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SUN CABLE AUSTRALIA-ASIA PowerLink

# Appendix 16.2 – Impact Assessment Table - Operations

| Solar Precinct Ancillary Infrastructure | Factor | Potential Impact | Avoidance | Mitigation | Likelihood | Scale | Duration | Magnitude | Value | Certainty | Residual Impact | Monitoring | Reporting |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| x | **Terrestrial environmental quality** | Contamination of soils | Consistent with Draft EIS Measures | Consistent with Draft EIS Measures | Possible | Limited | Short-term | Minor | High | High | Minor | Consistent with Draft EIS Measures | Consistent with Draft EIS Measures |
| x | **Terrestrial ecosystems** | Introduction and spread of weeds and pests | Avoid introducing new weeds into proposal footprint by implementing weed hygiene, as per the Weed Management Plan (Appendix 5.3) | Implementation of Weed Management Plan (Appendix 5.3) that has been developed in accordance with the requirements of the Weeds Management Act and relevant statutory weed management plans. | **Consistent with Draft EIS** | | | | | | Moderate | As per the Weed Management Plan (Appendix 5.3). | As per the Weed Management Plan (Appendix 5.3). |
| x | **Terrestrial ecosystems** | Direct fauna mortality caused by the perceived 'lake effect' of solar fields. | Avoiding clearing large hollow-bearing trees where possible. | Site inductions will ensure that all personnel are aware of potential/confirmed areas of fauna habitat, are aware of their obligations and know the correct procedures for fauna encounters.<br>Clearing will be conducted in a single direction, allowing any fauna to move out of way of clearing activities.<br>If fauna is spotted in immediate clearing area and are in danger, clearing will be stopped until safe to continue.<br>Clearing in a progressive manner to allow wildlife to natural disperse from the area as clearing undertaken.<br>Site inductions will ensure that all personnel are aware of their obligations and know the correct procedures for fauna encounters.<br>Vehicle speed restrictions apply when travelling near uncleared areas or in higher risk conditions.<br>Develop and implement a Flora and fauna Management Plan with a specific section to address any risk to Avian species<br>Develop and implement Flora and Fauna Management Plan with a Bilby procedure created in consultation with DCCEEW and DEPWS. This will state mitigation measures if Great Bilby is found within project footprint including but not limited to;<br>- Clearing in the surrounding area to be delayed until burrows are verified as not in use<br>- Any active burrows within the clearing footprint are avoided with a 20 m buffer until no longer occupied. | Possible | Limited | Medium-term | Moderate | Medium | Low | Minor | Record any fauna encounters, injuries, or death as result of works for the duration of works.<br>Information on fauna encounters, injuries or death will be used to monitor the effectiveness of avoidance and mitigation measures, and to inform potential refinements or additional measures to be applied to minimise/eliminate the risk of future incidents. | Internal record keeping of incidents of fauna encounters, injuries, or death as a result of works for the duration of works.<br>External reporting in accordance with environmental approval conditions. |
| x | **Terrestrial ecosystems** | Direct fauna mortality caused by collision with Overhead Transmission Line. | Avoiding clearing large hollow-bearing trees where possible. | Site inductions will ensure that all personnel are aware of potential/confirmed areas of fauna habitat, are aware of their obligations and know the correct procedures for fauna encounters.<br>Site inductions will ensure that all personnel are aware of their obligations and know the correct procedures for fauna encounters.<br>Develop and implement a Flora and fauna Management Plan with a specific section to address any risk to Avian species | Possible | Limited | Medium-term | Negligible | Low | High | Minor | Record any fauna encounters, injuries, or death as result of works for the duration of works.<br>Information on fauna encounters, injuries or death will be used to monitor the effectiveness of avoidance and mitigation measures, and to inform potential refinements or additional measures to be applied to minimise/eliminate the risk of future incidents. | Internal record keeping of incidents of fauna encounters, injuries, or death as a result of works for the duration of works.<br>External reporting in accordance with environmental approval conditions. |
| x | **Terrestrial ecosystems** | Changes to fauna behaviour due to noise and light | Consistent with Draft EIS measures. | Project activities are to be undertaken in accordance with the National Light Pollution Guidelines (DoEE, 2020) where possible. | **Consistent with Draft EIS** | | | | | | Minor | Consistent with Draft EIS measures. | Consistent with Draft EIS measures. |
| x | **Hydrological processes** | Flooding and alteration to surface water flows in watercourses and wetlands caused by land development. | Powell Creek Electrode location selection process included avoidance of major watercourses.<br>Consistent with Draft EIS measures. | Consistent with Draft EIS measures including<br>Drainage, erosion, and sediment controls installed and maintained in accordance with ESCPs that align with the IECA 2008.<br>Additional earthworks and re-grading across the Solar Precinct site to remove elements of the design blocking flow paths, potentially reducing flood depths and allowing freeboard requirements to be met. | Possible | Limited | Long-term | Negligible | Medium | High | Minor | Consistent with Draft EIS Measures | Consistent with Draft EIS Measures |
| x | **Hydrological processes** | Groundwater use from fractured Proterozoic basement exceeds the volume of water available | Groundwater will not be extracted from this aquifer. | N/A | Likely | Widespread | Long-term | Major | Medium | Low | None | N/A | N/A |
| x | **Hydrological processes** | Changes to groundwater levels associated with extraction from the Montejinni Limestone aquifer | Nil. | Informed by the implementation of the Groundwater Management Plan. | Unlikely | Widespread | Short-term | Minor | Medium | Low | Moderate | A bore audit to ground truth the location of existing bores around the Solar Precinct and to collect baseline groundwater data.<br>An investigation drilling program to confirm the availability of groundwater in this aquifer.<br>Develop a groundwater management plan to monitor impacts from the proposed Solar Precinct production bore on neighbouring bores and the broader aquifer system. | Internal reporting of the results of the bore audit, which will inform the investigation drilling program.<br>Internal reporting of the investigation drilling program.<br>Internal reporting of implementation of the Groundwater Management Plan.<br>External reporting in accordance with environmental approval conditions. |
| x | **Hydrological processes** | Changes to groundwater levels associated with recharge of the Montejinni Limestone aquifer | Nil. | Informed by the implementation of the Groundwater Management Plan. | Unlikely | Widespread | Short-term | Minor | Medium | Low | Moderate | A bore audit to ground truth the location of existing bores around the Solar Precinct and to collect baseline groundwater data.<br>An investigation drilling program to confirm the availability of groundwater in this aquifer.<br>Develop a groundwater management plan to monitor impacts from the proposed Solar Precinct production bore on neighbouring bores and the broader aquifer system. | Internal reporting of the results of the bore audit, which will inform the investigation drilling program.<br>Internal reporting of the investigation drilling program.<br>Internal reporting of implementation of the Groundwater Management Plan.<br>External reporting in accordance with environmental approval conditions. |
| x | **Hydrological processes** | Installation of a water pipeline from the Solar Precinct to the footprint of Ancillary Infrastructure | Roadside drainage and culverts will be installed in accordance with Austroads standards. | The pipeline will be installed along the access road during the dry season when no flow is present.<br>Drainage, erosion, and sediment controls will be installed and maintained in accordance with ESCP that align with the Best Practice Erosion and Sediment Control Guidelines (IECA, 2008). | Unlikely | | | | | High | Minor | Routine visual inspections of the pipeline to ensure no leaks or damage to the infrastructure. | Internal records of ESCP inspection, as stipulated in ESCPs.<br>Internal reporting on environmental performance.<br>External reporting in accordance with environmental approval conditions. |

| Solar Precinct Ancillary Infrastructure | Factor | Potential Impact | Avoidance | Mitigation | Likelihood | Scale | Duration | Magnitude | Value | Certainty | Residual Impact | Monitoring | Reporting |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| x | **Hydrological processes** | Contamination by release of fuels and hazardous substances within the Ancillary Infrastructure area | During operations, solar power will be used as a power source, hence no requirement for bulk fuel storages.<br>Dangerous Goods and Hazardous Substances will be stored and handled in accordance with regulated standards and codes of practice, and manufacturer's directions. | Hazardous substances and dangerous goods will adhere to Australian Standard 1940: The Storage and Handling of Flammable and Combustible Liquids.<br>Adhere to Environmental Design Criteria and Standards (Appendix 2.1).<br>Dangerous Goods and Hazardous Substances Registers will be maintained at all storage and handling locations.<br>An Environmental Emergency and Spill Response Plan will be in place and equipment provided at all storage and handling locations.<br>Construction and operations staff will be trained in spill response. | Possible | Limited | Short-term | Negligible | High | High | Minor | Routine visual inspections around storage locations and work areas. | Internal records of volumes used and stored in accordance with Workplace Health and Safety Regulations.<br>Internal inspection records and notes.<br>Internal records of water quality monitoring.<br>Incidents of off-site pollution or nuisance reported to the NT EPA within 24 hours. |
| x | **Hydrological processes** | Contamination from waste storage and disposal within the Ancillary Infrastructure area | Landfill will comply with the Guidelines for Siting, Design and Management of Solid Waste Disposal Sites in the Northern Territory (NT EPA 2003).<br>No waste will be stored within 200 m of a watercourse. | Waste management will be in accordance with best practice guidelines (e.g. separation of waste, covering, bunded storage areas), and the requirements of the Waste Management and Pollution Control Act 1998.<br>Adhere to Environmental Design Criteria and Standards (Appendix 2.1).<br>All listed waste will be disposal of at a licenced waste management facility. | Unlikely | Limited | Long-term | Negligible | Low | High | Minor | Routine visual inspections around landfill, waste storage locations and work areas. | Internal records of inspections.<br>Incident reporting. |
| x | **Hydrological processes** | Increased turbidity in surface waters from erosion and sedimentation caused by soil disturbance | Powell Creek Solar Precinct location selection process avoid watercourses.<br>Progressive clearing, construction and reinstatement will be undertaken.<br>Stormwater drainage will be installed to capture and manage runoff. | Drainage, erosion, and sediment controls will be installed and maintained in accordance with ESCP that align with the IECA 2008.<br>Develop and implement a Reinstatement Plan for post-construction reinstatement of works area to stabilise soils and promote regrowth of native vegetation.<br>Rectification of emerging erosion issues after each wet season. | Possible | Limited | Short-term | Minor | Medium | High | Minor | During construction, visual inspections will be undertaken of disturbed areas and erosion and sediment controls as per ESCP.<br>Annual post-wet season monitoring of reinstatement success until disturbed areas are stabilised.<br>Visual inspections of drainage structures, discharge points and site boundaries following rain events.<br>Post-wet season inspections of all project locations and rectification of emerging erosion issues. | Internal records of ESCP inspection, as stipulated in ESCPs.<br>Internal reporting on environmental performance.<br>External reporting in accordance with environmental approval conditions. |
| x | **Air quality** | Elevated NO2 and PM10 dust above assessment criteria levels outside the project footprint | Maintain separation distances to sensitive receptors. | Develop a TARP prior to construction that demonstrates monitoring and adaptive management techniques that will be applied should monitoring criteria be met. Examples of adaptive management techniques include:<br>• Dust suppression using water<br>• Vehicle speed restrictions<br>• All trucks containing road base or other high dust generating materials will be covered<br>• Stockpiles will be covered or wetted down where practical<br>• Dust screens (vegetation or cloth)<br>• Reducing or ceasing high risk dust generation work<br>• Progressively rehabilitate construction areas as soon as no longer required. | Possible | Limited | Short-term | Negligible | Low-Medium | High | Minor | Visible dust monitoring for adaptive management techniques.<br>Climatic Conditions (hot, dry, and windy conditions leading to a higher risk) TSP or PM10 monitoring for high-risk areas (adjacent to communities where separation distances to receptors may not be met). | N/A |
| x | **Community and economy** | Potential impacts of the Project on future land uses | N/A | Consultation with stakeholders on timing of activities. | Unlikely | | | | | | None | Noise and air emissions monitoring will be conducted, following complaints, to verify appropriate limits are being achieved. | N/A |
| x | **Community and economy** | Interference with aviation/flight paths and shipping channels (current and planned) | Aviation or flight movements should be timed to avoid periods of known flight path activity where practicable. | Communication with pastoralists on timing of flights at the new Aerodrome. | Possible | Regional | Long-term | Minor | Medium | High | Minor | As per developed Traffic Management Plans. | As per developed Traffic Management Plans. |
| x | **Human health** | Elevated NO2 and PM10 dust above assessment criteria levels outside the project footprint. | Where possible maintain separation distances to sensitive receptors. | Develop a TARP prior to construction that demonstrates monitoring and adaptive management techniques that will be applied should monitoring criteria be met. Examples of adaptive management techniques include:<br>• Dust suppression using water<br>• Vehicle speed restrictions<br>• All trucks containing road base or other high dust generating materials will be covered<br>• Stockpiles will be covered or wetted down where practical<br>• Dust screens (vegetation or cloth)<br>• Reducing or ceasing high risk dust generation work<br>• Progressively rehabilitate construction areas as soon as no longer required. | Possible | Localised | Long-term | Minor | Medium | High | Minor | Visible dust monitoring for adaptive management techniques.<br>Climatic Conditions (hot, dry, and windy conditions leading to a higher risk) .<br>TSP or PM10 monitoring for high-risk areas (adjacent to communities where separation distances to receptors may not be met). | N/A |
| x | **Human health** | EMF impacting human health including to children, elderly, and other vulnerable groups | Height of OHTL to provide separation distance to reduce EMF at ground level.<br>Lead sheathing and armouredcores of subsea cables to minimize EMF. | Modelling to ensure design will achieve recommended limits. | Unlikely | Limited | Long-term | Negligible | Low-Medium | High | Minor | Monitoring to demonstrate recommended limits have been achieved. | |
| x | **Human health** | Impacts on emergency services from increased demand on services. | Fully staffed medical centre to be provided at the Solar Precinct to prevent reliance on local emergency services. | MOU to be developed with local emergency services regarding medical evacuation. | Possible | Regional | Long-term | Negligible - Minor | Low | High | Minor | Nil | Nil |

| OHTL Corridor | Factor | Potential Impact | Avoidance | Mitigation | Likelihood | Scale | Duration | Magnitude | Value | Certainty | Residual Impact | Monitoring | Reporting |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| x | **Terrestrial ecosystems** | Introduction and spread of weeds and pests | Avoid introducing new weeds into proposal footprint by implementing weed hygiene, as per the Weed Management Plan (Appendix Q of Draft EIS). | Implementation of Weed Management Plan (Appendix Q of Draft EIS) that has been developed in accordance with the requirements of the Weeds Management Act and relevant statutory weed management plans. | Likely | Localised | Permanent | Moderate | Medium | High | Moderate | As per the Weed Management Plan (Appendix Q of Draft EIS) | As per the Weed Management Plan (Appendix Q of Draft EIS) |
| x | **Terrestrial ecosystems** | Direct fauna mortality caused by collision with Overhead Transmission Line. | Avoiding clearing large hollow-bearing trees where possible. | Site inductions will ensure that all personnel are aware of potential/confirmed areas of fauna habitat, are aware of their obligations and know the correct procedures for fauna encounters.<br>Site inductions will ensure that all personnel are aware of their obligations and know the correct procedures for fauna encounters.<br>Develop and implement a Flora and fauna Management Plan with a specific section to address any risk to Avian species | Possible | Limited | Medium-term | Negligible | Low | High | Minor | Record any fauna encounters, injuries, or death as result of works for the duration of works.<br>Information on fauna encounters, injuries or death will be used to monitor the effectiveness of avoidance and mitigation measures, and to inform potential refinements or additional measures to be applied to minimise/eliminate the risk of future incidents. | Internal record keeping of incidents of fauna encounters, injuries, or death as a result of works for the duration of works.<br>External reporting in accordance with environmental approval conditions. |
| x | **Terrestrial ecosystems** | Changes to fauna behaviour due to noise and light | Consistent with Draft EIS measures. | Project activities are to be undertaken in accordance with the National Light Pollution Guidelines (DoEE, 2020) where possible. | **Consistent with Draft EIS** | | | | | | Minor | Consistent with Draft EIS measures. | Consistent with Draft EIS measures. |
| x | **Hydrological processes** | Changes to surface water flows from land clearing and development | OHTL poles will not be placed in watercourses or drainage lines.<br>Only minor drainage lines will be crossed by the OHTL access track. Major drainages will be approached from either side to avoid the need for constructing crossings.<br>Roadside drainage and culverts will be designed and installed in accordance with accepted Austroads standards. | Watercourse crossings along access roads and OHTL installed during the dry season when no flow present.<br>Drainage, erosion, and sediment controls installed and maintained in accordance with Erosion and Sediment Control Plans (ESCP) that align with the Best Practice Erosion and Sediment Control Guidelines (IECA, 2008).<br>Reinstatement of OHTL construction corridor and Cable Transition Facilities footprints post-construction.<br>Design criteria for engineered stormwater management systems installed at the Solar Precinct is to discharge water to similar locations and at similar volumes to pre-development conditions. | Unlikely | Limited | Short-term | Negligible | Medium | High | Minor | During construction, visual inspections of disturbed areas and erosion and sediment controls as per ESCP (after significant rainfall events, at a minimum).<br>Annual post wet season monitoring of revegetation success until disturbed areas are stabilised.<br>Visual inspections of drainage structures, discharge points and site boundaries following rain events.<br>Post-wet season inspections of all project locations and rectification of emerging erosion issues. | Internal records of ESCP inspections, as stipulated in ESCPs.<br>Internal reporting on environmental performance.<br>External reporting in accordance with environmental approval conditions. |
| x | **Hydrological processes** | Increased turbidity in watercourses caused by soil disturbance and erosion | OHTL poles will not be placed in watercourses or drainage lines.<br>Only minor drainage lines will be crossed by the OHTL access track. Major drainages will be approached from either side to avoid the need for constructing crossings.<br>Stormwater drainage will be installed to capture and manage runoff. Stormwater capture within facilities will discharge to land, via erosion and sediment controls.<br>Roadside drainage and culverts will be designed and installed in accordance with accepted Austroads standards. | Watercourse crossings along access roads and OHTL installed during the dry season when no flow present.<br>Drainage, erosion, and sediment controls installed and maintained in accordance with Erosion and Sediment Control Plans (ESCP) that align with the Best Practice Erosion and Sediment Control Guidelines (IECA, 2008).<br>Develop and implement a Reinstatement Plan for post-construction reinstatement of works areas to stabilise soils and promote regrowth of native vegetation.<br>Rectification of emerging erosion issues after each wet season. | Possible | Limited | Short-term | Minor | Medium | High | Minor | During construction, visual inspections of disturbed areas and erosion and sediment controls as per ESCP (after significant rainfall events, at a minimum).<br>Annual post wet season monitoring of revegetation success until disturbed areas are stabilised.<br>Visual inspections of drainage structures, discharge points and site boundaries following rain events.<br>Post-wet season inspections of all project locations and rectification of emerging erosion issues. | Internal records of ESCP inspections, as stipulated in ESCPs.<br>Internal reporting on environmental performance.<br>External reporting in accordance with environmental approval conditions. |
| x | **Hydrological processes** | Increased PFAS contamination in OHTL footprints due to use of contaminated groundwater and surface water | No groundwater will be extracted from bores located within the Katherine PFAS Management Area.<br>No surface water will be extracted from Tindal Creek or Katherine River.<br>The OHTL Access Track will not be constructed through Tindal Creek or Katherine River – those watercourses will be accessed from either side, via existing tracks where available.<br>OHTL conductor wires will span the Tindal Creek and Katherine River, avoiding works within the watercourses. | No works will occur within the waterbody of Tindal Creek or Katherine River to avoid interaction with surface water in those watercourses. The OHTL conductor wires will span both watercourses.<br>Water to supply construction activities will be sourced from supplies outside of the PFAS Management Area and trucked to site as required. | Unlikely | | | | | High | Minor | Visual monitoring of construction works within the PFAS Management Area, to ensure works are not undertaken in watercourses.<br>Records of water supply volumes and extraction locations. | Reporting in accordance with the ESCP. |
| x | **Hydrological processes** | Increased PFAS contamination in Katherine River or Tindal Creek due to runoff of contaminated groundwater or surface water used during construction. | The OHTL construction corridor will be as narrow aspossible within the PFAS Management Area, to minimise the disturbance footprint. Ancillary infrastructure will not be located within the PFAS Management Area. | An ESCP will be developed consistent with IECA 2008, and implemented to minimise erosion of soils, and therefore minimise spread of contaminated soil.<br>Most of the construction footprint will be reinstated, to minimise ongoing erosion risk.<br>The reinstated construction footprint and operational footprint will be visually inspected monitored and any erosion identified will be rectified.<br>Dust suppression will be implemented during construction. | Unlikely | | | | | High | Minor | Monitoring as per the ESCP. This includes visual inspections of the reinstated areas and operational footprint. | Reporting in accordance with the ESCP. |

| OHTL Corridor | Factor | Potential Impact | Avoidance | Mitigation | Likelihood | Scale | Duration | Magnitude | Value | Certainty | Residual Impact | Monitoring | Reporting |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| x | **Aquatic ecosystems** | Direct loss of aquatic habitat | Clearing will be undertaken progressively.<br>Dangerous Goods and Hazardous Substances will be stored and handled in accordance with regulated standards and codes of practice, and manufacturer's direction.<br>Dangerous Goods and Hazardous Substances will not be stored within 200 m of a watercourse of groundwater bore, and mobile refuelling will not occur within 50 m of a watercourse or groundwater bore.<br>Avoid extracting groundwater to an extent that there are adverse impacts to aquatic habitats. | Watercourse crossings along access roads and OHTL installed during the dry season when no flow present.<br>Drainage, erosion, and sediment control installed and maintained in accordance with ESCP that align with the IECA 2008.<br>Develop and implement a Reinstatement Plan for post-construction reinstatement of works areas to stabilise soils and promote regrowth of native vegetation.<br>Rectification of emerging erosion issues after each wet season.<br>Dangerous Goods and Hazardous Substances Registers maintained at all storage and handling locations.<br>An Environmental Emergency and Spill Response Plan will be in place and equipment provided at all storage and handling locations.<br>Construction and operations staff trained in spill response. | Unlikely | | | | | High | None | During construction, visual inspections of disturbed areas and erosion and sediment controls as per ESCP (after significant rainfall events, at a minimum).<br>Annual post wet season monitoring of rehabilitation success until disturbed areas are stabilised.<br>Visual inspections of drainage structures, discharge points and site boundaries following rain events.<br>Post-wet season inspections of all project locations and rectification of emerging erosion issues. | Reporting in accordance with EMPs as described in Chapter 17 of the Draft EIS.<br>Internal records of ESCP inspections, as stipulated in ESCPs.<br>External reporting in accordance with environmental approval conditions.<br>Internal records of water quality monitoring.<br>Internal records of volumes used and stored in accordance with Workplan Health and Safety Regulations.<br>Incidents of off-site pollution or nuisance reported to the NT EPA within 24 hours. |
| x | **Aquatic ecosystems** | Reduction in aquatic habitat value due to water quality impacts | Progressive clearing, construction and reinstatement will be undertaken.<br>OHTL structures will not be placed in watercourses or drainage lines.<br>Only minor drainage lines will be crossed by the OHTL Access Track. Major drainages will be approached from either side to avoid the need for constructing crossings.<br>Stormwater drainage will be installed to capture and manage runoff. Stormwater captured within facilities will discharge to land, via erosion and sediment controls.<br>Roadside drainage and culverts will be designed and installed in accordance with acceptance Austroads standards.<br>Avoid extracting groundwater to an extent that there are adverse impacts to aquatic habitats.<br>Dangerous Goods and Hazardous Substances will be stored and handled in accordance with regulated standards and codes of practice, and manufacturer's directions.<br>During operations, solar power will be used as a power source, hence no requirement for bulk fuel | Watercourse crossing along access roads and OHTL installed during the dry season when no flow present.<br>Drainage, erosion, and sediment controls installed and maintained in accordance with ESCPs that align with IECA 2008.<br>Reinstatement of footprints for construction of OHTL Corridor post-construction.<br>Develop and implement a Reinstatement Plan for post-construction reinstatement of works areas to stabilise soils and promote regrowth of native vegetation.<br>Rectification of emerging erosion issues after each wet season.<br>Dangerous Goods and Hazardous Substances Registers will be maintained at all storage and handling locations.<br>An Environmental Emergency and Spill Response Plan will be in place and equipment provided at all storage and handling locations.<br>Construction and operations staff will be trained in spill response. | Possible | Limited | Short-term | Negligible | Medium | High | Minor | During construction, visual inspections of disturbed areas and erosion and sediment controls as per ESCP (after significant rainfall events, at a minimum).<br>Annual post wet season monitoring of revegetation success until disturbed areas are stabilised.<br>Visual inspections of drainage structures, discharge points and site boundaries following rain events.<br>Post-wet season inspections of all project locations and rectification of emerging erosion issues.<br>Routine visual inspections around storage locations and work areas. | Internal records of ESCP inspections, as stipulated in ESCPs.<br>External reporting in accordance with environmental approval conditions.<br>Internal records of volumes used and stored in accordance with Workplace Health and Safety Regulations.<br>Internal reporting on environmental performance.<br>Internal inspection records and notes.<br>Internal records of water quality monitoring.<br>Incidents of off-site pollution or nuisance reported to the NT EPA within 24 hours. |
| x | **Aquatic ecosystems** | Reduction in aquatic habitat value due to altered hydrology or groundwater extraction | Clearing will be undertaken progressively.<br>Dangerous Goods and Hazardous Substances will be stored and handled in accordance with regulated standards and codes of practice, and manufacturer's direction.<br>Dangerous Goods and Hazardous Substances will not be stored within 200 m of a watercourse of groundwater bore, and mobile refuelling will not occur within 50 m of a watercourse or groundwater bore.<br>Avoid extracting groundwater to an extent that there are adverse impacts to aquatic habitats. | Watercourse crossings along access roads and OHTL installed during the dry season when no flow present.<br>Drainage, erosion, and sediment control installed and maintained in accordance with ESCP that align with the IECA 2008.<br>Develop and implement a Reinstatement Plan for post-construction reinstatement of works areas to stabilise soils and promote regrowth of native vegetation.<br>Rectification of emerging erosion issues after each wet season.<br>Dangerous Goods and Hazardous Substances Registers maintained at all storage and handling locations.<br>An Environmental Emergency and Spill Response Plan will be in place and equipment provided at all storage and handling locations.<br>Construction and operations staff trained in spill response. | Unlikely | | | | | | None | During construction, visual inspections of disturbed areas and erosion and sediment controls as per ESCP (after significant rainfall events, at a minimum).<br>Annual post wet season monitoring of rehabilitation success until disturbed areas are stabilised.<br>Visual inspections of drainage structures, discharge points and site boundaries following rain events.<br>Post-wet season inspections of all project locations and rectification of emerging erosion issues. | Reporting in accordance with EMPs as described in Chapter 17 of the Draft EIS.<br>Internal records of ESCP inspections, as stipulated in ESCPs.<br>External reporting in accordance with environmental approval conditions.<br>Internal records of water quality monitoring.<br>Internal records of volumes used and stored in accordance with Workplan Health and Safety Regulations.<br>Incidents of off-site pollution or nuisance reported to the NT EPA within 24 hours. |
| x | **Community and economy** | Visual Impacts of the OHTL structures. | Avoid siting project infrastructure in sensitive areas. Preferred OHTL route at Adelaide River involves a significant relocation to increase separation distances to sensitive receptors. | Consultation with project stakeholders and consideration of vegetation planting to achieve a level of visual screening for project infrastructure.<br>Micro siting of OHTL in areas with lower visual impact such as within existing clearings, alongside existing linear infrastructure, and natural linear boundaries.<br>Consideration of style of OHTL structures (monopoles or lattice towers) to consider the visual impact of each, as well as construction materials to reduce reflective surfaces. | Likely | Regional | Long-term | Moderate | Medium | High | Moderate | N/A | N/A |

| OHTL Corridore | Factor | Potential Impact | Avoidance | Mitigation | Likelihood | Scale | Duration | Magnitude | Value | Certainty | Residual Impact | Monitoring | Reporting |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| x | **Community and economy** | Property devaluation resulting from visual amenity impacts. | Establish appropriate separation distance from existing properties to project infrastructure locations that are a distance.<br>Preferred OHTL route at Adelaide River involves a significant relocation to increase separation distances to sensitive receptors. | Siting of infrastructure on land where existing or planned linear infrastructure will be located e.g., the rail corridor and NTG utilities corridor. | Possible | Limited | Medium-term | Minor | Low | Low | Minor | N/A | N/A |
| x | **Air quality** | Elevated NO2 and PM10 dust above assessment criteria levels outside the project footprint | Maintain separation distances to sensitive receptors. | Develop a TARP prior to construction that demonstrates monitoring and adaptive management techniques that will be applied should monitoring criteria be met. Examples of adaptive management techniques include:<br>• Dust suppression using water<br>• Vehicle speed restrictions<br>• All trucks containing road base or other high dust generating materials will be covered<br>• Stockpiles will be covered or wetted down where practical<br>• Dust screens (vegetation or cloth)<br>• Reducing or ceasing high risk dust generation work<br>• Progressively rehabilitate construction areas as soon as no longer required. | Possible | Limited | Short-term | Negligible | Low-Medium | High | Minor | Visible dust monitoring for adaptive management techniques.<br>Climatic Conditions (hot, dry, and windy conditions leading to a higher risk) TSP or PM10 monitoring for high-risk areas (adjacent to communities where separation distances to receptors may not be met). | N/A |
| x | **Community and economy** | Low level buzzing or humming noise generated by corona effect along OHTL. | Maintain separation distances to residences where possible. | Where not possible additional noise measures may be implemented including day operating hours only, assessment of noise impacts including consideration of topography and natural screening barriers or other noise abatement methods. Refer to Constraints Planning Framework and Field Development Procedure (Appendix 4.1). | Likely | Limited | Long-term | Minor | Medium | High | Minor | If noise complaints are unable to be resolved following adaptive management and adoption of additional mitigation measures, noise monitoring may be undertaken to demonstrate achievement of the NT EPA Noise Management Framework Guideline 2018. | N/A |
| x | **Community and economy** | Potential impacts of the Project on future land uses | N/A | Consultation with stakeholders on timing of activities. | Possible | Limited | Medium-term | Minor | Low | High | Minor | Noise and air emissions monitoring will be conducted, following complaints, to verify appropriate limits are being achieved. | N/A |
| x | **Human health** | Elevated NO2 and PM10 dust above assessment criteria levels outside the project footprint. | Where possible maintain separation distances to sensitive receptors. | Develop a TARP prior to construction that demonstrates monitoring and adaptive management techniques that will be applied should monitoring criteria be met. Examples of adaptive management techniques include:<br>• Dust suppression using water<br>• Vehicle speed restrictions<br>• All trucks containing road base or other high dust generating materials will be covered<br>• Stockpiles will be covered or wetted down where practical<br>• Dust screens (vegetation or cloth)<br>• Reducing or ceasing high risk dust generation work<br>• Progressively rehabilitate construction areas as soon as no longer required. | Possible | Localised | Long-term | Minor | Medium | High | Minor | Visible dust monitoring for adaptive management techniques.<br>Climatic Conditions (hot, dry, and windy conditions leading to a higher risk) .<br>TSP or PM10 monitoring for high-risk areas (adjacent to communities where separation distances to receptors may not be met). | N/A |
| x | **Human health** | EMF impacting human health including to children, elderly, and other vulnerable groups | Height of OHTL to provide separation distance to reduce EMF at ground level.<br>Lead sheathing and armoured cores of subsea cables to minimize EMF. | Modelling to ensure design will achieve recommended limits. | Unlikely | Limited | Long-term | Negligible | Low-Medium | High | Minor | Monitoring to demonstrate recommended limits have been achieved. | N/A |
| x | **Human health** | Impacts on emergency services from EMI with UHF and other telecommunications | Height of OHTL to provide separation distance to reduce EMI at ground level.<br>Lead sheathing and armoured cores of subsea cables to minimize EMI. | Modelling to ensure design will achieve recommended limits. | Unlikely | Limited | Long-term | Negligible | Medium | High | Minor | Monitoring to demonstrate recommended limits have been achieved. | N/A |
| x | **Human health** | Impacts on emergency services from increased demand on services. | Fully staffed medical centre to be provided at the Solar Precinct to prevent reliance on local emergency services. | MOU to be developed with local emergency services regarding medical evacuation. | Possible | Regional | Long-term | Negligible - Minor | Low | High | Minor | Nil | Nil |

| Powell Creek Electrode | Factor | Potential Impact | Avoidance | Mitigation | Likelihood | Scale | Duration | Magnitude | Value | Certainty | Residual Impact | Monitoring | Reporting |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| x | **Terrestrial environmental quality** | Contamination of soils | Identify and (where practicable) adopt practical zero-carbon technology solutions such as electric vehicles, plant and equipment and remote solar energy systems, so no requirement for large fuel storages.<br>Fuels and hazardous chemicals will be stored and handled in accordance with Australian standards and guidelines. | An Environmental Emergency and Spill Response Plan will be in place and equipment provided at all storage and handling locations.<br>Construction and operations staff will be trained in spill response. | Possible | Limited | Short-term | Minor | High | High | Minor | Visual inspections around storage locations and work areas. | Internal incident reporting.<br>Incidents of off-site pollution or nuisance reported to the NT EPA within 24 hours. |
| x | **Terrestrial environmental quality** | Soil drying from electro-osmosis resulting from electrode operation | Increase surface area of Electrode to reduce the current density and thus potential for impact.<br>Electrode operational for under 48 hours during a single event. However, impacts usually develop over period of weeks to months.<br>The shallow groundwater table at the DCS Electrode will prevent soil drying due to the excess of soil moisture. | If monitoring identifies soil drying during periods of electrode operations soil wetting will occur to mitigate this impact. | Unlikely | Limited | Short-term | Minor | Medium | Low | Moderate | Soil probes around Electrode Site to identify if soil drying occurs during operations compared to baseline data (collected when electrode is not in use ~95% of the time). | N/A |
| x | **Terrestrial ecosystems** | Introduction and spread of weeds and pests | Avoid introducing new weeds into proposal footprint by implementing weed hygiene, as per the Weed Management Plan (Appendix Q of Draft EIS). | Implementation of Weed Management Plan (Appendix Q of Draft EIS) that has been developed in accordance with the requirements of the Weeds Management Act and relevant statutory weed management plans. | Likely | Localised | Permanent | Moderate | Medium | High | Moderate | As per the Weed Management Plan (Appendix Q of Draft EIS) | As per the Weed Management Plan (Appendix Q of Draft EIS) |
| x | **Terrestrial ecosystems** | Degredation of flora and vegetation | Consistent with Draft EIS measures. | Consistent with Draft EIS measures. | Unlikely | | | | | High | Minor | Consistent with Draft EIS measures. | Consistent with Draft EIS measures. |
| x | **Terrestrial ecosystems** | Direct fauna mortality caused by collision with Overhead Transmission Line. | Avoiding clearing large hollow-bearing trees where possible. | Site inductions will ensure that all personnel are aware of potential/confirmed areas of fauna habitat, are aware of their obligations and know the correct procedures for fauna encounters.<br>Site inductions will ensure that all personnel are aware of their obligations and know the correct procedures for fauna encounters.<br>Develop and implement a Flora and fauna Management Plan with a specific section to address any risk to Avian species | Possible | Limited | Medium-term | Negligible | Low | High | Minor | Record any fauna encounters, injuries, or death as result of works for the duration of works.<br>Information on fauna encounters, injuries or death will be used to monitor the effectiveness of avoidance and mitigation measures, and to inform potential refinements or additional measures to be applied to minimise/eliminate the risk of future incidents. | Internal record keeping of incidents of fauna encounters, injuries, or death as a result of works for the duration of works.<br>External reporting in accordance with environmental approval conditions. |
| x | **Terrestrial ecosystems** | Degradation of flora and vegetation due to Electrode Operation. | N/A | N/A | Unlikely | | | | | | Minor | N/A | N/A |
| x | **Terrestrial ecosystems** | Changes to fauna behaviour due to noise and light | Consistent with Draft EIS measures. | Project activities are to be undertaken in accordance with the National Light Pollution Guidelines (DoEE, 2020) where possible. | Possible | Limited | Medium-term | Minor | Low | High | Minor | Consistent with Draft EIS measures. | Consistent with Draft EIS measures. |
| x | **Hydrological processes** | Increased turbidity in surface waters from erosion and sedimentation caused by soil disturbance | Powell Creek Electrode location selection process avoid watercourses.<br>Progressive clearing, construction and reinstatement will be undertaken.<br>Stormwater drainage will be installed to capture and manage runoff. | Drainage, erosion, and sediment controls will be installed and maintained in accordance with ESCP that align with the IECA 2008.<br>Develop and implement a Reinstatement Plan for post-construction reinstatement of works area to stabilise soils and promote regrowth of native vegetation.<br>Rectification of emerging erosion issues after each wet season. | Possible | Limited | Short-term | Minor | Medium | High | Minor | During construction, visual inspections will be undertaken of disturbed areas and erosion and sediment controls as per ESCP.<br>Annual post-wet season monitoring of reinstatement success until disturbed areas are stabilised.<br>Visual inspections of drainage structures, discharge points and site boundaries following rain events.<br>Post-wet season inspections of all project locations and rectification of emerging erosion issues. | Internal records of ESCP inspection, as stipulated in ESCPs.<br>Internal reporting on environmental performance.<br>External reporting in accordance with environmental approval conditions. |
| x | **Aquatic ecosystems** | Direct loss of aquatic habitat | Solar Precinct and DCS avoid watercourses.<br>Clearing will be undertaken progressively.<br>Dangerous Goods and Hazardous Substances will be stored and handled in accordance with regulated standards and codes of practice, and manufacturer's direction.<br>Dangerous Goods and Hazardous Substances will not be stored within 200 m of a watercourse of groundwater bore, and mobile refuelling will not occur within 50 m of a watercourse or groundwater bore.<br>Avoid extracting groundwater to an extent that there are adverse impacts to aquatic habitats. | Watercourse crossings along access roads and OHTL installed during the dry season when no flow present.<br>Drainage, erosion, and sediment control installed and maintained in accordance with ESCP that align with the IECA 2008.<br>Develop and implement a Reinstatement Plan for post-construction reinstatement of works areas to stabilise soils and promote regrowth of native vegetation.<br>Rectification of emerging erosion issues after each wet season.<br>Dangerous Goods and Hazardous Substances Registers maintained at all storage and handling locations.<br>An Environmental Emergency and Spill Response Plan will be in place and equipment provided at all storage and handling locations.<br>Construction and operations staff trained in spill response. | Unlikely | | | | | High | None | During construction, visual inspections of disturbed areas and erosion and sediment controls as per ESCP (after significant rainfall events, at a minimum).<br>Annual post wet season monitoring of rehabilitation success until disturbed areas are stabilised.<br>Visual inspections of drainage structures, discharge points and site boundaries following rain events.<br>Post-wet season inspections of all project locations and rectification of emerging erosion issues. | Reporting in accordance with EMPs as described in Chapter 17 of the Draft EIS.<br>Internal records of ESCP inspections, as stipulated in ESCPs.<br>External reporting in accordance with environmental approval conditions.<br>Internal records of water quality monitoring.<br>Internal records of volumes used and stored in accordance with Workplan Health and Safety Regulations.<br>Incidents of off-site pollution or nuisance reported to the NT EPA within 24 hours. |

| Powell Creek Electrode | Factor | Potential Impact | Avoidance | Mitigation | Likelihood | Scale | Duration | Magnitude | Value | Certainty | Residual Impact | Monitoring | Reporting |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| x | **Aquatic ecosystems** | Reduction in aquatic habitat value due to water quality impacts | Solar Precinct and DCS located on flat land above the maximum modelled flood extent (0.1% AEP/1-in-1000-year flood event) and outside of mapped storm surge zones.<br>Site selection process for Solar Precinct and DCS included avoidance of major watercourses.<br>Progressive clearing, construction and reinstatement will be undertaken.<br>Stormwater drainage will be installed to capture and manage runoff. Stormwater captured within facilities will discharge to land, via erosion and sediment controls.<br>Roadside drainage and culverts will be designed and installed in accordance with acceptance Austroads standards.<br>Avoid extracting groundwater to an extent that there are adverse impacts to aquatic habitats.<br>Dangerous Goods and Hazardous Substances will be stored and handled in accordance with regulated standards and codes of practice, and manufacturer's directions.<br>During operations, solar power will be used as a power source, hence no requirement for bulk fuel storages. | Design criteria for engineered stormwater management systems installed at the Solar Precinct and DCS is to discharge water to similar locations and at similar volumes to pre-development conditions.<br>Drainage, erosion, and sediment controls installed and maintained in accordance with ESCPs that align with IECA 2008.<br>Reinstatement of footprints for construction of OHTL Corridor post-construction.<br>Develop and implement a Reinstatement Plan for post-construction reinstatement of works areas to stabilise soils and promote regrowth of native vegetation.<br>Rectification of emerging erosion issues after each wet season.<br>Dangerous Goods and Hazardous Substances Registers will be maintained at all storage and handling locations.<br>An Environmental Emergency and Spill Response Plan will be in place and equipment provided at all storage and handling locations.<br>Construction and operations staff will be trained in spill response. | Unlikely | | | | | High | Minor | During construction, visual inspections of disturbed areas and erosion and sediment controls as per ESCP (after significant rainfall events, at a minimum).<br>Annual post wet season monitoring of revegetation success until disturbed areas are stabilised.<br>Visual inspections of drainage structures, discharge points and site boundaries following rain events.<br>Post-wet season inspections of all project locations and rectification of emerging erosion issues.<br>Routine visual inspections around storage locations and work areas. | Internal records of ESCP inspections, as stipulated in ESCPs.<br>External reporting in accordance with environmental approval conditions.<br>Internal records of volumes used and stored in accordance with Workplace Health and Safety Regulations.<br>Internal reporting on environmental performance.<br>Internal inspection records and notes.<br>Internal records of water quality monitoring.<br>Incidents of off-site pollution or nuisance reported to the NT EPA within 24 hours. |
| x | **Aquatic ecosystems** | Reduction in aquatic habitat value due to altered hydrology or groundwater extraction | Solar Precinct and DCS avoid watercourses.<br>Clearing will be undertaken progressively.<br>Dangerous Goods and Hazardous Substances will be stored and handled in accordance with regulated standards and codes of practice, and manufacturer's direction.<br>Dangerous Goods and Hazardous Substances will not be stored within 200 m of a watercourse of groundwater bore, and mobile refuelling will not occur within 50 m of a watercourse or groundwater bore.<br>Avoid extracting groundwater to an extent that there are adverse impacts to aquatic habitats. | Watercourse crossings along access roads and OHTL installed during the dry season when no flow present.<br>Drainage, erosion, and sediment control installed and maintained in accordance with ESCP that align with the IECA 2008.<br>Develop and implement a Reinstatement Plan for post-construction reinstatement of works areas to stabilise soils and promote regrowth of native vegetation.<br>Rectification of emerging erosion issues after each wet season.<br>Dangerous Goods and Hazardous Substances Registers maintained at all storage and handling locations.<br>An Environmental Emergency and Spill Response Plan will be in place and equipment provided at all storage and handling locations.<br>Construction and operations staff trained in spill response. | Unlikely | | | | | High | None | During construction, visual inspections of disturbed areas and erosion and sediment controls as per ESCP (after significant rainfall events, at a minimum).<br>Annual post wet season monitoring of rehabilitation success until disturbed areas are stabilised.<br>Visual inspections of drainage structures, discharge points and site boundaries following rain events.<br>Post-wet season inspections of all project locations and rectification of emerging erosion issues. | Reporting in accordance with EMPs as described in Chapter 17 of the Draft EIS.<br>Internal records of ESCP inspections, as stipulated in ESCPs.<br>External reporting in accordance with environmental approval conditions.<br>Internal records of water quality monitoring.<br>Internal records of volumes used and stored in accordance with Workplan Health and Safety Regulations.<br>Incidents of off-site pollution or nuisance reported to the NT EPA within 24 hours. |
| x | **Air quality** | Elevated NO2 and PM10 dust above assessment criteria levels outside the project footprint | Maintain separation distances to sensitive receptors. | Develop a TARP prior to construction that demonstrates monitoring and adaptive management techniques that will be applied should monitoring criteria be met.<br>Examples of adaptive management techniques include:<br>• Dust suppression using water<br>• Vehicle speed restrictions<br>• All trucks containing road base or other high dust generating materials will be covered<br>• Stockpiles will be covered or wetted down where practical<br>• Dust screens (vegetation or cloth)<br>• Reducing or ceasing high risk dust generation work<br>• Progressively rehabilitate construction areas as soon as no longer required. | Possible | Limited | Short-term | Negligible | Low-Medium | High | Minor | Visible dust monitoring for adaptive management techniques.<br>Climatic Conditions (hot, dry, and windy conditions leading to a higher risk) TSP or PM10 monitoring for high-risk areas (adjacent to communities where separation distances to receptors may not be met). | N/A |
| x | **Community and economy** | Impacts from Electrodes on existing and proposed infrastructure | Where possible including buffers to existing activities (e.g., 10 km buffer between electrodes and existing land uses). | Consult with NTG to identify potential impacts to new developments within the 10 km buffer zone of electrodes.<br>Cathodic protection to be considered for future electrical infrastructure within the buffer zone as per Australian Standard. | Unlikely | | | | | | None | Internal records of electrode operations in line with CIGRE guidelines. | As per monitoring measures. |
| x | **Culture and heritage** | Direct or indirect impact to heritage features associated with operations and maintenance activities | Consistent with Draft EIS measures. | Consistent with Draft EIS measures. | Unlikely | | | | | High | None | Consistent with Draft EIS measures. | Consistent with Draft EIS measures. |

| Powell Creek Electorde | Factor | Potential Impact | Avoidance | Mitigation | Likelihood | Scale | Duration | Magnitude | Value | Certainty | Residual Impact | Monitoring | Reporting |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| x | **Human health** | Elevated NO2 and PM10 dust above assessment criteria levels outside the project footprint. | Where possible maintain separation distances to sensitive receptors. | Develop a TARP prior to construction that demonstrates monitoring and adaptive management techniques that will be applied should monitoring criteria be met.<br>Examples of adaptive management techniques include:<br>• Dust suppression using water<br>• Vehicle speed restrictions<br>• All trucks containing road base or other high dust generating materials will be covered<br>• Stockpiles will be covered or wetted down where practical<br>• Dust screens (vegetation or cloth)<br>• Reducing or ceasing high risk dust generation work<br>• Progressively rehabilitate construction areas as soon as no longer required. | Possible | Localised | Long-term | Minor | Medium | High | Minor | Visible dust monitoring for adaptive management techniques.<br>Climatic Conditions (hot, dry, and windy conditions leading to a higher risk) .<br>TSP or PM10 monitoring for high-risk areas (adjacent to communities where separation distances to receptors may not be met). | N/A |
| x | **Human health** | EMF impacting human health including to children, elderly, and other vulnerable groups | Height of OHTL to provide separation distance to reduce EMF at ground level.<br>Lead sheathing and armouredcores of subsea cables to minimize EMF. | Modelling to ensure design will achieve recommended limits. | Unlikely | Limited | Long-term | Negligible | Low-Medium | High | Minor | Monitoring to demonstrate recommended limits have been achieved. | |
| x | **Human health** | Impacts on emergency services from increased demand on services. | Fully staffed medical centre to be provided at the Solar Precinct to prevent reliance on local emergency services. | MOU to be developed with local emergency services regarding medical evacuation. | Possible | Regional | Long-term | Negligible - Minor | Low | High | Minor | Nil | Nil |
| x | **Human health** | Electrical current from electrodes passing through body | Design to IEC Standards and all applicable guidelines. | Modelling of voltages and surface potential to ensure the design complies with IEC standards. | Possible | Limited | Short-term | Major | Medium | High | Moderate | Nil | Nil |

| DCS Electrode | Factor | Potential Impact | Avoidance | Mitigation | Likelihood | Scale | Duration | Magnitude | Value | Certainty | Residual Impact | Monitoring | Reporting |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| x | **Terrestrial environmental quality** | Contamination of soils | Identify and (where practicable) adopt practical zero-carbon technology solutions such as electric vehicles, plant and equipment and remote solar energy systems, so no requirement for large fuel storages.<br>Fuels and hazardous chemicals will be stored and handled in accordance with Australian standards and guidelines. | An Environmental Emergency and Spill Response Plan will be in place and equipment provided at all storage and handling locations.<br>Construction and operations staff will be trained in spill response. | Possible | Limited | Short-term | Minor | High | High | Minor | Visual inspections around storage locations and work areas. | Internal incident reporting.<br>Incidents of off-site pollution or nuisance reported to the NT EPA within 24 hours. |
| x | **Terrestrial environmental quality** | Soil drying from electro-osmosis resulting from electrode operation | Increase surface area of Electrode to reduce the current density and thus potential for impact.<br>Electrode operational for under 48 hours during a single event. However, impacts usually develop over period of weeks to months.<br>The shallow groundwater table at the DCS Electrode will prevent soil drying due to the excess of soil moisture. | If monitoring identifies soil drying during periods of electrode operations soil wetting will occur to mitigate this impact. | Unlikely | Limited | Short-term | Minor | Medium | Low | Moderate | Soil probes around Electrode Site to identify if soil drying occurs during operations compared to baseline data (collected when electrode is not in use ~95% of the time). | N/A |
| x | **Terrestrial ecosystems** | Introduction and spread of weeds and pests | Avoid introducing new weeds into proposal footprint by implementing weed hygiene, as per the Weed Management Plan (Appendix Q of Draft EIS). | Implementation of Weed Management Plan (Appendix Q of Draft EIS) that has been developed in accordance with the requirements of the Weeds Management Act and relevant statutory weed management plans. | Likely | Localised | Permanent | Moderate | Medium | High | Moderate | As per the Weed Management Plan (Appendix Q of Draft EIS) | As per the Weed Management Plan (Appendix Q of Draft EIS) |
| x | **Terrestrial ecosystems** | Degredation of flora and vegetation | Consistent with Draft EIS measures. | Consistent with Draft EIS measures. | Unlikely | | | | | High | Minor | Consistent with Draft EIS measures. | Consistent with Draft EIS measures. |
| x | **Terrestrial ecosystems** | Direct fauna mortality caused by collision with Overhead Transmission Line. | Avoiding clearing large hollow-bearing trees where possible. | Site inductions will ensure that all personnel are aware of potential/confirmed areas of fauna habitat, are aware of their obligations and know the correct procedures for fauna encounters.<br>Site inductions will ensure that all personnel are aware of their obligations and know the correct procedures for fauna encounters.<br>Develop and implement a Flora and fauna Management Plan with a specific section to address any risk to Avian species | Possible | Limited | Medium-term | Negligible | Low | High | Minor | Record any fauna encounters, injuries, or death as result of works for the duration of works.<br>Information on fauna encounters, injuries or death will be used to monitor the effectiveness of avoidance and mitigation measures, and to inform potential refinements or additional measures to be applied to minimise/eliminate the risk of future incidents. | Internal record keeping of incidents of fauna encounters, injuries, or death as a result of works for the duration of works.<br>External reporting in accordance with environmental approval conditions. |
| x | **Terrestrial ecosystems** | Degradation of flora and vegetation due to Electrode Operation. | N/A | N/A | Unlikely | | | | | | Minor | N/A | N/A |
| x | **Terrestrial ecosystems** | Changes to fauna behaviour due to noise and light | Consistent with Draft EIS measures. | Project activities are to be undertaken in accordance with the National Light Pollution Guidelines (DoEE, 2020) where possible. | Possible | Limited | Medium-term | Minor | Low | High | Minor | Consistent with Draft EIS measures. | Consistent with Draft EIS measures. |
| x | **Hydrological processes** | Increased turbidity in surface waters from erosion and sedimentation caused by soil disturbance | DCS Electrode locations selection process avoid watercourses.<br>Progressive clearing, construction and reinstatement will be undertaken.<br>Stormwater drainage will be installed to capture and manage runoff. | Drainage, erosion, and sediment controls will be installed and maintained in accordance with ESCP that align with the IECA 2008.<br>Develop and implement a Reinstatement Plan for post-construction reinstatement of works area to stabilise soils and promote regrowth of native vegetation.<br>Rectification of emerging erosion issues after each wet season. | Possible | Localised | Short-term | Moderate | Medium | High | Minor | During construction, visual inspections will be undertaken of disturbed areas and erosion and sediment controls as per ESCP.<br>Annual post-wet season monitoring of reinstatement success until disturbed areas are stabilised.<br>Visual inspections of drainage structures, discharge points and site boundaries following rain events.<br>Visual inspection of seasonal swamp at DCS for evidence of sedimentation; implement water quality monitoring if required.<br>Post-wet season inspections of all project locations and rectification of emerging erosion issues. | Internal records of ESCP inspection, as stipulated in ESCPs.<br>Internal reporting on environmental performance.<br>External reporting in accordance with environmental approval conditions. |
| x | **Aquatic ecosystems** | Direct loss of aquatic habitat | Solar Precinct and DCS avoid watercourses.<br>Clearing will be undertaken progressively.<br>Dangerous Goods and Hazardous Substances will be stored and handled in accordance with regulated standards and codes of practice, and manufacturer's direction.<br>Dangerous Goods and Hazardous Substances will not be stored within 200 m of a watercourse of groundwater bore, and mobile refuelling will not occur within 50 m of a watercourse or groundwater bore.<br>Avoid extracting groundwater to an extent that there are adverse impacts to aquatic habitats. | Watercourse crossings along access roads and OHTL installed during the dry season when no flow present.<br>Drainage, erosion, and sediment control installed and maintained in accordance with ESCP that align with the IECA 2008.<br>Develop and implement a Reinstatement Plan for post-construction reinstatement of works areas to stabilise soils and promote regrowth of native vegetation.<br>Rectification of emerging erosion issues after each wet season.<br>Dangerous Goods and Hazardous Substances Registers maintained at all storage and handling locations.<br>An Environmental Emergency and Spill Response Plan will be in place and equipment provided at all storage and handling locations.<br>Construction and operations staff trained in spill response. | Unlikely | | | | | | None | During construction, visual inspections of disturbed areas and erosion and sediment controls as per ESCP (after significant rainfall events, at a minimum).<br>Annual post wet season monitoring of rehabilitation success until disturbed areas are stabilised.<br>Visual inspections of drainage structures, discharge points and site boundaries following rain events.<br>Post-wet season inspections of all project locations and rectification of emerging erosion issues. | Reporting in accordance with EMPs as described in Chapter 17 of the Draft EIS.<br>Internal records of ESCP inspections, as stipulated in ESCPs.<br>External reporting in accordance with environmental approval conditions.<br>Internal records of water quality monitoring.<br>Internal records of volumes used and stored in accordance with Workplan Health and Safety Regulations.<br>Incidents of off-site pollution or nuisance reported to the NT EPA within 24 hours. |

| DCS Electrode | Factor | Potential Impact | Avoidance | Mitigation | Likelihood | Scale | Duration | Magnitude | Value | Certainty | Residual Impact | Monitoring | Reporting |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| x | **Aquatic ecosystems** | Reduction in aquatic habitat value due to water quality impacts | Solar Precinct and DCS located on flat land above the maximum modelled flood extent (0.1% AEP/1-in-1000-year flood event) and outside of mapped storm surge zones.<br>Site selection process for Solar Precinct and DCS included avoidance of major watercourses.<br>Progressive clearing, construction and reinstatement will be undertaken.<br>Stormwater drainage will be installed to capture and manage runoff. Stormwater captured within facilities will discharge to land, via erosion and sediment controls.<br>Roadside drainage and culverts will be designed and installed in accordance with acceptance Austroads standards.<br>Avoid extracting groundwater to an extent that there are adverse impacts to aquatic habitats.<br>Dangerous Goods and Hazardous Substances will be stored and handled in accordance with regulated standards and codes of practice, and manufacturer's directions.<br>During operations, solar power will be used as a power source, hence no requirement for bulk fuel storages. | Design criteria for engineered stormwater management systems installed at the Solar Precinct and DCS is to discharge water to similar locations and at similar volumes to pre-development conditions.<br>Drainage, erosion, and sediment controls installed and maintained in accordance with ESCPs that align with IECA 2008.<br>Reinstatement of footprints for construction of OHTL Corridor post-construction.<br>Develop and implement a Reinstatement Plan for post-construction reinstatement of works areas to stabilise soils and promote regrowth of native vegetation.<br>Rectification of emerging erosion issues after each wet season.<br>Dangerous Goods and Hazardous Substances Registers will be maintained at all storage and handling locations.<br>An Environmental Emergency and Spill Response Plan will be in place and equipment provided at all storage and handling locations.<br>Construction and operations staff will be trained in spill response. | Possible | Localised | Short-term | Limited | Medium | High | Minor | During construction, visual inspections of disturbed areas and erosion and sediment controls as per ESCP (after significant rainfall events, at a minimum).<br>Annual post wet season monitoring of revegetation success until disturbed areas are stabilised.<br>Visual inspections of drainage structures, discharge points and site boundaries following rain events.<br>Post-wet season inspections of all project locations and rectification of emerging erosion issues.<br>Routine visual inspections around storage locations and work areas. | Internal records of ESCP inspections, as stipulated in ESCPs.<br>External reporting in accordance with environmental approval conditions.<br>Internal records of volumes used and stored in accordance with Workplace Health and Safety Regulations.<br>Internal reporting on environmental performance.<br>Internal inspection records and notes.<br>Internal records of water quality monitoring.<br>Incidents of off-site pollution or nuisance reported to the NT EPA within 24 hours. |
| x | **Aquatic ecosystems** | Reduction in aquatic habitat value due to altered hydrology or groundwater extraction | Solar Precinct and DCS avoid watercourses.<br>Clearing will be undertaken progressively.<br>Dangerous Goods and Hazardous Substances will be stored and handled in accordance with regulated standards and codes of practice, and manufacturer's direction.<br>Dangerous Goods and Hazardous Substances will not be stored within 200 m of a watercourse of groundwater bore, and mobile refuelling will not occur within 50 m of a watercourse or groundwater bore.<br>Avoid extracting groundwater to an extent that there are adverse impacts to aquatic habitats. | Watercourse crossings along access roads and OHTL installed during the dry season when no flow present.<br>Drainage, erosion, and sediment control installed and maintained in accordance with ESCP that align with the IECA 2008.<br>Develop and implement a Reinstatement Plan for post-construction reinstatement of works areas to stabilise soils and promote regrowth of native vegetation.<br>Rectification of emerging erosion issues after each wet season.<br>Dangerous Goods and Hazardous Substances Registers maintained at all storage and handling locations.<br>An Environmental Emergency and Spill Response Plan will be in place and equipment provided at all storage and handling locations.<br>Construction and operations staff trained in spill response. | Unlikely | | | | | | None | During construction, visual inspections of disturbed areas and erosion and sediment controls as per ESCP (after significant rainfall events, at a minimum).<br>Annual post wet season monitoring of rehabilitation success until disturbed areas are stabilised.<br>Visual inspections of drainage structures, discharge points and site boundaries following rain events.<br>Post-wet season inspections of all project locations and rectification of emerging erosion issues. | Reporting in accordance with EMPs as described in Chapter 17 of the Draft EIS.<br>Internal records of ESCP inspections, as stipulated in ESCPs.<br>External reporting in accordance with environmental approval conditions.<br>Internal records of water quality monitoring.<br>Internal records of volumes used and stored in accordance with Workplan Health and Safety Regulations.<br>Incidents of off-site pollution or nuisance reported to the NT EPA within 24 hours. |
| x | **Air quality** | Elevated NO2 and PM10 dust above assessment criteria levels outside the project footprint | Maintain separation distances to sensitive receptors. | Develop a TARP prior to construction that demonstrates monitoring and adaptive management techniques that will be applied should monitoring criteria be met. Examples of adaptive management techniques include:<br>• Dust suppression using water<br>• Vehicle speed restrictions<br>• All trucks containing road base or other high dust generating materials will be covered<br>• Stockpiles will be covered or wetted down where practical<br>• Dust screens (vegetation or cloth)<br>• Reducing or ceasing high risk dust generation work<br>• Progressively rehabilitate construction areas as soon as no longer required. | Possible | Limited | Short-term | Negligible | Low-Medium | High | Minor | Visible dust monitoring for adaptive management techniques.<br>Climatic Conditions (hot, dry, and windy conditions leading to a higher risk) TSP or PM10 monitoring for high-risk areas (adjacent to communities where separation distances to receptors may not be met). | N/A |
| x | **Community and economy** | Potential impacts of the Project on future land uses | N/A | Consultation with stakeholders on timing of activities. | Unlikely | | | | | | None | Noise and air emissions monitoring will be conducted, following complaints, to verify appropriate limits are being achieved. | N/A |
| x | **Community and economy** | Impacts from Electrodes on existing and proposed infrastructure | Where possible including buffers to existing activities (e.g., 10 km buffer between electrodes and existing land uses). | Consult with NTG to identify potential impacts to new developments within the 10 km buffer zone of electrodes.<br>Cathodic protection to be considered for future electrical infrastructure within the buffer zone as per Australian Standard. | Possible | Regional | Short-term | Minor | Medium | High | Minor/Moderate | Internal records of electrode operations in line with CIGRE guidelines. | As per monitoring measures. |
| x | **Community and economy** | Reduced amenity from congestion and traffic delays with project traffic | Use of air and rail for personnel and freight transport where possible. | As per developed Traffic Management Plans.<br>Prepare Traffic Management Plans in consultation with the DIPL.<br>Obtain permits for all overweight or over-mass vehicle movements required under the Motor Vehicles Act 1949 (NT) in accordance with NT requirements.<br>Use buses for movements between personnel accommodation and work sites.<br>Traffic movements to be timed to avoid peak hour traffic in built-up areas where practicable. | Possible | Localised | Short-term | Minor | Medium | High | Minor | As per developed Construction Plans and Traffic Management Plans.<br>Ongoing engagement with DIPL. | N/A |

| DCS Electrode | Factor | Potential Impact | Avoidance | Mitigation | Likelihood | Scale | Duration | Magnitude | Value | Certainty | Residual Impact | Monitoring | Reporting |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| x | **Culture and heritage** | Direct or indirect impact to heritage features associated with operations and maintenance activities | Consistent with Draft EIS measures. | Consistent with Draft EIS measures. | Possible | Limited | Permanent | Minor | Medium | High | Moderate | Consistent with Draft EIS measures. | Consistent with Draft EIS measures. |
| x | **Human health** | Elevated NO2 and PM10 dust above assessment criteria levels outside the project footprint. | Where possible maintain separation distances to sensitive receptors. | Develop a TARP prior to construction that demonstrates monitoring and adaptive management techniques that will be applied should monitoring criteria be met. Examples of adaptive management techniques include:<br>• Dust suppression using water<br>• Vehicle speed restrictions<br>• All trucks containing road base or other high dust generating materials will be covered<br>• Stockpiles will be covered or wetted down where practical<br>• Dust screens (vegetation or cloth)<br>• Reducing or ceasing high risk dust generation work<br>• Progressively rehabilitate construction areas as soon as no longer required. | Possible | Localised | Long-term | Minor | Medium | High | Minor | Visible dust monitoring for adaptive management techniques.<br>Climatic Conditions (hot, dry, and windy conditions leading to a higher risk) .<br>TSP or PM10 monitoring for high-risk areas (adjacent to communities where separation distances to receptors may not be met). | N/A |
| x | **Human health** | EMF impacting human health including to children, elderly, and other vulnerable groups | Height of OHTL to provide separation distance to reduce EMF at ground level.<br>Lead sheathing and armouredcores of subsea cables to minimize EMF. | Modelling to ensure design will achieve recommended limits. | Unlikely | Limited | Long-term | Negligible | Low-Medium | High | Minor | Monitoring to demonstrate recommended limits have been achieved. | |
| x | **Human health** | Impacts on emergency services from increased demand on services. | Fully staffed medical centre to be provided at the Solar Precinct to prevent reliance on local emergency services. | MOU to be developed with local emergency services regarding medical evacuation. | Possible | Regional | Long-term | Negligible - Minor | Low | High | Minor | Nil | Nil |

| DCS | Factor | Potential Impact | Avoidance | Mitigation | Likelihood | Scale | Duration | Magnitude | Value | Certainty | Residual Impact | Monitoring | Reporting |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| x | **Community and economy** | Potential impacts of the Project on future land uses | N/A | Consultation with stakeholders on timing of activities. | Possible | Limited | Short-term | Minor | Medium | High | Minor | Noise and air emissions monitoring will be conducted, following complaints, to verify appropriate limits are being achieved. | N/A |
| x | **Human health** | Elevated NO2 and PM10 dust above assessment criteria levels outside the project footprint. | Where possible maintain separation distances to sensitive receptors. | Develop a TARP prior to construction that demonstrates monitoring and adaptive management techniques that will be applied should monitoring criteria be met. Examples of adaptive management techniques include:<br>• Dust suppression using water<br>• Vehicle speed restrictions<br>• All trucks containing road base or other high dust generating materials will be covered<br>• Stockpiles will be covered or wetted down where practical<br>• Dust screens (vegetation or cloth)<br>• Reducing or ceasing high risk dust generation work<br>• Progressively rehabilitate construction areas as soon as no longer required. | Possible | Localised | Long-term | Minor | Medium | High | Minor | Visible dust monitoring for adaptive management techniques.<br>Climatic Conditions (hot, dry, and windy conditions leading to a higher risk) .<br>TSP or PM10 monitoring for high-risk areas (adjacent to communities where separation distances to receptors may not be met). | N/A |
| x | **Human health** | EMF impacting human health including to children, elderly, and other vulnerable groups | Height of OHTL to provide separation distance to reduce EMF at ground level.<br>Lead sheathing and armouredcores of subsea cables to minimize EMF. | Modelling to ensure design will achieve recommended limits. | Unlikely | Limited | Long-term | Negligible | Low-Medium | High | Minor | Monitoring to demonstrate recommended limits have been achieved. | |
| x | **Human health** | Impacts on emergency services from increased demand on services. | Fully staffed medical centre to be provided at the Solar Precinct to prevent reliance on local emergency services. | MOU to be developed with local emergency services regarding medical evacuation. | Possible | Regional | Long-term | Negligible - Minor | Low | High | Minor | Nil | Nil |

| Cable Transition Facilities | Factor | Potential Impact | Avoidance | Mitigation | Likelihood | Scale | Duration | Magnitude | Value | Certainty | Residual Impact | Monitoring | Reporting |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| x | **Community and economy** | Potential impacts of the Project on future land uses | N/A | Consultation with stakeholders on timing of activities. | Possible | Limited | Short-term | Minor | Medium | High | Minor | Noise and air emissions monitoring will be conducted, following complaints, to verify appropriate limits are being achieved. | N/A |
| x | **Human health** | Elevated NO2 and PM10 dust above assessment criteria levels outside the project footprint. | Where possible maintain separation distances to sensitive receptors. | Develop a TARP prior to construction that demonstrates monitoring and adaptive management techniques that will be applied should monitoring criteria be met. Examples of adaptive management techniques include:<br>• Dust suppression using water<br>• Vehicle speed restrictions<br>• All trucks containing road base or other high dust generating materials will be covered<br>• Stockpiles will be covered or wetted down where practical<br>• Dust screens (vegetation or cloth)<br>• Reducing or ceasing high risk dust generation work<br>• Progressively rehabilitate construction areas as soon as no longer required. | Possible | Localised | Long-term | Minor | Medium | High | Minor | Visible dust monitoring for adaptive management techniques.<br>Climatic Conditions (hot, dry, and windy conditions leading to a higher risk) .<br>TSP or PM10 monitoring for high-risk areas (adjacent to communities where separation distances to receptors may not be met). | N/A |
| x | **Human health** | EMF impacting human health including to children, elderly, and other vulnerable groups | Height of OHTL to provide separation distance to reduce EMF at ground level.<br>Lead sheathing and armouredcores of subsea cables to minimize EMF. | Modelling to ensure design will achieve recommended limits. | Unlikely | Limited | Long-term | Negligible | Low-Medium | High | Minor | Monitoring to demonstrate recommended limits have been achieved. | |
| x | **Human health** | Impacts on emergency services from increased demand on services. | Fully staffed medical centre to be provided at the Solar Precinct to prevent reliance on local emergency services. | MOU to be developed with local emergency services regarding medical evacuation. | Possible | Regional | Long-term | Negligible - Minor | Low | High | Minor | Nil | Nil |

| Subsea Cable System | Factor | Potential Impact | Avoidance | Mitigation | Likelihood | Scale | Duration | Magnitude | Value | Certainty | Residual Impact | Monitoring | Reporting |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| x | **Marine environmental quality** | Seabed disturbance from cable repairs – Route B | Minimise disturbance footprint by undertaking targeted repair as required. | Nil. | Possible | Limited | Short-term | Minor | Low | High | Minor | Nil. | Nil. |
| x | **Community and economy** | Potential impacts of the Project on future land uses | N/A | Consultation with stakeholders on timing of activities. | Possible | Limited | Short-term | Negligible | Low | High | Minor | Noise and air emissions monitoring will be conducted, following complaints, to verify appropriate limits are being achieved. | N/A |
| x | **Community and economy** | Interference with aviation/flight paths and shipping channels (current and planned) | N/A | Communication with AFANT and the fishing community, as well as Harbour Master's Notices. As per Safety Plans for cable-laying vessels, including visibility at night. | Possible | Limited | Short-term | Minor | Medium | High | Minor | As per developed Traffic Management Plans and Environmental Emergency and Spill Response Plans. | As per developed Traffic Management Plans and Environmental Emergency and Spill Response Plans. |
| x | **Marine ecosystems** | Habitat loss and degradation associated with cable repairs | Minimal disturbance to the area while cables are being repaired. | Where there is a repair option with less disturbance, the option with less disturbance will always be attempted first. | Possible | Limited | Long-term | Minor | Low | High | Minor | Nil. | Internal reporting on environmental performance. External reporting in accordance with environmental approval conditions. |
| x | **Marine ecosystems** | Changes to fauna behaviour due to EMF and heat. | The Subsea Cable System will be buried 0.5 – 3 m below the seabed, decreasing the effects of EMF and surface temperature of maximum 25ºC. | Nil. | Likely | Limited | Long-term | Minor | Low | High | Minor | Nil. | Nil. |
| x | **Marine ecosystems** | Changes to benthic communities due to increase of temperature within the sediments. | The Subsea Cable System will be buried 0.5 – 3 m below the seabed, decreasing the temperature of the sediments closer to the surface of the seabed. | Nil. | Possible | Limited | Long-term | Minor | Low | High | Minor | Nil. | Nil. |

suncable.energy

SUN CABLE AUSTRALIA-ASIA PowerLink


**Singapore**

61 Robinson Road
#09-04
Singapore 068893

**Jakarta**

The South Quarter Building, Tower C,
Mezzanine Level, Jl RA Kartini Kav 8,
Cilandak, Jakarta Selatan 12430

**Darwin**

Suite 3, Level 17
19 The Mall
Darwin NT 0800

**Sydney**

Level 31,
85 Castelreagh Street
Sydney NSW 2000

**Brisbane**

Level 3,
900 Ann Street
Fortitude Valley QLD 4006

info.nt@suncable.energy