



SAFE WORK METHOD STATEMENT

SOLAR PV SYSTEM INSTALLATION

Prepared for

Client:		Project No:	
Site:		Date Prepared:	

1. RESPONSIBILITIES

4shore Solar will conduct inductions for all workers (inclusive of employees and subcontractors) prior to commencing site work. A record of site inductions and toolbox meetings will be kept at the 4shore Solar office for future reference.

The Principal Contractor or Client will provide adequate amenities (toilets, wash rooms, dining facilities etc) as defined for this work type and in accordance with Safe Work Australia Code of Practice *Managing the Work Environment and Facilities*.

All 4shore solar workers engaged in site work are required to wear the necessary Personal Protective Equipment (PPE) as noted in this document. No glass containers will be allowed on site (except in meal rooms). The consumption of illegal drugs and alcohol is prohibited.

2. DESCRIPTION OF WORK

This brief, step by step work summary is to be completed by the Person Conducting Business or Undertaking (PCBU) or Site Supervisor on site prior to work commencing to assist in the identification of possible hazards:

1. Arrival onsite, parking in non-hazardous area in driveway or accessible place closest to identified work zone.
2. Client should have any pets or animals detained whilst works are being carried out. We do not take responsibility for animals on any worksite. They pose risk to our team.
3. Discuss solar system installation locations of panels and inverter with client prior to commencing work.
4. Work Zone is isolated and clients requested to conform to work safe rules.
5. Ladders are set up and tied down as required and or ladder mate put in place.
6. Roof assessment completed prior to works being carried out and any potential risks identified and noted.

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3. RISK ASSESSMENT

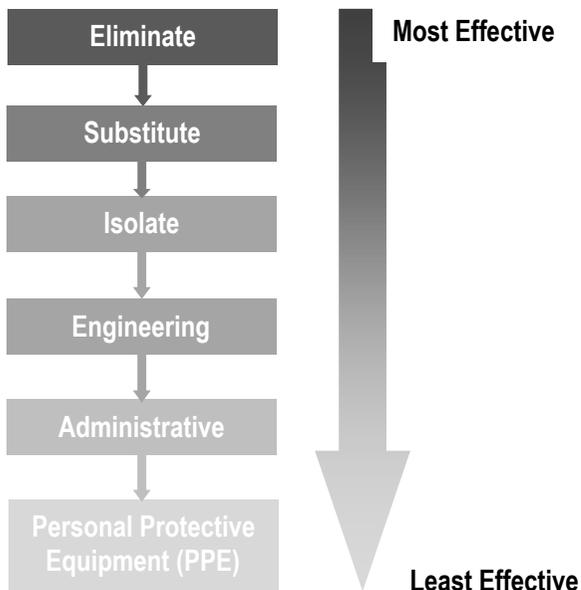
Risk Assessment Table

Consequence or Impact of Hazard	Level of harm	A	P	U	Likelihood/Probability	Risk Rating
H-Potential death, permanent or long term disability or illness, significant detrimental environmental impact	H-High	1	1	2	A-Almost certain could happen at any time	1-Immediate action is required
M-Potential temporary disability or illness requiring medical attention, short term environmental impact	M-Medium	1	2	3	P-Possible risk could happen occasionally	2-Control the risks/ hazards a.s.a.p.
L-Potential minor injury requiring first aid or minimal environmental impact	L-Low	2	3	3	U-Unlikely may happen rarely	3-Control risks with routine procedures

When assessing the risk of a particular hazard remember:

- The rating you use should indicate the importance of the action required to minimise the Risk posed by the Hazard.
- The more Hazards you identify the greater the overall Risk on the site.
- Overall Risk increases as the number of people exposed to a Hazard increases.
- The more serious the potential impact to a person's health from a Hazard the greater the Risk.
- The frequency of exposure to a Hazard will increase the Risk.

Hierarchy of Controls



Eliminate – ‘Design out’ the hazard when new materials, equipment and work systems are being purchased for the workplace;

Substitute - Substitute less hazardous materials, equipment or substances and use smaller sized containers;

Isolate – separate the workers from hazards using barriers, enclosing noisy equipment and providing exhaust or ventilation systems;

Engineering – use engineering controls to reduce the risks such as guards on equipment, hoists or other lifting and moving equipment;

Administrative – Minimise the risk by adopting safe working practices or providing appropriate training, instruction or information.

Personal Protective Equipment – Make sure that appropriate PPE is available and used correctly.

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The Work Process - “Risk Rating” and “Who is Responsible” is to be completed by the PCBU or Site Supervisor prior to work commencing. Additional Site Specific Requirements are to be entered following this section:

Steps	Step by Step Procedure	Possible Hazards	Risk Rating	Safety Controls	Who is responsible?
1	Risk Assessment	Workplace / worksite hazards Unlicensed / untrained workers		<ul style="list-style-type: none"> Do a Risk Assessment prior to commencing work and review the Principal Contractor's Site Safety Plan and Emergency Procedures and/or your subcontractors' Safe Work Method Statements (SWMS); Identify additional safety controls. Manage the risks to health and safety associated with falls from one level to another that is reasonably likely to cause an injury; Obtain approvals from the supply authorities where required; Make sure workers are trained, qualified or experienced to carry out the specified tasks; and Request appropriate licences or certification when required before allowing work to commence, including local council approval where required. 	AP
2	Site induction	Uninformed workers – unaware of the hazards and dangers.		<ul style="list-style-type: none"> All workers including subcontractors must have completed the General Construction Induction Training and hold a current card or certification; Advise workers and other persons on site of work to be carried out; Conduct a site specific induction for all project workers and have them sign a Site Induction Register including but not limited to: <ul style="list-style-type: none"> Hazards specific to the site and work activities to be carried out; Safety controls and revised Safe Work Method Statements (SWMS); Use and maintenance of Personal Protective Equipment (PPE); Emergency and evacuation procedures; Location of amenities and first aid facilities; and Check adequate first aid stocks are maintained. 	AP
3	Assess and prepare work areas	Access and egress Contamination to public and others.		<ul style="list-style-type: none"> Locate overhead power supply and any other overhead obstructions; Inspect ladders regularly to make sure they are in good condition with no loose or broken rungs; 	JM,
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Steps	Step by Step Procedure	Possible Hazards	Risk Rating	Safety Controls	Who is responsible?
		<p>Falls from heights Hit by falling objects Slips, trips and falls</p>		<ul style="list-style-type: none"> • Use platforms or scaffolding for heavy or lengthy work; • Make sure appropriate fall protection is in place when working at heights in excess of 2 meters; • Make sure there is no danger to people below overhead work - use approved barricades and signs warning them to keep clear of overhead work; • Make sure edge protection and handrails are in place and secure where required; • Immediately cease work in hazardous weather conditions such as: <ul style="list-style-type: none"> ○ Thunderstorms and strong winds that may cause loss of balance; ○ Rain is causing a slippery work surface; ○ Excessive glare is being emitted from work surfaces and/or poor lighting affects visibility; • Remove any items that may obstruct the work activity; • Check for any items that may cause slips, trips and falls and remove or secure them as required. • Erect signage below the overhead work warning of potential Hit by Falling Objects; • Make sure all workers and other persons within the work area are wearing approved PPE and maintain constant awareness of overhead work; • All workers on the ground must wear hard hats; • Use warning signs, barricades or restrict access and provide an alternative route when required; • Ensure appropriate first aid and emergency facilities are available; • Carry out basic housekeeping regularly, keeping access ways and the work area clear of materials, tools and debris to prevent slip, trip and fall hazards; • Make sure cables and other equipment do not cause a trip hazard; • Wear appropriate footwear; and 	

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Steps	Step by Step Procedure	Possible Hazards	Risk Rating	Safety Controls	Who is responsible?
4	Personal Protection Equipment (PPE)	Injury, illness, permanent disability and in extreme cases death.		<ul style="list-style-type: none"> • Where applicable, check condition of harnesses, ropes, shackles and fixing points for fall arrest system; • Check condition of hard hats, work gloves and insulation gloves, footwear and any other Personal Protective Equipment (PPE) appropriate for this work; • PPE is to be used only when no other control can reduce or eliminate the hazard / risk; • Make sure all workers are issued with and wear the recommended PPE as required for safety on the worksite and specific to the activities and tasks; and • Train workers in the correct use, maintenance and storage of PPE. 	JM,
5	Working outside	Sun exposure can cause sunburn, skin cancer, pterygia, corneal cataracts and heat stroke.		<ul style="list-style-type: none"> • Wear sunscreen, wide brim hat, long sleeve shirt with collar, trousers and wrap around sunglasses; • Work in the shade when possible or under a shade structure; and • Drink plenty of water to stay hydrated. 	JM,
6	Manual handling – lifting, carrying, pushing, pulling and holding	Strains, sprains and soft tissue damage Back injuries Crushing injuries		<ul style="list-style-type: none"> • Train workers in correct lifting techniques – bend the knees to lift and lower, use thighs (DO NOT bend over to lift), head up, chin in and keep elbows close to body - never twist while lifting, lowering or carrying a load; • Make sure load is stable before lifting; • Heavy and awkward items get help or use lifting equipment; • Rotate tasks to prevent repetitive strain injuries; and 	JM
7	Services / Utilities	Overhead services and electricity / power lines Electrocution		<ul style="list-style-type: none"> • Site Supervisor to check for overhead hazards; • Make sure Elevated Work Platforms (EWP) are not erected within 4 metres of overhead power lines unless they are protected; • Never work in high winds near overhead power lines; • If power lines are in close proximity to the work area, but greater than 4 metres, cover the lines with tiger tails; and 	JM

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Steps	Step by Step Procedure	Possible Hazards	Risk Rating	Safety Controls	Who is responsible?
				<ul style="list-style-type: none"> If power lines are closer than 4 metres, power must be turned off as tiger tails are not insulators. 	
8	Electricity and power tool use	Electricity / tools - electrocution Impact injuries Cuts and abrasions Amputations Noise – hearing damage Flying debris – eye injuries Untrained workers – tasks / tools		<ul style="list-style-type: none"> Train workers in the correct use of the equipment and supervise until they demonstrate they can operate the tool safely; Use tools and fittings to manufacturers recommendations; Check equipment is tested and tagged and are in good condition, especially power / ext. cords, repair or replace as required; Use Earth Leakage Circuit Breaker (ELCB) or Residual Current Device (RCD) to prevent electrocution; Use stands and hooks to raise power cords off the ground in wet or high traffic areas; Wear the appropriate PPE such as safety boots, hearing protection, dust mask or half or full-face respirator, gloves etc.; Keep hair, jewellery and loose clothing etc. away from moving parts; 	JM
9	Use of cordless power tools	Impact injuries Tools – Cuts / amputation Noise – hearing damage Flying debris – eye injuries Untrained workers – tasks / tools		<ul style="list-style-type: none"> Always use cordless power tools to manufacturers recommendations; Train workers in the correct use of cordless power tools and supervise until they demonstrate they can operate the tool safely; Make sure workers use appropriate PPE for tasks being performed; Make sure correct attachments are used and secured tightly before using; and 	JM
10	Using hand tools	Tools – Cuts Flying debris – eye injuries		<ul style="list-style-type: none"> Use tools and equipment to manufacturers recommendations; Check tools are in good working condition; Wear eye protection and gloves; and 	JM

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Steps	Step by Step Procedure	Possible Hazards	Risk Rating	Safety Controls	Who is responsible?
11	Noisy equipment	Noise – hearing damage		<ul style="list-style-type: none"> • Separate the noise from workers and others where possible; • Maintain equipment; and • Wear hearing protection - earplugs or earmuffs 	JM,
12	Fall arrest systems on roofs	Falls from heights Hit by falling objects Cuts and abrasions		<ul style="list-style-type: none"> • Make sure a clear fall zone is fenced or taped off and restrict access; • Use caution when working on slippery, brittle or fragile roofing materials; • Make sure all workers working on the roof are wearing suitable non-slip footwear; • For construction roofing activities where the roof edge is greater than <i>2 metres for commercial</i> and <i>3 metres Housing</i> above the ground, the following controls must be used to reduce the risk of falling and injury: <ul style="list-style-type: none"> ○ Conduct a site specific risk assessment considering the type of roof surface, the pitch and the length of the roof; ○ Make sure a stable and adequately fenced work platform is installed; or ○ Make sure perimeter screens, fencing, handrails or other forms of physical barriers are installed; or ○ Implement other safety controls such as safety harnesses anchored to roof that are capable of arresting the fall of a worker, and checked by competent person/supervisor; and ○ Fall arrest systems should comply with the relevant part of AS/NZS 1891.4: 2009 <i>Industrial fall arrest systems and devices</i> and be used in accordance with <i>Part 4: selection, use and maintenance</i>. 	JM,
13	Cutting steel or aluminium frame members and cutting tiles using angle grinder	Electricity /tools - electrocution Machine / equipment guarding Hot Work (cutting / grinding) Flying debris – eye injuries Noise – hearing damage Dust – lung damage		<ul style="list-style-type: none"> • Use tools and fittings to manufacturers recommendations; • Make sure equipment is in good working condition before use; • Make sure all wheels /discs (new or used) are visually inspected for any cracks and/or abnormalities; • Make sure the grinding wheel/disc is the correct size and speed; • Fit wheel to spindle and avoid over tightening; 	JM,
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Steps	Step by Step Procedure	Possible Hazards	Risk Rating	Safety Controls	Who is responsible?
		Cuts and abrasions Burns – hot fittings/equipment		<ul style="list-style-type: none"> • Check guards are in place before operating machine; • Make sure power is turned off before adjusting wheel or discs; • Immediately dispose of any faulty wheels/ or discs; • Cut all materials on level ground where possible; • Make sure steel, aluminium or tile to be cut is clamped secure and won't move during cutting; • Make sure the grinding wheel is the correct speed for the grinder; • Make sure workers are trained in the safe work procedures of angle grinders and electric nibblers; • Wear the appropriate PPE such as hearing and eye protection, respiratory masks and gloves; • Make sure the operator has no loose hair, clothing or articles that can catch in the cutting wheel or disc; • Carry out basic housekeeping regularly, keeping access ways; and the work area clear of materials, tools and debris; and 	
14	Installing Solar Panels	Falls from height Falling objects Electrical Shock - discharge from uninstalled panels Slips, trips and falls can cause cuts, abrasions, breaks, strains and sprains and back injuries to workers and others.		<ul style="list-style-type: none"> • Make sure persons not involved in the work are kept clear of the work area by installing warning signs, barricades or restricting access and providing an alternative route when required; • Follow the solar panel manufacturer's installation instructions and observe additional safety precautions as required; • Identify foreseeable hazards, assess their risks and take action to eliminate or control these risks; • Assess the condition of the roof, pitch and the types of roofing material, such as color bond material and glazed tiles. Also ensure that the roof is dry before performing tasks. • Make sure all workers can safely access and work safely on the roof and control the risk of workers falling as well as falling objects; • Provide safe means of raising and lowering tools, equipment, debris and off-cuts from the ground to the roof; • Make sure manufacturer's instructions are followed when installing mounting points for the solar panel framing; 	JM,

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Steps	Step by Step Procedure	Possible Hazards	Risk Rating	Safety Controls	Who is responsible?
				<ul style="list-style-type: none"> • Consider the highest wind speeds for the region (refer to AS/NZS1170.2: 2002 <i>Structural design actions – wind actions</i>); • Make sure all external wiring is protected from UV rays; • Make sure mechanical protection of cables is provided in accordance with AS/NZS 3000 <i>Australian/New Zealand wiring rules</i> and AS/NZS 3008.1.1: 2009 <i>Electrical installations – selection of cables</i>; • Make sure that your tools and PPE are suitable for the tasks to be completed and that they are properly maintained; • Only consider using a ladder if other alternatives such as scaffolding or elevated work platforms are not reasonably practicable. A ladder is primarily used for workers gaining access to the roof; and • Only start work once all the above is completed and you are satisfied that the system of work and working environment is safe and without risk to health; 	
15	Leaving the work area	Electricity / tools - electrocution Fall from heights Hit by falling objects Access and egress Manual handling – strains, sprains and back injuries Slips, trips and falls Cuts and abrasions		<ul style="list-style-type: none"> • Make sure the work area is left clean and tidy; • Never leave ladders or tools and equipment unattended in case of unauthorised use or an unexpected change in weather; • Always check to make sure all ladders, steps and ramps are stable before descending; • Provide safe means of lowering tools, plant, materials and debris to make sure they are not carried while descending ladders, steps and ramps; and • Turn off any isolating switches when the work is complete and disconnect from the power source. 	JM,

4. RESOURCES, QUALIFICATIONS AND PERMITS REQUIRED

Minimum number of workers required to complete this work	2 or more
Trade licence required to complete this work	Licence No: QLD 82353, CEC A9130676 Held By: JASON MCELROY
Additional qualifications, permits and/or experience required to complete this work	
Additional training required to complete this work	Site Specific Induction

5. SAFETY RESPONSIBILITIES

The **Officer** for this project is [Alicia Price](#), he/she can be contacted on [0450801985](#).

The **Site Supervisor** for this project is [Jason McElroy](#), he/she can be contacted on [0450947467](#).

The **Health and Safety Representative (HSR)** for this project is [Alicia Price](#), he/she can be contacted on [0450801985](#).

All [4shore Solar](#) workers:

- **WILL** be required to have relevant trade experience.
- **WILL** be required to attend regular site inductions, project and task specific induction training and possess the current General Construction Induction Training card.

Work Health and Safety - Responsibilities

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- a) **Alicia Price** will be responsible for identifying and assessing the hazards associated with the works, and documenting the hazard control measures to be taken.
- b) **Alicia Price** will be responsible for compliance with Work Health and Safety (WHS) legislation, regulations, standards, codes, and the site-specific Sites Safety Rules.
- c) **Alicia Price** will be responsible for assessing and monitoring your subcontractors' capabilities, and for making sure they meet WHS requirements.
- d) **Alicia Price** will be responsible for managing the acquisition and communication of WHS information to managers, supervisors and people working on site.
- e) **Alicia Price** will be responsible for preparing, maintaining and making accessible the register of hazardous substances.
- f) **Alicia Price** will be responsible for maintaining first-aid stocks.
- g) **Alicia Price** will be responsible for managing accident and emergency procedures.
- h) **Alicia Price** will be responsible for keeping WHS records.
- i) **Alicia Price** will be responsible for making sure that the Site Safety Rules are available and provided to people who may work on or visit the Site.
- j) **Alicia Price** will be responsible for workplace injury management and rehabilitation.
- k) **Alicia Price** will be responsible for managing communication between Health and Safety Committees (where applicable).
- l) **Alicia Price** will be responsible for displaying the Site Safety Rules on noticeboards and other suitable locations on site.

6. TRAINING RESPONSIBILITIES

The HSR will:

- a) identify the WHS training needs of management, supervisors and workers on site;
- b) make sure that appropriate training is carried out internally and/or by Safe Work Australia accredited trainers;

- c) make sure that all personnel attend general construction WHS induction training before starting work;
- d) make sure that all personnel attend adequate site-specific induction, work activity and refresher safety training;
- e) conduct induction training, task training and refresher safety training for everyone working on site; and
- f) keep appropriate records of WHS training at the **4shore Solar** office.

7. INCIDENT MANAGEMENT

The HSR will:

- a) be available (both during and outside normal working hours) to prevent, prepare for, respond to and recover from incidents; and
- b) make sure that the procedures for contacting the relevant person(s) are communicated and clearly displayed on the sites.

8. PLANT AND EQUIPMENT

Plant and Equipment used on site includes but is not limited to:

Plant and/or Equipment	Inspection and maintenance checks required
Electrical plant, power tools, leads and ELCB's	Tested and tagged monthly. Visual inspection prior to use
Portable ladders	Visual inspection prior to use and check monthly
Hand Tools	Visual inspection prior to use and to manufacturers recommendations
Circular Saw / Angle Grinder	Visual inspection prior to use and to manufacturers recommendations

9. PERSONAL PROTECTIVE EQUIPMENT (PPE)

PPE for this task includes but is not limited to:

1	Hard hats / sun hats	6	High visibility clothing / vests
2	Safety boots	7	Hearing protection

3	Respiratory masks	8	Safety harness
4	Safety glasses / goggles	9	Non Slip Footwear
5	Protective gloves	10	



10. ACCESS

No access shall be permitted by other trades into the work area whilst work is in progress. If necessary, appropriate signage and/or hoarding will be set up around the work area to prevent access. Such signs and hoarding will be removed and area made-good on completion of work.

11. LEGISLATION, REGULATIONS, CODES AND STANDARDS

The following reference documents have been identified as relevant to this project and a copy is kept at the **4shore Solar** office. This list is a guide only and is not necessarily all the relevant documentation:

- a) Work Health and Safety Act 2011
- b) Work Health and Safety Regulations 2017
- c) COP Managing Risks in Construction Work
- d) COP First Aid
- e) COP Hazardous Manual Tasks
- f) COP How to Prevent Falls at Workplaces
- g) COP How to Manage Work Health and Safety Risks
- h) COP Managing the Work Environment and Facilities
- i) COP Managing Noise and Preventing Hearing Loss
- j) COP Managing Risks for Electrical Work
- k) AS 6001 - Working Platforms for Domestic Construction

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12. SIGNOFF

The representatives of 4shore solar listed below have been involved in the creation and implementation of this Safe Work Method Statement (SWMS) and will make sure all work is carried out in accordance with this document. All workers listed below have the appropriate licence/qualifications and/or experience required to perform each job task:

Worker on site	Role (e.g. worker, supervisor)	Signature	Date
Jason McElroy	Site Supervisor		

Signature and details of person responsible for site supervision of the work, inspecting and approving work areas, work methods, compliance with SWMS, protective measures, plant, equipment and power tools for this site:

Signed: _____ Date: _____

Name: Alicia Price Position: DIRECTOR

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