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| Solar array MAINTENANCE checklist |
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| **Site Name** |  |
| Health service |  |
| Address |  |
| NMI |  |
| Capacity (kWp) |  |
| **Maintenance cycle** | **Previous date** | **Next due date** | **Responsible** |
| * Visual inspection
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| * Electrical inspection
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| * Cleaning of panels
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| * Performance review
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This maintenance checklist provides a summary of the general maintenance required to ensure solar arrays continue to perform safely and effectively. Any contractors and/or staff are to be reminded of safety requirements when working at heights.

| **Maintenance Checklist** |
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| **Action** | **Requirements (Tick when complete)** |
| **Electrical inspection** (by qualified electrician or specialist solar maintenance company)Frequency: recommended once every 12 months | * Following are intact and not loose, or damaged:
	+ Cabling
	+ Conduits
	+ Clamps
* Earthing point and earth cable is:
	+ Connected
	+ Corrosion free
* Rooftop isolators are free of:
	+ Heat damage
	+ Corrosion
	+ Replace any degraded isolators immediately as these are the primary cause of solar array fires in Australia.
* Inverter is:
	+ Operating normally (e.g. no error code messages)
	+ Exporting data to the environmental data management system
	+ Operating as expected in the event of grid power loss (if applicable). Confirm by running an anti-island test.
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| **Visual inspection**Frequency: recommended once every 6-12 months but may also be seasonal triggers | * Panels and/or cells are not discoloured, cracked (visible as ‘snail trails’), or clouded (indicates water ingress).
	+ If panels are discoloured, cracked or clouded check with the supplier to see if they need to be replaced.
* Removal of debris (e.g. leaves, nesting material) under the panels.
	+ Nesting material should be removed proactively during Spring to deter nest building. If native animals are nesting advice should be sought from the local council Wildlife Officer prior to removal.
	+ If heavy leaf-fall is visible on the ground, e.g. during Autumn, or after significant wind events, then it is likely leaves will also be present around panels.
* Removal of dust or dirt build-up around the inverter. Dirt build-up in the inverter heat sink acts as an insulator which reduces the inverters efficiency and lifespan.
* Check panels for dirt and animal faeces (if present refer to section on ‘Cleaning panels’).
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| **Cleaning panels**Frequency: recommended at least once every 12 months but depends on:* pitch of panels (steeper pitch allows faster water run-off and more effective cleaning),
* proximity to dust sources (e.g. busy roads, gravelled surfaces, tilled land),
* frequency of rain events, and
* specific events (e.g. dust storm, bushfire).
 | * Solar panel cleaning is like window washing and can be done by:
	+ Internal facility management staff. Staff must not attempt to access rooftops unless they have the appropriate safety equipment and training.
	+ Window cleaners, as part of broader window cleaning contract.
	+ Specialist solar maintenance company (who can also do electrical inspection).
* Panels must be cleaned with a diluted detergent solution following instructions provided by the panel manufacturer. Panels are to be cleaned on an overcast day, early in the morning, or in the evening.

**Solar panels before and after cleaning. Dirty solar panels can reduce power generation and lead to reduced panel lifespan.****Bottom edge dust and debris build-up can occur at the foot of the solar panel causing a shading effect on the lower row of cells on a panel. This can lead to cells heating and potentially cell failure within a solar panel (hot spot).**  |
| **Performance review**Frequency: recommended once every 6 months but at least undertaken prior to summer months so under-performance issues can be rectified prior to peak generating capacity. | * Review performance data against previous week, month and/or same time last year to check performance.
	+ This will be done by the supplier if there is an ongoing service level agreement in place.
	+ If no agreement is in place, data can be sourced from the inverter, or from the Environmental Data Management System (EDMS) if the inverter is configured to export data to the system.
	+ An average range is around 3 - 4 kWh output per kWp per day. The lower limit for Winter is around 2 kWh per kWp per day, with an upper limit of about 5 kWh per kWp per day for Summer.

Contact edms@dhhs.vic.gov.au to configure your inverter to export data to the EDMS.* If the system is underperforming it is recommended the preceding actions in this checklist are completed. If they have already been done, or the issue persists once completed, contact your supplier, or a specialist solar maintenance company to check the system.
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| **Date of maintenance** |  |
| Health service representative |
| Completed by: |  |
| Title: |  |
| Signature: |  |
| Other (if appropriate and amend as necessary) |
| Completed by: |  |
| Title: |  |
| Signature |  |