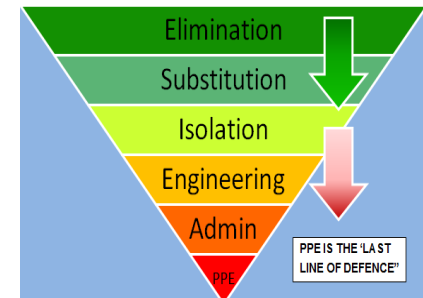


SWMS No 027		<div style="text-align: center;"> SJD Electrical Job Safety Analysis / Safe Work Method Statement </div>			Page 1 of 8
SJD ELECTRICAL PTY LTD - ABN 53 127 802 608 - ACN 127 802 608 - ELECTRICAL LICENCE 68608 - QBCC LICENCE 1270514 - ARC LICENCE AU19801 - MOLEX LICENCE CIAU3372					
Safe Work Method Statement Title: SWMS: 027 INSTALLATION OF GRID CONNECTED PHOTOVOLTAIC SYSTEM					Date Created: 00/00/16
Project Name:		Person responsible for ensuring compliance with this SWMS:			Review Date: 00/00/17
Project/Client:		Job No:	Authorised By:		Revision No. 0
Licences, Permits, Competencies Required: (tick items relevant to this task and site)					
<input type="checkbox"/> Confined Space	<input type="checkbox"/> Work at Heights	<input type="checkbox"/> Excavation	<input type="checkbox"/> Hot Work	<input type="checkbox"/> Radiation	
<input type="checkbox"/> White Card	<input type="checkbox"/> EWP	<input type="checkbox"/> Electrical License	<input type="checkbox"/> Rescue and Resuscitation	<input type="checkbox"/> Network Access	
Common Hazards to Manage: (tick items relevant to this task and site)					
<input type="checkbox"/> Manual handling	<input type="checkbox"/> Working at Heights	<input type="checkbox"/> Risk of Electric Shock	<input type="checkbox"/> Slips, Trips and Falls	<input type="checkbox"/> Housekeeping	

HAZARD CLASSIFICATION MATRIX POSSIBLE RESULTS Risk = Consequence x Likelihood			Probability				
			RARE A	UNLIKELY B	POSSIBLE C	LIKELY D	ALMOST CERTAIN E
Consequences	Catastrophic	5	Medium (M)	High (H)	High (H)	Extreme (E)	Extreme (E)
	Major	4	Medium (M)	Medium (M)	High (H)	High (H)	Extreme (E)
	Moderate	3	Low (L)	Medium (M)	High (H)	High (H)	High (H)
	Minor	2	Low (L)	Low (L)	Medium (M)	Medium (M)	High (H)
	Insignificant	1	Low (L)	Low (L)	Low (L)	Medium (M)	Medium (M)



RISK RATING	ACTION REQUIRED (ALARP – As Low As Reasonably Practicable)
E = Extreme, UNACCEPTABLE	Intolerable risk. Activity must not be undertaken prior to Management / CEO review of potential risk mitigation measures and a decision that risk is ALARP
H = High risk , Only acceptable if ALARP	Implement strict control measures to reduce risk to an acceptable level. Activity must not continue until the level of risk is reduced to As Low As Reasonably Practicable (ALARP) and preferably Medium rating. Operations Manager and/or Project Supervisor approval of the risk controls is required.
M = Medium risk Undesirable	Specify, document and implement existing risk controls and additional management actions to reduce the risk to ALARP and <u>preferably Low rating</u> . Activity must not continue without Operations Manager and/or Project Supervisor approval.
L = Low risk , Tolerable	Tolerable risk. Carry out activity

Basic PPE to be used



✓ app												
Other PPE:												

Safe Work Method Statement Title: SWMS: 027 INSTALLATION OF GRID CONNECTED PHOTOVOLTAIC SYSTEM

Job Task #	Job Step	Potential Health, Safety and Environmental Hazards	PROBABILITY	CONSEQUENCE	RATING	Control Measures	PROBABILITY	CONSEQUENCE	RATING	PERSON(S) RESPONSIBLE
1	Planning and preparation	Non-compliance with current legislative requirements and company processes.	D	4	H	<p>All personnel to complete site specific induction.</p> <p>All personnel to have completed company specific induction.</p> <p>Personnel are to hold the required licenses and certificates for the work, and be assessed as competent to use or operate equipment and plant.</p> <p>All personnel must read, understand and sign off on this SWMS. All personnel are given the opportunity to provide input into the content of this SWMS.</p> <p>Daily pre-starts will be held at the beginning of each shift.</p> <p>Any changes throughout the shift will be communicated prior to the commencement of the next task.</p> <p>A JSA is to be completed for any changes to the task.</p> <p>Ensure permit requirements are understood.</p>	B	4	M	<p>Work crew</p> <p>Supervisor</p> <p>Permit Holder</p>
		<p>Working outdoors with exposure to;</p> <ul style="list-style-type: none"> - UV / high temperatures causing heat stress / dehydration / sunburn - Fauna and insects causing bites and stings 	D	3	H	<p>'Check ins' during extreme weather conditions.</p> <p>Comply with the Queensland Worksafe heat stress procedure.</p> <p>Ensure there is an area in the shade for rest (preferably Crib Facilities).</p> <p>Work Breaks are compulsory at nominated times (preferably during the hotter parts of the day).</p> <p>Drink adequate water amount of water.</p> <p>Use sun block for protection from sun.</p> <p>Use insect repellent (if applicable).</p>	B	3	M	Work crew
		<p>Interactions with other trades working in the vicinity;</p> <ul style="list-style-type: none"> - Inadvertently cause hazardous situation including trips, slips, falls 	D	3	H	<p>Ensure other workers are informed and aware of all other trades working in the area.</p> <p>Communicate potential interactions during prestart.</p>	B	3	M	<p>Supervisor</p> <p>Work Crew</p>

Job Task #	Job Step	Potential Health, Safety and Environmental Hazards	PROBABILITY	CONSEQUENCE	RATING	Control Measures	PROBABILITY	CONSEQUENCE	RATING	PERSON(S) RESPONSIBLE
		Unauthorized access to work area by other authorized personnel without correct PPE.	D	3	H	<p>Follow all site rules and procedures.</p> <p>Wear all mandatory PPE and task specific PPE.</p> <p>If a hazard is identified in the work area – fix it immediately or if unable to do so, isolate the hazard and inform your supervisor immediately.</p> <p>Site wide barricading to be installed to restrict access to unauthorized personnel.</p> <p>Signage to be visible around all site and at all access points.</p> <p>All visitors must report to site office before entering site.</p> <p>All visitors to be escorted by a site inducted personnel member.</p>	B	3	M	Supervisor Work crew
		<p>Poor ground conditions</p> <p>Uneven, loose, wet or soft ground at the work site.</p>	C	2	M	<p>Inspect path of travel for any obstructions and remove them.</p> <p>Daily site inspections prior to commencement of work activities and at the conclusion of each work day.</p> <p>Regular housekeeping inspections including regular walk rounds to be conducted to ensure a clean and tidy work area.</p>	B	2	L	Work crew
2	Work area preparation	<p>Personal injury -</p> <ul style="list-style-type: none"> - Cuts, strains, abrasions, burns - Possible eye injury - Dust inhalation (depends on surrounds – these tasks should not cause dust or fumes) 	C	3	H	<p>Authority and empowerment to Stop the Job.</p> <p>Follow all site rules and procedures.</p> <p>Ensure correct manual handling techniques are followed.</p> <p>Wear all mandatory PPE and task specific PPE.</p> <p>Communicate task clearly with all work crew members. Ensure a thorough understanding of expectations.</p> <p>If a hazard is identified in the work area – fix it immediately or if unable to do so, isolate the hazard and inform you supervisor.</p> <p>Work on flat surface where practicable.</p> <p>Secure all tools and/or equipment by lanyard or store in a toolbox/basket when on the work platform.</p>	B	3	M	Work crew Supervisor

Job Task #	Job Step	Potential Health, Safety and Environmental Hazards	PROBABILITY	CONSEQUENCE	RATING	Control Measures	PROBABILITY	CONSEQUENCE	RATING	PERSON(S) RESPONSIBLE
3	Check layout and access to the Roof	Personal injury – <ul style="list-style-type: none"> - Struck by moving objects - Cuts, strains, abrasions, burns - Possible eye injury - Dust inhalation (depends on surrounds – these tasks should not cause dust or fumes) - Fall from heights (remove if not applicable) 	C	4	H	Authority and empowerment to Stop the Job. Ensure correct manual handling techniques are followed. Wear all mandatory PPE and task specific PPE. Refer to Working at Heights SWMS (remove if not applicable)	B	4	M	Work crew
4	Working on Roof	Personal injury – <ul style="list-style-type: none"> - Fall from height - Cuts, strains, abrasions, burns - Possible eye injury - Dust inhalation (depends on surrounds – these tasks should not cause dust or fumes) - Fall from heights (remove if not applicable) 	C	4	H	Step carefully on ceiling joists or other beams – not the ceiling material. Authority and empowerment to Stop the Job. Ensure correct manual handling techniques are followed. Wear all mandatory PPE and task specific PPE. Refer to Working at Heights SWMS (remove if not applicable)	B	4	M	Work crew Supervisor
5	Check layout and mark out area for bracket installation	Personal injury – <ul style="list-style-type: none"> - Potential slips, trips and falls - Exposure to existing nails 	C	3	H	Ensure direct work area is clear and free from any potential trip hazards. All tools are to be stored appropriately for easy access and to avoid becoming a trip hazard. Work area to be check to ensure all exposed nails are removed. Dispose of all loose items and rubbish appropriately.	B	3	M	Work crew Supervisor
6	Install brackets and module mounting rails	Personal injury caused by falling objects	D	3	H	Secure equipment rack prior to relocating. Secure all tools and/or equipment by lanyard or store in a toolbox/basket. An exclusion zone must be established whilst transferring equipment. Restrain any loose equipment where practicable.	B	3	M	Work crew

Job Task #	Job Step	Potential Health, Safety and Environmental Hazards	PROBABILITY	CONSEQUENCE	RATING	Control Measures	PROBABILITY	CONSEQUENCE	RATING	PERSON(S) RESPONSIBLE
7	Run DC Cabling	Cabling not installed as per client requirements resulting in Personal injury - <ul style="list-style-type: none"> - Cuts, strains, abrasions, burns - Possible eye injury - Dust inhalation (depends on surrounds – these tasks should not cause dust or fumes) - Potential slips, trips and falls - Exposure to existing nails - Fall from heights (remove if not applicable) 	C	3	H	Ensure all latest revision plans, diagrams etc. are on site. Ensure plans and diagrams are reviewed by entire work crew prior to work commencing. Ensure direct work area is clear and free from any potential trip hazards. All tools are to be stored appropriately for easy access and to avoid becoming a trip hazard. Work area to be check to ensure all exposed nails are removed. Dispose of all loose items and rubbish appropriately. Refer to Working at Heights SWMS (remove if not applicable)	B	2	M	Work crew Supervisor
8	Arrange for crane or other mechanical handling equipment to lift modules (remove if not applicable)	Personal injury - <ul style="list-style-type: none"> - Cuts, strains, abrasions, burns - Possible eye injury - Dust inhalation (depends on surrounds – these tasks should not cause dust or fumes) 	C	3	H	Authority and empowerment to Stop the Job. Follow all site rules and procedures. Ensure correct manual handling techniques are followed. Wear all mandatory PPE and task specific PPE. Communicate task clearly with all work crew members. Ensure a thorough understanding of expectations. If a hazard is identified in the work area – fix it immediately or if unable to do so, isolate the hazard and inform you supervisor. Work on flat surface where practicable. Secure all tools and/or equipment by lanyard or store in a toolbox/basket when on the work platform. Refer to Crane Operations SWMS (remove if not applicable)	B	3	M	Work crew Supervisor
9	Install Solar Modules	Personal injury – <ul style="list-style-type: none"> - Struck by moving objects - Cuts, strains, abrasions, burns - Possible eye injury - Dust inhalation (depends on surrounds – these tasks should not cause dust or fumes) - Fall from heights (remove if not applicable) 	C	4	H	Authority and empowerment to Stop the Job. Ensure correct manual handling techniques are followed. Wear all mandatory PPE and task specific PPE. If dust is present, a dust musk must be used. A dust extraction device will be used in the event dust becomes excessive. Refer to Working at Heights SWMS (remove if not applicable)	B	4	M	Work crew

Job Task #	Job Step	Potential Health, Safety and Environmental Hazards	PROBABILITY	CONSEQUENCE	RATING	Control Measures	PROBABILITY	CONSEQUENCE	RATING	PERSON(S) RESPONSIBLE
10	Mount and Terminate DC Array Isolator	Personal injury due to contact with live parts	C	4	H	<p>Obtain work approval and confirm any client site/safety instruction.</p> <p>Check scope of works to confirm whether work be re-scheduled so it may be isolated.</p> <p>Confirm with client that works meet the requirements regarding work on energised equipment and apparatus and the risk of harm would be greater if the circuits were de-energised before work commenced.</p> <p>Confirm that person/s carrying out the work are appropriately qualified, competent, confident and trained for the task.</p>	B	4	M	Work crew Supervisor
11	Completion of task	Slips, trips, and falls	C	4	H	<p>Leave work area tidy.</p> <p>Store equipment in authorised access area (e.g. locked storage facility).</p> <p>Report any damage/defect to supervision and tag out any faulty equipment.</p>	B	4	M	Work crew

Safe Work Method Statement Title: SWMS: 027 INSTALLATION OF GRID CONNECTED PHOTOVOLTAIC SYSTEM

Personnel Qualifications and Experience Required	Personnel Duties and Responsibilities		Training Required to Complete Work
	Supervisor	All Personnel	
Personnel will need to be trained and confident .	Empower all personnel to STOP the JOB if required to do so.	All personnel to maintain tidy work area on site at all times. Personal Protective Equipment (PPE) to be worn at all times on site.	Supervisor to be trained in risk identification, assessment and control e.g. Job Safety Analysis (JSA).
Appropriate industry and site specific induction.	Supervisor to carry out daily inspections of work site for hazards.	Ensure housekeeping is maintained throughout the task to avoid the risk of injury.	Electrician to be trained in hazard identification, Risk Level and control.
Must be a Licensed Electrician to carry out the works.	Ensure appropriate permits are in place for the task (if applicable).	Barricading to be used as appropriate to protect others from working below elevated work.	Safety observer who is competent to perform the task being observed and is also competent in electrical rescue and cardio-pulmonary resuscitation (CPR).

Engineering Details / Certificates / Australian Standards	Referenced – Codes of Practice / Regulations / Legislation
<ul style="list-style-type: none"> AS/NZS 3000 Wiring Rules AS/NZS 3012:2010 Electrical Installations – Construction and Demolition Sites. AS/NZS 3017 - Electrical installations - verification guidelines AS/NZS 4826 – Safe working on or near low voltage electrical installations and equipment 	<ul style="list-style-type: none"> Work Health and Safety Act and Regulations 2011 Electrical Safety Act 2002 and Electrical Safety Regulations 2013 Electrical Safety Code of Practice 2013 - Managing Electrical Risks in the Workplace Hazardous Manual Tasks Code of Practice 2011 Managing risks of Plant in the workplace Code of Practice 2013 Scaffolding Code of Practice 2009. <p>(remove any of the above that are not applicable for the task being undertaken)</p>
Plant / Equipment Required (Mobile or Static)	Maintenance Checks / Calibration Intervals
<ul style="list-style-type: none"> Portable hand tools, electrical power tools / drills (insulated tools) May require scissor lift, boom lift or cherry picker (refer to Scissor Lift / Boom Lift / Cherry Picker SWMS) Appropriate testing equipment 	<ul style="list-style-type: none"> Hand tools and ladders to be checked daily. All electrical equipment to be tested and tagged. Elevated Work Platform/s in accordance with manufacturer's recommendations <p>(remove if not applicable)</p>

