	Hit, crushing, Musculoskeletal damage	Barricading / Drop Zone	✔
12	Ladder Use	Falling from Height, Falling objects	Appropriate ladder selection, Potential Permit	✔
13	Roof work	Falling from Height, incl. fall through, Falling objects	**Working at Heights Licence**	
14	Confined spaces	Engulfment, suffocation, entrapment	**Confined Space Permit**	
15	Oxygen Deficiency	Suffocation, fainting	**Confined Space Permit**	

16	Dust / Fibres	Respiratory effects, silicosis	Respiratory protection (PPE)	
17	Weather	Rain, Wind, Lightning, Melanoma from UV radiation from Sun	Monitor weather condition, work schedule, PPE	
18	Temperature / Hot or Cold	Burns, Heat and cold, Heat stress, muscle & ligament damage in cold	Work schedule, short duration only, PPE	✔
19	Electricity	Arc Flash, Electrocution, machinery damage	Qualified electrician, **LOTO Permit**	✔
20	Moving machinery	Nips, crushing, amputation, laceration, Hit	Separation of mobile plant & pedestrian workers	✔
21	Rotating equipment / Moving objects	Laceration, burns, Nips, Crushing, amputation	Guarding, service equipment, pre-start checks	
22	Compressed air	Noise levels, Embolism	PPE, safe system of work	
23	Steam	Scolds, burns	Safe system of work, guarding	
24	Water	Engulfment, drowning	Barricades	
25	Gas / fumes / dusts	Explosive atmospheres, Explosion, Fire, incl..Liquid, Gas, Vapour, Solid, Dust, Metal	**Hot Work Permit, consult with key contact**	
26	Chemicals	Toxic poisoning through absorption/inhalation. Burn.	PPE, SDS, **consult with key contact**	
27	Newness to site	lack of training, lack of familiarisation with risks	Supervision, Toolbox, SMWS	✔
28	Fire	Burns, property damage	Hot Work Permit	
29	Sprinkler deactivation	Uncontrolled fire , flood , water damage	**Hot Work Permit**	
30	Flammables	Increased risk of explosion & fire	SDS, firefighting emergency procedures	
31	Radiation, Electromagnetic Radiation	Burns, poisoning	PPE, Isolate, barricade off area.	
32	Viral, Bacterial, Parasitic, Fungal	Skin infections	PPE	
33	Hazardous substances	Eco toxic , Corrosive, Sensitizer, Reactive, Irritant	PPE, SDS sheet, **consult with key contact**	
34	Fatigue	Low concentration, microsleeps	Appropriate rest periods, work schedule	✔

35	Ergonomics/OOS	Product damage Poor work design, layout, repetition, and tendon and muscle damage	Posture, correct tools, regular breaks	✔
36	Lone worker	Contact risks, emergency response communication	Communication plan, 2-way radios, phone	
37	Repetitive / mundane task	OOS / Repetitive strain, boredom	Work Breaks, stretching, correct tool use	✔
38	Spills and Leaks	Contamination of ground / waterways, risk of poisoning or fire	Bunding, Spill Kits, Clean-up	
39	Wastewater	Pollution of natural waterways or groundwater	Bunding, Cover storm-water drains	
40	Land	Contamination of soil	Bunding, Spill Kits, Clean-up, contact EPA	
41	Air	Odour, Visible emissions, particles (PM10), Sulphur Dioxide, Metal fume	PPE	
42	Waste	Contamination, Spillage, Solid waste, Liquid Waste	Spill Kit, Bunding, WSU's	
43	Excavations / Earthworks	Engulfment, suffocation, entrapment, underground services,	Shoring, barricade,	
44	Crane Use	Slew radius(hit), falling objects, unstable ground, weather, load factors	**HRW Licence, exclusion zones, structural cert.**	
45	Perceived pressure / haste	Stress, Fatigue	Supervision, planned break schedule	✔
46	Skylights	Skylights are not weight baring and they become brittle as they age. When they are stood on there is a high risk of falling through the skylight. Often the fall is greater then 6m meters and cause serious injury and death	• Assess if the building has internally fall protection mesh under the skylights. Inspect the mesh to ensure it is secured and has no defects. If the building doesn't have internal fall protection mesh a specific Safe Work Method must be documented for the work area . • Safety nets are to be installed as a visual indicator of the fall risk • If within 3m meters of the skylight, a Fall Arrest System must be installed and operated while in the working area • If the skylight is not in a working area edge protection or visual bollards must be installed to clearly mark the area is an exclusion zone	

47	Complacency	Not following safe work methods can lead to minor or serious injuries including death. A staff member can forget or deliberately not follow safe work methods. A staff member might see another co-worker being complacent but may not raise issues or concerns	• All site staff are required to review, understand and sign that they have understood the safe work method statement. • All site staff are required to follow the safe work method statement at all times. • Site Managers, Project Managers and all site staff are required to do frequent inspections of work areas.	✔
48	Site staff not following Safe Work Methods	Stress, Fatigue	• Site Manager and or Project Manager is responsible to induct site staff and read through the Safe Work Methods. If any additional safe work methods are identified, the Safe Work Method Statement is required • Site Manager and or Project Manager is responsible to induct site staff and read through the Safe Work Methods. If any additional safe work methods are identified, the Safe Work Method Statement is required • The Site Manager and or Project Manager is required to complete a Job Safety Analysis. Job Safety Analysis (JSEA) is a systematic procedure that breaks each job/task into key training sequences, identifies safety elements of each job / task step and coaches the employee on how to avoid potential safety hazards. • The Site Manager and or Project Manager is required to complete a Job Safety Analysis. Job Safety Analysis (JSEA) is a systematic procedure that breaks each job/task into key training sequences, identifies safety elements of each job / task step and coaches the employee on how to avoid potential safety hazards.	✔

49	Forklift operation	Injury to workers, property damage	Forklift to be operated by qualified, authorized personnel, holding a high risk work licence for fork lift operation. The first forklift operator to use the forklift (each day or each shift where more than one shift per day) will carry out a full pre use visual inspection to identify any damage, leaks etc. with details of the inspection to be recorded Periodic maintenance to be carried out by a competent person. • Do not place hands or any parts of body through the mast. • Do not stand between the mast and the load. • Do not stand on the tynes and/or load. • Do not exceed safe weight limit. • Do not operate with unstable loads. • Do not use damaged pallets. • Do not lower load when other workers are in the immediate vicinity. • Operate forklift with load and tynes as low as possible to increase operator’s field of vision. • Operate forklift within nominated speed limits. • Where practical, operate in a forward direction. • Maintain a safe distance from other plant. • Operate steering and brake smoothly when load is elevated. • Ensure all safety devices are working correctly. • Remove key from forklift when unattended or not in use. • Do not allow passengers to ride on forklift. • Do not operate forklift in proximity of overhead power cables. • Speed limit to be adhered to. • All safety devices to be working. • All loads to be secured. • Only palletized loads to be shifted with the forklift. Do not place items directly on the fork arms. They are liable to slide off. Use pallets at all times.	

50	Forklift Refueling	Personal injury, property damage due to fire and/or explosion	LP gas is a highly volatile explosive. Change gas bottles in a well ventilated area well clear of a naked flame or source of ignition. Do not smoke while changing LP gas bottles. LP gas bottles must be changed only by those trained and authorized to do so. Take the following steps in the order below when changing LP gas bottles. 1. Turn off cylinder valve. 2. Switch off engine. 3. Disconnect take-off hose. 4. Remove safety straps. 5. Change the bottle. 6. Connect the safety strap. 7. Reconnect take-off hose. 8. Turn on cylinder valve. 9. Check for leaks - look, listen, and smell.	

SITE SPECIFIC ACCESS PLAN

RISK ASSESSMENT MATRIX		Likelihood of causing injury or Environmental Harm				Prioritization of Tasks (ACTIONS)
		Very likely Could happen frequently	Likely Could happen occasionally	Unlikely Could happen but only rarely	Very unlikely Could happen, but probably never will	5 = Urgent - Stop Work Immediate Action Required
Consequence of Injury or impact on Environment	Kill or cause a catastrophic release to the environment	5	5	3	3	4 = Immediate - Take Action within 24 hours
	Long term injury/illness or environmental impact on neighbours	5	4	4	2	3 = Medium Term - Take Action within 5 days
	Medical treatment or environmental impact on site	4	4	2	1	2 = Longer Term - Take Action within 30 days
	First aid treatment or enviro clean up	4	2	1	1	1 = Monitor Risk – Monitor the Risk

INDUCTION

What are the tasks involved?	What are the hazards?	Initial Risk Rating Likelihood x Consequence	What are the risk control measures?	Residual Risk Rating Likelihood x Consequence	Who is responsible?
All workers to be inducted to site and follow client	Not understanding activity requirements - risk to health and safety Particularly to understand site specific hazards and client requirements.	2	• All workers attend (Client/ Construction Manager/Building Manager) Site specific induction • Ensure the Site Specific Requirements section is completed	5	Supervisor and Workers
Site induction meeting with all relevant workers to go through the contents of the SWMS - First Day of the job. Follow by daily toolbox talks. Our induction procedure.	Not understanding activity requirements - risk to health and safety. Risk that people will be unaware of hazards and not following safety procedures or implementing appropriate control measures.	2	• All workers have White Card • Workers have the relevant High Risk Work Licences, qualifications and competency as identified above. • Induct all workers to site before work starts. make sure late arrivals are inducted before starting work • All workers have read & understood the SWSM (this document)	5	Supervisor and Workers
Daily toolbox talks	Not understanding activity requirements - risk to health and safety. Risk that people will be unaware of hazards and not following safety procedures or	2	• Toolbox talks delivered daily, including discussion of • Identified hazards and specific controls that need to be implemented • Recent incidents; ◦ Outline of the day's activities and coordination between the workers • Workers are briefed at the start of the day about the tasks that are • Plan the work to be carried out in stages to allow for job rotation • Supervisor to ensure all workers have appropriate PPE, working safely at heights equipment, and other safety equipment required	5	Supervisor and Workers

FIT FOR WORK

What are the tasks involved?	What are the hazards?	Initial Risk Rating Likelihood x Consequence	What are the risk control measures?	Residual Risk Rating Likelihood x Consequence	Who is responsible?
Fatigue Signs to watch for: Yawning, Sore or heavy eyes Slower reaction times Lack of concentration Impatience Stiffness & cramps Loss of motivation	Slow reaction time, low concentration, low performance, lack of attention to detail Increases likelihood of accidents and injuries	1	• Supervisor must monitor all workers to ensure they are fit for work before they start their shift (no signs of fatigue). If a worker is showing signs of fatigue the supervisor should consider sending them home to rest and follow up with HR or Manager etc. • **Restrict the number of successive night shifts (no more than 3 consecutive)** • Avoid starting work earlier than 7am • Avoid working long hours, more than 50 per week. Take into consideration the previous week's work load when creating the work schedule • In each 24 hour period, maximum 12 hours of work (and work related activities, incl. driving) and 7 hours rest • Account for travel time of workers in work schedule, if possible • **Workers responsibilities;** • Workers should aim for between 7 to 9 hours of sleep per night • Get enough rest on your weekend • Seek medical advice and help if you have or are concerned about a health condition that affects your sleep and/or causes fatigue, such as sleep apnoea • Find out if any medication you are taking may affect fatigue or capacity to operate plant or vehicles.	5	Supervisor and Workers
Alcohol & Drug use, Intoxication Regular use or dependence on alcohol or other drugs that adversely affects work. "Hangover" effects, headache, shakiness, nausea & vomiting.	Slow reaction time, low concentration, low performance, near misses/ accidents, inappropriate behaviour, anti-social behaviour, mood swings, violence, Increases likelihood of accidents and injuries.	1	• Supervisor must monitor all workers to ensure they are fit for work (no signs of intoxication). If the worker is showing signs of intoxication, alcoholism, drug use or "hangover" the supervisor must send the person home and follow up with HR and/or Manager etc. • Avoid creating a culture of heavy drinking sessions at work related social events and functions. • Supervisors and managers should try to identify early warning signs before they develop into problems and report to HR.	5	Supervisor and Workers

ROOF CONDITION

SWMS - DC INSTALLATION

Task	Potential Hazard	Initial Risk Rating Likelihood x Consequence	Control Method	Residual Risk Rating Likelihood x Consequence	Who is responsible?

SWMS - AC INSTALLATION

Task	Potential Hazard	Initial Risk Rating Likelihood x Consequence	Control Method	Residual Risk Rating Likelihood x Consequence	Who is responsible?
Entry to site	Unknown site hazards and conditions	2	• Risk assessment to be conducted every morning prior start • Prestart checklist - is to be completed before operating the equipment	5	Supervisor and Workers

Inverter DC Cable connection	Manual Handling
	
	Muscle Strains
	
	Slips/Trips/falls
	
	Falling Object
	
	Falling Ladder
		2	• Check that cables are deenergised before commencing works
			• Use MC4 spanners
			• Keep work area tidy
			• Use proper Manual handling techniques
			  ◦ Slowly lift by straightening your hips and knees (not your back).
			  ◦ Keep your back straight, and don't twist as you lift
			  ◦ Hold the load as close to your body as possible, at the level of your belly button
			  ◦ Use your feet to change direction, taking small steps
			• Follow the 5 Manual Handling Principles to avoid injury
			  ◦ Plan - plan your lift adequately.
			  ◦ Position - centre the body & feet correctly.
			  ◦ Pick - lift item using good posture.
			  ◦ Proceed - move toward desired location.
			  ◦ Place - set object down safely
			• Regular breaks
			• Ensure proper installation method is followed
			• Wear ear, gloves and eye protection
				5	Supervisor and Workers

Inverter - Mounting	Manual Handling Muscle Strains Slips/Trips/falls Drilling & cutting Debris and noise Eye injuries Back & Crush	1	• Identify suitable location - not easily accessible by children, not directly in the sun and in an area free from corrosion or explosive atmosphere • Mount vertically on wall or pole • Conduct lifting in accordance with manual handling procedures • Install to manufacturer's specifications	4	Supervisor and Workers

Making MSB Connection	Electric shock
	
	Hand injuries
		2	• De-energised before commencing work, Test to confirm nothing is live
			• Lock-out and tag out
			• Follow safe work practices
			• Use torque wrench
			• Test entire system before re-energising
			• Follow safe work practices
			• Don't work alone
			• Use proper Manual handling techniques
			  ◦ Slowly lift by straightening your hips and knees (not your back).
			  ◦ Keep your back straight, and don't twist as you lift
			  ◦ Hold the load as close to your body as possible, at the level of your belly button
			  ◦ Use your feet to change direction, taking small steps
			• Follow the 5 Manual Handling Principles to avoid injury
			  ◦ Plan - plan your lift adequately.
			  ◦ Position - centre the body & feet correctly.
			  ◦ Pick - lift item using good posture.
			  ◦ Proceed - move toward desired location.
			  ◦ Place - set object down safely
			• Regular breaks
			• Ensure proper installation method is followed
			• Wear ear, gloves and eye protection
				5	Supervisor and Workers

Testing and Commissioning	Electric Shock Slips/Trips/falls Fall from heights	1	• Undertake testing as per Completion Report • Use electrical test equipment • Personnel must be competent with suitably training Appropriate testing and certification (ECC) • Wear ear and eye protection	4	Supervisor and Workers
Complete wiring	Electric shock Arc Burns Drilling, screwing & cutting Debris -noise Eye injuries Cuts & Bruises Tripping Hazard	2	1. As soon as the panels are in the sun, they begin producing power causing a potential voltage hazard 2. Do not Plug In the first and last panel of the string until ready for testing and all MC4s have been completed. 3. If all panels are connected there will be voltage on the string and if String MC4s are not done there is the potential for electric shock. 4. If an electric shock occurs immediately stop work and take that person to the doctors 5. Ensure solar panel string is disconnected before barring out any terminations 6. De-energise, lock out and tag switchboard and or circuits before access and connection 7. Use Electrical test equipment	5	Supervisor and Worker
Inverter – Cable Tray	Hazard is weather, slip, trip or fall or drilling and manual handling. Risk is muscle strains, Back & Crush, Falling from heights	2	1. Wear ear and eye protection 2. Keep work area tidy 3. Use proper lifting techniques	5	Supervisor and Workers
Inverter – AC Cable from inverter to NPU	Hazard is weather, slip, trip or fall or drilling and manual handling. Risk is muscle strains, Back & Crush, Falling from heights	2	1. Wear ear and eye protection 2. Keep work area tidy 3. Use proper lifting techniques as per the manufacturer manual handling procedures	5	Supervisor and Workers

SIGNATURES

This SWMS has been developed in consultation and has been read, understood, and signed by the following workers:

Print Name	Signatures	Dates
Mark Avery		

Person(s) Responsible for SWMS review	Francis Futsek	**Last SWMS Review Date:**	Francis Futsek