

Appendix 16.1 – Impact Assessment Table - Construction



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Solar Precinct Ancillary Infrastructure	Factor	Potential Impact	Avoidance	Mitigation	Likelihood	Scale	Duration	Magnitude	Value	Certainty	Residual Impact	Monitoring	Reporting
Solar Precinct Ancilary Infrastructure	Terrestrial ecosystems	Loss of vegetation and habitat	Significant vegetation and threatened species habitat will be assigned an appropriate constraint rating and managed in accordance with the Constraints Planning and Field Development Produce (Appendix 4.1). Micro-siting of project infrastructure to avoid significant vegetation where possible. Preferential use of existing cleared areas where possible for temporary construction requirements such as access tracks, laydown areas and construction camps.	The area to be cleared for the Solar Precinct is clearly flagged and marked on-ground. Clearance only within the boundaries approved in licences obtained to clear native vegetation as per the Planning Act and/or the Pastoral Land Act. Re-instatement of alt temporary construction fooprints and follow-up weed control post- construction. Peak-bilitation of cleared areas as per the Decommissioning and Rehabilitation Plan. 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 Bibly is found within project footprint including but not limited to; conducting land management operations (i.e fire management and pest control) in adjacent areas to project footprints to enhance habitat quality (in negotiation with landowners).	Likely	Localised	Permanent	Minor	High	High	Moderate	Consistent with Draft EIS measures. Visual inspections during clearing to ensure clearing is within approved boundaries. Results recorded, along with any photographs. Rehabilitation inspections following first wet season post-construction or until vegetation is established and sites are stable.	Consistent with Draft EIS measures: Records of clearing undertaken. External reporting in accordance with environmental approval conditions.
Solar Precinct Ancilary Infrastructure	Terrestrial ecosystems	Loss or deterioration of significant vegetation by land clearing	Significant vegetation and threatened species habitat will be assigned an appropriate constraint rating and managed in accordance with the Constraints Planning and Field Development Produce (Appendix 4.1). Micro-sting of project infrastructure to avoid significant vegetation where possible. Preferential use of existing cleared areas where possible for temporary construction requirements such as access tracks, laydown areas and construction camps.	The area to be cleared for the Solar Precinct is clearly flagged and marked on-ground. Clearance only within the boundaries approved in licences obtained to clear native vegetation as per the Planning Act and/or the Pastoral Land Act. Re-instatement of alt emporary construction fooprints and follow-up weed control post- construction. Peablititation of cleared areas as per the Decommissioning and Rehabilitation Plan. Develop and implement Flora and Fauna Management Plan with a Bilby procedure created in consultation with DCCEEW and DEPWS. This will state mitigation dmanagement operations (le fire management and pest control) in adjacent areas to project footprints to enhance habitat quality (in negotiation with landowners).	Possible	Limited	Permanent	Minor	Medium	High	Minor	Consistent with Draft EIS measures. Visual inspections during clearing to ensure clearing is within approved boundaries. Results recorded, along with any photographs. Rehabilitation inspections following first wet season post-construction or until vegetation is established and sites are stable.	Consistent with Draft EIS measures: Records of clearing undertaken. External reporting in accordance with environmental approval conditions.
Solar Precinct Ancillary Infrastructure	Terrestrial ecosystems	Threatened species (restricted range).	All threatened species known records and habitat area will be assigned a constraint rating and managed in accordance with the Constraints Planning and Field Development Procedure (Appendix 4.1) Appropriate implementation of avoidance (micro- sting) and mitigation (pre-clearance surveys and use of a fauna spotter-catcher) measures will be applied in accordance with the Constraints Planning and Field Development Procedure (Appendix 4.1)	Clearance only within the boundaries approved in licences obtained to clear native vegetation as per the Planning Act 1999 (NT) and/or the Pastoral Land Act 1992 (NT). Reinstatement of all temporary construction tooprints. Post-operations rehabilitation of cleared areas as per the Decommissioning and Rehabilitation Plan. Areas known to support threatened flora species are clearly flagged and signposted as 'No-Go Zones.'	Assessed in Section 5.6			6		Visual inspections during clearing to ensure clearing is within approved boundaries. Results recorded, along with any photographs. Rehabilitation inspections following first wet season post-construction or until vegetation is established and sites are stable.	Records of clearing undertaken External reporting in accordance with environmental approval conditions		
Solar Precinct Ancillary Infrastructure	Terrestrial ecosystems	Degradation of flora and vegetation in surrounding areas by dust deposition.	Consistent with Draft EIS measures.	Consistent with Draft EIS measures.		Con	sistent	with Dra	ft EIS		Minor	Consistent with Draft EIS measures.	Consistent with Draft EIS measures.
Solar Precinct Ancillary Infrastructure	Terrestrial ecosystems	Introduction and spread of weeds.	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 tatutory weed		Con	sistent	with Dra	ft EIS		Moderate	As per the Weed Management Plan (Appendix 5.3).	As per the Weed Management Plan (Appendix 5.3).
Solar Precinct Ancillary Infrastructure	Terrestrial ecosystems	Changes in fire regimes.	Observe fire bans.	Develop and implement a Bushfire Management Plan, including first response capability		Con	sistent	with Dra	ft EIS		Minor	Visual monitoring for fires. Monitoring NAFI website for proximate fires which may impact proposal. Monitoring conditions for fire risk.	Any fires reported to Bushfires NT or appropriate authority.



Solar Precinct Ancillary Infrastructure	Factor	Potential Impact	Avoidance	Mitigation	Likelihood	Scale	Duration	Magnitude	Value	Certainty	Residual Impact	Monitoring	Reporting
Solar Precinct Anollary Infrastructure	Terrestrial ecosystems	Direct fauna mortality by collision with construction vehicles.	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. Clearing will be conducted in a single direction, allowing any fauna to move out of way of clearing activities. If fauna is spotted in immediate clearing area and are in danger, clearing will be stopped until safe to continue. Clearing in a progressive manner to allow wildlife to natural disperse from the area as clearing undertaken. Site inductions will ensure that all personnel are aware of their obligations and know the correct procedures for fauna encounters. Vehicle speed restrictions apply when travelling near uncleared areas or in higher risk conditions. Develop and implement a Flora and fauna Management Plan with a pacific section to address any risk to Avian species Develop and implement Flora and Fauna Management Plan with a biby procedure created in consultation with DCCEEW and DEPWS. This will state mitigation measures if Great Biby is found within project footprint including but not limited to; - Clearing in the surrounding area to be delayed		Cons	sistent	with Dra	aft EIS		Minor	Record any fauna encounters, injuries, or death as result of works for the duration of works. Information on fauna encounters, injuries or death will be used to monifor the effectiveness of avoidance and mitigation measures, and to inform potential refinements or additional measures to be appled 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. External reporting in accordance with environmenta approval conditions.
Solar Precinct Ancillary Infrastructure	Terrestrial ecosystems	Habitat degradation and fragmentation	Consistent with Draft EIS measures.	Reinstatement of all temporary construction footprints and follow-up weed control post- construction.	Unlikely	Limited	Permane	Minor	Medium	High	Minor	Nil.	Nil.
Solar Precinct Ancillary Infrastructure	Terrestrial ecosystems	Changes to fauna behaviour due to noise, light, and waste management	Consistent with Draft EIS measures.	Project activities are to be undertaken in accordance with the National Light Pollution Guidelines (DoEE, 2020) where possible.		Cons	sistent	with Dra	aft EIS		Minor	Nil.	Nii.



OHTL Corridor	Factor	Potential Impact	Avoidance	Mitigation	Likelihood	Scale	Duration	Magnitude	Value	Certainty	Residual Impac	Monitoring	Reporting
x	Terrestrial environmental quality	Erosion and topsoil migration caused by soil disturbance	Consistent with Draft EIS Measures	Consistent with Draft EIS Measures	Likely	Limited	Medium-term	Minor	Low	Medium	tt Minor	Consistent with Draft EIS Measures	Consistent with Draft EIS Measures
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
OHTL Corridor	Terrestrial environmental quality	Spread of contaminated soil or sediment outside of PFAS Management Area	No sediment will be removed from Tindal Creek or Katherina River. OHTL lines will span the Tindal Creek and Katherine River, avoiding works within the watercourses. 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. No trenching will occur along the OHTL, including within the PFAS Management Area.	The OHTL construction corridor will be as narrow as possible within the PFAS Management Area, to minimise the disturbance footprint. Ancilary Infrastructure (e.g., Temporary Construction Accommodation will not be clocated within the PFAS Management Area. Soil hygine stations will be established at the boundary of the PFAS Management Area (see Figure 4-2). All machinery and equipment will be cleaned at these hyginer stations to avoid spreading contaminated soil along the OHTL. Site specific measures to address PFAS will be included in the Erosion and Sediment Control Plan (see CEMP framework in Draft EIS Chapter 17).	Possible	Limited	Short-term	Minor	Medium	High	Minor	Visual monitoring of the construction footprint within the PFAS Management Area, to ensure clearing is minimal. Visual inspections of machinery and equipment at soil hygiene statons, to ensure all soil is removed prior to leaving the PFAS Management Area.	Internal records of inspections. Incident reporting.
OHTL Corridor	Terrestrial ecosystems	Loss of vegetation and habitat OHTL preferred Route at Katherine.	Significant vegetation and threatened species habitat will be assigned an appropriate constraint rating and managed in accordance with the Constraints Planning and Field Development Produce (Appendix 4.1). Micro-stiing of project infrastructure to avoid significant vegetation where possible. Preferential use of existing cleared areas where possible for temporary construction requirements such as access tracks, laydown areas and construction camps.	Clearance only within the boundaries approved in licences obtained to clear native vegetation as per the Planning Act and/or the Pastoral Land Act. Re-instatement of all temporary construction footprints and follow-up weed control post- construction. Post-operations rehabilitation of cleared areas as per the Decommissioning and Rehabilitation Plan. Develop and implement Flora and Fauna Management Plan with a Biby procedure created in consultation with DCCEEW and DEPWS. This will atter mitigation measures if Great Bibly is found within project footprint including but not limited to; conducting land management operations (i.e fire management and pest control) in adjacent areas to project footprints to enhance habitat quality (in negotiation with landowners).	Likely	Limited	Medium-term	Minor	Medium	High	Minor	Consistent with Draft EIS measures. Visual inspections during clearing to ensure clearing is within approved boundaries. Results recorded, along with any photographs. Rehabilitation inspections following first wet season post-construction or until vegetation is established and sites are stable.	Consistent with Draft EIS measures: Records of clearing undertaken. External reporting in accordance with environmental approval conditions.
OHTL Corridor	Terrestrial ecosystems	Loss of vegetation and habitat OHTL preferred Route at Adelaide River.	Significant vegetation and threatened species habitat will be assigned an appropriate constraint rating and managed in accordance with the Constraints Planning and Field Development Produce (Appendix 4.1). Micro-siting of project infrastructure to avoid significant vegetation where possible. Preferential use of existing cleared areas where possible for temporary construction requirements such as access tracks, laydown areas and construction camps.	Clearance only within the boundaries approved in licences obtained to clear native vegetation as per the Planning Act and/or the Pastoral Land Act. Re-instatement of all temporary construction footprints and follow-up weed control post- construction. Post-operations rehabilitation of cleared areas as per the Decommissioning and Rehabilitation Plan. Develop and implement Flora and Fauna Management Plan with a Biby procedure created in consultation measures if Great Bilby Is found within project footprint including but not limited b; conducting land management operations (le fire management and pest control) in adjacent areas to project footprints to enhance habitat quality (in negotiation with landowners).	Likely	Limited	Medium-term	Minor	High	High	Moderate	Consistent with Draft EIS measures. Visual inspections during clearing to ensure clearing is within approved boundaries. Results recorded, along with any photographs. Rehabilitation inspections following first wet season post-construction or until vegetation is established and sites are stable.	Consistent with Draft EIS measures: Records of clearing undertaken. External reporting in accordance with environmental approval conditions.
OHTL Corridor	Terrestrial ecosystems	Loss or deterioration of significant vegetation by land clearing	Significant vegetation and threatened species habitat will be assigned an appropriate constraint rating and managed in accordance with the Constraints Planning and Field Development Produce (Appendix 4.1). Micro-siting of project infrastructure to avoid significant vegetation where possible. Preferential use of existing cleared areas where possible for temporary construction requirements such as access tracks, laydown areas and construction camps.	Clearance only within the boundaries approved in licences obtained to clear native vegetation as per the Planning Act and/or the Pastoral Land Act. Re-instatement of all temporary construction tootprints and follow-up weed control post- construction. Post-operations rehabilitation of cleared areas as per the Decommissioning and Rehabilitation Plan. Develop and implement Flora and Fauna Management Plan with a Biby procedure created in consultation with DCCEEW and DEPWS. This will state mitigation measures if Great Bibly is found within project footprint including but not limited to; conducting land management clearation to the fire management and pest control) in adjacent areas to project footprints to enhance habitat quality (in negotiation with landowners).	Possible	Limited	Long-term	Minor	Medium	High	Minor	Consistent with Draft EIS measures. Visual inspections during clearing to ensure clearing is within approved boundaries. Results recorded, along with any photographs. Rehabilitation inspections following first wet season post-construction or until vegetation is established and sites are stable.	Consistent with Draft EIS measures: Records of clearing undertaken. External reporting in accordance with environmental approval conditions.

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OHTL Corridor	Factor	Potential Impact	Avoidance	Mitigation	Likelihood	Scale	Duration	Magnitude		Valua	Certainty	Residual Impac	Monitoring	Reporting
OHTL Corridor	Terrestrial ecosystems	Threatened species (restricted range).	All threatened species known records and habitat area wilb easigned a constraint rating and managed in accordance with the Constraints Planning and Field Development Procedure (Appendix 4.1) Appropriate implementation of avoidance (micro- siting) and mitigation (pre-clearance surveys and use of a fauna spotter-catcher) measures will be applied in accordance with the Constraints Planning and Field Development Procedure (Appendix 4.1)	Clearance only within the boundaries approved in licences obtained to clear native vegetation as per indences obtained to clear native vegetation as per the Planning Act 1999 (NT) and/or the Pastoral Land Act 1992 (NT). Reinstatement of all temporary construction footprints. Post-operations rehabilitation of cleared areas as per the Decommissioning and Rehabilitation Plan. Areas known to support threatened flora species are clearly flagged and signposted as 'No-Go Zones.' Ghost Bat (<i>Macroderma gigas</i>): If any suitable roosting habitat is located, construction of the OHTL Corridor would be restricted within 1 km of that habitat to outside of breeding season (i.e., not between July to September). Darwin Cycad (<i>Cycas armstrongii</i>): Where clearing of Darwin Cycad anont be avoided, impacted species would be sakaged and translocated for re- planting into the re-instated area where possible.			Asse	ssed in	Sectio	n 5.6			Visual inspections during clearing to ensure clearing is within approved boundaries. Results recorded, along with any photographs. Rehabilitation inspections following first wet season post-construction or until vegetation is established and sites are stable.	Records of clearing undertaken External reporting in accordance with environmental approval conditions
OHTL Corridor	Terrestrial ecosystems	Degradation of flora and vegetation in surrounding areas by dust deposition.	Consistent with Draft EIS measures.	Consistent with Draft EIS measures.		Con	sister	nt with [Draft E	s		Minor	Consistent with Draft EIS measures.	Consistent with Draft EIS measures.
OHTL Corridor	Terrestrial ecosystems	Introduction and spread of weeds.	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		Con	sister	nt with [Draft E	s		Moderate	As per the Weed Management Plan (Appendix 5.3).	As per the Weed Management Plan (Appendix 5.3).
OHTL Corridor	Terrestrial ecosystems	Changes in fire regimes.	Observe fire bans.	Develop and implement a Bushfire Management Plan, including first response capability	Consistent with Draft EIS							Minor	Visual monitoring for fires. Monitoring NAFI website for proximate fires which may impact proposal. Monitoring conditions for fire risk.	Any fires reported to Bushfires NT or appropriate authority.
OHTL Corridor	Terrestrial ecosystems	Direct fauna mortality by collision with construction vehicles.	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. Clearing will be conducted in a single direction, allowing any fauna to move out of way of clearing activities. If fauna is spotted in immediate clearing area and are in danger, clearing will be stopped until safe to continue. Clearing in a progressive manner to allow wildlife to natural disperse from the area as clearing undertaken. Site inductions will ensure that all personnel are aware of their obligations and know the correct procedures for fauna encounters. Vehicle speed restrictions apply when travelling near uncleared areas or in higher risk conditions. Develop and implement Flora and fauna Management Plan with a specific section to address any risk to Avian species Develop and implement Flora and Fauna Management Plan with a Bibty procedure created in consultation measures if creat Bibly is found within project flootprint including but not limited bit. Clearing in the surrounding area to be delayed		Con	siste	nt with [Draft E	s		Minor	Record any fauna encounters, injuries, or death as result of works for the duration of works. 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 appled to minimise/eliminate the risk of future incidents.	Internal record keeping of incidents of fauna encounters, hijnels, or death as a result of works for the duration of works. External reporting in accordance with environmental approval conditions.
x	Terrestrial ecosystems	Habitat degradation and fragmentation	The OHTL will fragment habitat; the majority of the OHTL route has been located in the ralway corridor where habitat fragmentation has already occurred.	Reinstatement of all temporary construction footprints and follow-up weed control post- construction. Vegetation management conducted in accordance with the OHTL Vegetation Management Procedure (Appendit S. 54)	Possible	Limited	Long-term	Moderate		Modium	High	Minor	Nil.	Nil.
x	Terrestrial ecosystems	Changes to fauna behaviour due to noise, light, and waste management	Consistent with Draft EIS measures.	Project activities are to be undertaken in accordance with the National Light Pollution Guidelines (DoEE 2020) where possible		Con	sister	nt with [Draft E	s		Minor	Nil.	Nil.



OHTL Corridor	Factor	Potential Impact	Avoidance	Mitigation	Likelihood	Scale	Duration	Magnitude	Value	Certainty	Residual Impac	Monitoring	Reporting
x	Hydrological processes	Changes to surface water flows from land clearing and development	OHTL poles will not be placed in watercourses or drainage lines. 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. 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. Drainage, erosion, and sediment controls installed and maintained in accordrance with Erosion and Sediment Control Plans (ESCP) that align with the Best Practice Erosion and Sediment Control Guidelines (ECA, 2008). Reinstatement of OHTL construction corridor and Cable Transition Facilities footprints post- construction. Design criteria for engineered stomwater management systems installed at the Solar Precinct is to discharge water to similar locations and at similar volumes to pre-development conditions.	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 rainfal events, at a minimum). Annual post wet season monitoring of revegetation success until disturbed areas are stabilised. Visual inspections of drainage structures, discharge points and site boundaries following rain events. Post-wet season inspections of all project locations and rectification of emerging erosion issues.	Internal records of ESCP inspections, as stipulated in ESCPs. Internal reporting on environmental performance. 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. 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. Stormwater drainage will be installed to capture and manage runoff. Stormwater capture within facilities will discharge to land, via erosion and sediment controls. Roadside drainage and culverts will be designed and in stalled in accordance with accepted Austroads standards.	Watercourse crossings along access roads and OHTL installed during the dry season when no flow present. 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). Develop and implement a Reinstatement Plan for post-construction reinstatement of works areas to stabilies soils and promote regrowth of native vegetation. 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). Annual post wet season monitoring of revegetation success until disturbed areas are stabilised. Visual inspections of drainage structures, discharge points and site boundaries following rain events. Post-wet season inspections of all project locations and rectification of emerging erosion issues.	Internal records of ESCP inspections, as stipulated in ESCPs. Internal reporting on environmental performance. External reporting in accordance with environmental approval conditions.
x	Hydrological processes	Increased contamination outside of PFAS Management Area due to spread of contaminated soils or sediment	No sediment will be removed from Tindal Creek or Katherine River. OHTL conductor wires will span the Tindal Creek and Katherine River, avoiding works within the watercourses. 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. No trenching will occur along the OHTL Corridor, including within the PFAS Management Area.	The OHTL construction corridor will be as narrow as possible within the PFAS Management Area, to minimise the disturbance footprint. Ancillary Infrastructure will not be located within the PFAS Management Area. Soil hygiene stations will be established at the boundary of the PFAS Management Area (see Figure 6-2). All machinery and equipment will be cleaned at these hygiene stations to avoid spreading contaminated soil along the OHTL Corridor. An ESCP will be developed consistent with best practice and International Erosion Control Association (IECA, 2008) guidelines, to minimise rak of erosion of soils with Ih PFAS Management Area. Soil/Sediment within the PFAS Management Area will not be stockpiled and the PFAS NEMP guidelines for stockpiling of soils contaminated with PFAS will be adhered to.	Unlikely	Localised	Medium-term	Minor	Medium	High	Minor	Visual monitoring of the construction footprint within the PFAS Management Area, to ensure clearing is minimal. Visual inspections of machinery and equipment at soil hygiene stations, to ensure all soil is removed prior to leaving the PFAS Management Area.	Reporting in accordance with the CEMP and OEMP.
x	Hydrological processes	Increased PFAS contamination in Katherine River or Tindal Creek due to erosion of contaminated soils from OHTL	The OHTL construction corridor will be as narrow as possible 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 precision of soils, and therefore minimise spread of contaminated soil. Most of the construction footprint will be reinstated, to minimise ongoing erosion fisk. The reinstated construction footprint and operational footprint will be visually inspected monitored and any erosion identified will be rectified. Dust suppression will be implemented during construction.	Unlikely	Limited	Medium-term	Negligible	Very low	High	Minor	Monitoring as per the ESCP. This includes visual inspections of the reinstated areas and operational footprint.	Reporting in accordance with the ESCP.
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. No surface water will be extracted from Tindal Creek or Katherine River. 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. 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. Water to supply construction activities will be sourced from supples outside of the PFAS Management Area and trucked to site as required.	Unlikely	Localised	Medium-term	Minor	Low	High	Minor	Visual monitoring of construction works within the PFAS Management Area, to ensure works are not undertaken in watercourses. Records of water supply volumes and extraction locations.	Reporting in accordance with the ESCP.



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x	Hydrological processes	Increased PFAS contramination 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. Most of the construction footprint will be reinstated, to minimise ongoing erosion risk. The reinstated construction footprint and operational footprint will be visually inspected monitored and any erosion identified will be rectified. Dust suppression will be implemented during construction.	Unlikely	Localised	Medium-term	Negligible	Very low	High	Minor	Montoring as per the ESCP. This includes visual inspections of the reinstated areas and operational footprint.	Reporting in accordance with the ESCP.
x	Aquatic ecosystems	Direct loss of aquatic habitat	Clearing will be undertaken progressively. Dangerous Goods and Hazardous Substances will be stored and handled in accordance with regulated standards and codes of practice, and manufacturer's direction. Dangerous Goods and Hazardous Substances will not be stored within 200 m of a watercourse of groundwater bore, and mobile refueling will not occur within 50 m of a watercourse or groundwater bore. 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. Drainage, erosion, and sediment control installed and maintained in accordance with ESCP that align with the IECA 2008. Develop and implement a Reinstatement Plan for post-construction reinstatement of works areas to stabilise soils and promote regrowth of native vegetation. Rectification of emerging erosion issues after each wet season. Dangerous Goods and Hazardous Substances Registers maintained at all storage and handling locations. An Environmental Emergency and Spill Response Plan will be in place and equipment provided at all storage and handling locations. Construction and operations staff trained in spill response.	Possible	Limited	Long-term	Minor	Medium	High	Minor	During construction, visual inspections of disturbed areas and erosin and sediment controls as per ESCP (after significant rainfall events, at a minimum). Annual post wet season monitoring of rehabilitation success unit disturbed areas are stabilised. Visual inspections of drainage structures, discharge points and site boundaries following rain events. 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. Internal records of ESCP inspections, as stipulated in ESCPs. External reporting in accordance with environmental approval conditions. Internal records of water quality monitoring. Internal records of water quality monitoring. Internal records of values used and stored in accordance with Workplan Health and Safety Regulations. 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. OHTL structures will not be placed in watercourses or drainage lines. 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. Stormwater drainage will be installed to capture and manage runoff. Stormwater captured within facilities will discharge to land, via erosion and sediment controls. Roadstide drainage and culverts will be designed and installed in accordance with acceptance Avoid extracting groundwater to an extern that there are adverse impacts to aquate habitats. Dangerous Goods and Hazardous Substances will be stored and hand hazardous Substances will be standards and coldes of practice, and manufacturer's directions.	Watercourse crossing along access roads and OHTL installed during the dry season when no flow present. Drainage, ension, and sediment controls installed and maintained in accordance with ESCPs that align with IECA 2006. Reinstatement of footprints for construction of OHTL Corridor post-construction. Develop and implement a Reinstatement Plan for post-construction reinstatement of works areas to stabilise soils and promote regrowth of native vegetation. Rectification of emerging erosion issues after each wet season. Dangerous Goods and Hazardous Substances Registers will be maintained at all storage and handling locations. An Environmental Emergency and Spill Response Plan will be in place and equipment provided at all storage and handling locations.	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). Annual post wet season monitoring of revegetation success until disturbed areas are stabilised. Visual inspections of drainage structures, discharge points and site boundaries following rain events. Post-wet season inspections of all project locations and rectification of emerging erosion issues. Routine visual inspections around storage locations and work areas.	Internal records of ESCP inspections, as stipulated in ESCPs. External reporting in accordance with environmental approval conditions. Internal records of volumes used and stored in accordance with Workplace Health and Safety Regulations. Internal reporting on environmental performance. Internal reporting on environmental performance. Internal records of water quality monitoring. 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. Dangerous Goods and Hazardous Substances will be stored and handled in accordance with regulated standards and codes of practice, and manufacturer's direction. 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. 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. Drainage, erosion, and sediment control installed and maintained in accordance with ESCP that align with the IECA 2008. Develop and inopfement a Reinstatement Plan for post-construction reinstatement of works areas to stabilise soils and promote regrowth of native vegetation. Rectification of emerging erosion issues after each wet season. Dangerous Goods and Hazardous Substances Registers maintained at all storage and handling locations. An Environmental Emergency and Spill Response Plan will be in place and equipment provided at all storage and handling locations. Construction and operations staff trained in spill response.	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). Annual post wet season monitoring of rehabilitation success until disturbed areas are stabilised. Visual inspections of drainage structures, discharge points and site boundaries following rain events. Post-wet aeason 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. Internal records of ESCP inspections, as stipulated in ESCPs. External reporting in accordance with environmental approval conditions. Internal records of water quality monitoring. Internal records of volumes used and stored in accordance with Workplan Health and Safety Regulations. Incidents of off-site pollution or nuisance reported to the NT EPA within 24 hours.



OHTL Corridor	Factor	Potential Impact	Avoidance	Mitigation	Likelihood	Scale	Duration	Magnitude	Value	Certainty	Residual Impac	Monitoring	Reporting
x	Community and economy	Visual impacts because of construction of the Project	Avoid silling 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. Micro sting of OHTL in areas with lower visual impact such as within existing clearings, alongside existing linear infrastructure, and natural linear boundaries. Consideration of style of OHTL structures (monopoles or tattice towers) to consider the visual impact of each, as well as construction materials to reduce reflective surfaces.	Likely	Limited	Short-term	Minor	Medium	High	Minor	N/A	NA
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: • Dust suppression using water • Vehicle speed restrictions • All trucks containing road base or other high dust generating materials will be covered • Stockples will be covered or wetted down where practical • Dust screens (vegetation or cloth) • Reducing or ceasing high risk dust generation work • Progressively rehabilitate construction areas as soon as no knowner required.	Likely	Localised	Short-term	Minor	Medium	High	Minor	Visible dust monitoring for adaptive management techniques. 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).	NA
x	Community and economy	Noise levels about EPA noise guideline values at nearest sensitive receptors.	Maintain separation distances to residences where possible.	souri as to Antiel respectively. Where not possible (especially for construction noise which has a larger screening distance) additional noise measures may be implemented including day operation pours 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	Localised	Short-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.	NA
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	Culture and heritage	Direct impact to heritage features	No activities will occur within sacred and heritage sites identified as a no-go zone inthe AAPA certificate(Appendix 4.1).	The CHMP will be prepared in consultation withTraditional Ownersand the NTHeritage Branchin alignment with the framework described in Section 13.5.1.	Likely	Limited	Permaner	Minor	High	Low	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: • Dust suppression using water • Vehicle speed restrictions • All trucks containing road base or other high dust generating materials will be covered • Stockples will be covered or wetted down where practical • Dust screens (vegetation or cloth) • Reducing or ceasing high risk dust generation work. • Progressively rehabilitate construction areas as soon as no longer required.	Likely	Localised	N Short-term	Minor	Medium	High	Minor	Visible dust monitoring for adaptive management techniques. Climatic Conditions (hot, dry, and windy conditions leading to a higher risk). TSP or PMIO monitoring for high-risk areas (adjacent to communities where separation distances to receptors may not be met).	ΝΆ
x	Human health	Impacts on emergency services from increased demand on services.	Fully stiffed modical contre 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	Short-term	Negligible - Minor	Low	High	Minor	Ni	NI

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Powell Creek Electrode	Factor	Potential Impact	Avoidance	Mitigation	Likelihood	Scale	Duration	Magnitude	Value	Certainty	Residual Impac	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	t Minor	Consistent with Draft EIS Measures	Consistent with Draft EIS Measures
x	Terrestrial environmental quality	Erosion and topsoil migration caused by soil disturbance	Consistent with Draft EIS Measures	Consistent with Draft EIS Measures	Likely	Limited	Medium-term	Minor	Low	Medium	Minor	Consistent with Draft EIS Measures	Consistent with Draft EIS Measures
Powell Creek Electrode	Terrestrial ecosystems	Loss of vegetation and habitat	Significant vegetation and threatened species habitat will be assigned an appropriate constraint rating and managed in accordance with the Constraints Planning and Field Development Produce (Appendix 4.1). Micro-siting of project infrastructure to avoid significant vegetation where possible. Preferential use of existing cleared areas where possible for temporary construction requirements such as access tracks, laydown areas and construction camps.	Clearance only within the boundaries approved in licences obtained to clear native vegetation as per the Planning Act and/or the Pastoral Land Act. Re-instatement of all temporary construction footprints and follow-up weed control post- construction. Post-operations rehabilitation of cleared areas as per the Decommissioning and Rehabilitation Plan. Develop and implement Flora and Fauna Management Plan with a Biby procedure created in consultation with DCCEEW and DEPWS. This will astate mitigation measures if Great Bibly s found within project footprint including but not limited to; conducting land management operations (ie fire management and pest control) in adjacent areas to project footprints to enhance habitat quality (in negotiation with landowners).	Likely	Limited	Permanent	Minor	Low	High	Minor	Consistent with Draft EIS measures. Visual inspections during clearing to ensure clearing is within approved boundaries, Results recorded, along with any photographs. Rehabilitation inspections following first wet season post-construction or until vegetation is established and sites are stable.	Consistent with Draft EIS measures: Records of clearing undertaken. External reporting in accordance with environmental approval conditions.
Powell Creek Electrode	Terrestrial ecosystems	Loss or deterioration of significant vegetation by land clearing	Significant vegetation and threatened species habitat will be assigned an appropriate constraint rating and managed in accordance with the Constraints Planning and Field Development Produce (Appendix 4.1). Micro-siting of project infrastructure to avoid significant vegetation where possible. Preferential use of existing cleared areas where possible for temporary construction requirements such as access tracks, laydown areas and construction camps.	Clearance only within the boundaries approved in licences obtained to clear native vegetation as per the Planning Act and/or the Pastoral Land Act. Re-instatement of all temporary construction tootprints and follow-up weed control post- construction. Post-operations rehabilitation of cleared areas as per the Decommissioning and Rehabilitation Plan. Develop and implement Flora and Fauna Management Plan with a Bitby procedure created in consultation with DCCEEW and DEPWS. This will astate mitigation measures if Great Bibly is found within project footprint including but not limited to; conducting land management operations (ie fire management and pest control) in adjacent areas to project footprint to enhance habitat quality (in negotiation with landowners).	Unlikely					High	Minor	Consistent with Draft EIS measures. Visual inspections during clearing to ensure clearing is within approved boundaries. Results recorded, along with any photographs. Rehabilitation inspections following first wet season post-construction or until vegetation is established and sites are stable.	Consistent with Draft EIS measures: Records of clearing undertaken. External reporting in accordance with environmental approval conditions.
Powell Creek Electrode	Terrestrial ecosystems	Threatened species (restricted range).	All threatened species known records and habitat area will be assigned a constraint rating and Planning and Field Development Procedure (Appendix 4.1) Appropriate implementation of avoidance (micro- siding) and mitigation (pre-clearance surveys and use of a fauna spotter-catcher) measures will be applied in acodance with the Constraints Planning and Field Development Procedure (Appendix 4.1)	Clearance only within the boundaries approved in licences obtained to clear native vegetation as per the Planning Act 1999 (NT) and/or the Pastoral Land Act 1992 (NT). Reinstatement of all temporary construction footprints. Post-operations rehabilitation of cleared areas as per the Decommissioning and Rehabilitation Plan. Areas known to support threatened fora species are clearly flagged and signposited as 'No-Go Zones.'	Assessed in Section 5.6				ection 5.	6		Visual inspections during clearing to ensure clearing is within approved boundaries. Results recorded, along with any photographs. Rehabilitation inspections following first wet season post-construction or until vegetation is established and sites are stable.	Records of clearing undertaken Externar leporting in accordance with environmental approval conditions
Powell Creek Electrode	Terrestrial ecosystems	Degradation of flora and vegetation in surrounding areas by dust deposition.	Consistent with Draft EIS measures.	Consistent with Draft EIS measures.	Consistent with Draft EIS			Minor	Consistent with Draft EIS measures.	Consistent with Draft EIS measures.			
Powell Creek Electrode	rerrestrial ecosystems	introduction and spread or weeds.	Avon intoouding new weeds into proposal tootprint by implementing weed hygiene, as per the Weed Management Plan (Appendix 5.3)	Imperimentation 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 une vi eed Management Man (Appendix 5.3).	As per the vield Management Plan (Appendix 5.3).
Powell Creek Electrode	Terrestrial ecosystems	Changes in fire regimes.	Observe fire bans.	Develop and implement a Bushfire Management Plan, including first response capability		Cons	sistent	with Dra	aft EIS		Minor	Visual monitoring for fires. Monitoring NAFI website for proximate fires which may impact proposal. Monitoring conditions for fire risk.	Any tires reported to Bushfires NT or appropriate authority.



Powell Creek Electrode	Factor	Potential Impact	Avoidance	Mitigation	Likelihood	Scale	Duration	Magnitude	Value	Certainty	kesiquai impac	Monitoring Reporting
Powell Creek Electrode	Terrestrial ecosystems	Direct fauna mortality by collision with construction vehicles.	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. Clearing will be conducted in a single direction, allowing any fauna to move out of way of clearing activities. If fauna is spotted in immediate clearing area and are in danger, clearing will be stopped until safe to continue. Clearing will be proper durit safe to continue. Clearing in a progressive manner to allow wildlife to natural disperse from the area as clearing undertaken. Site inductions will ensure that all personnel are aware of their obligations and know the correct procedures for fauna encounters. Vehicle speed restrictions apply when travelling near uncleared areas or in higher risk conditions. Develop and implement Flora and Fauna Management Plan with a Selic section to address any risk to Avian species Develop and miplement Flora and Fauna Management Plan with OCEEW and DEPWS. This will state mitigation measures if Great Bilby is found within project clooprint including but not limited to: - Clearing in the surrounding area to be delayed		Con	isisten	t with I	Draft EIS		MILLOF	Record any fauna encounters, injuries, or death as result of works for the duration of works. Internal record keeping of incidents of fauna encounters, injuries, or death as a result of works for the duration of works. 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. External reporting in accordance with environmental approval conditions.
Powell Creek Electrode	Terrestrial ecosystems	Habitat degredation and fragmentation	Consistent with Draft EIS measures.	Reinstatement of all temporary construction footprints and follow-up weed control post- construction.	Unlikely					High	WINOF	Nil.
Powell Creek Electrode	Terrestrial ecosystems	Changes to fauna behaviour due to noise, light, and waste management	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-terr	Minor	Low	High	WINOF	Nil. Nil
x	Hydrological processes	Alteration to surface water flows and flooding potential in watercourses and wetlands caused by land development	Powell Creek Electrode location selection process included avoidance of major watercourses.	Drainage, erosion, and sediment controls installed and maintained in accordance with ESCPs that align with the IECA 2008. Design criteria for engineered stormwater management systems installed at the Powell Creek Electrode is to discharge water to similar locations and at similar volumes to pre-development conditions.	Possible	Limited	n Short-term	Minor	Low	High	MINOR	During construction, visual inspections will be undertaken of disturbed areas and erosion and sediment controls as per ESCP. Annual post-wet season monitoring of reinstatement success until disturbed areas are stabilised. Visual inspections of drainage structures, discharge points and site boundaries following rain events. Post-wet season inspections of all project locations and rectification of emerging erosion issues.
x	Hydrological processes	Increased turbidity in surface waters from erosion and sedimentation caused by soil disturbance	Powell Creek Electrode location selection process avoid watercourses. Progressive clearing, construction and reinstatement will be undertaken. 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. Develop and implement a Reinstatement Plan for post-construction reinstatement of works area to stabilise soils and promote regrowth of native vegetation. Rectification of emerging erosion issues after each wet season.	Unlikely	Limited	Long-term	Minor	Low	High	MINOF	During construction, visual inspections will be undertaken of disturbed areas and erosion and sediment controls as per ESCP. Annual post-wet season monitoring of reinstatement Success unit disturbed areas are stabilised. Visual inspections of drainage structures, discharge points and site boundaries following rain events. Post-wet season inspections of all project locations and rectification of emerging erosion issues.
x	Aquatic ecosystems	Direct loss of aquatic habitat	Solar Precinct and DCS avoid watercourses. Clearing will be undertaken progressively. Dangerous Goods and Hazardous Substances will be stored and handled in accordance with regulated standards and codes of practice, and manufacturer's direction. Dangerous Goods and Hazardous Substances will not be stored within 200 m of a watercourse of groundwater bore, and mobile refuelting will not occur within 50 m of a watercourse or groundwater bore. 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. Drainage, erosion, and sediment control installed and maintained in accordance with ESCP that align with the IECA 2008. Develop and implement a Reinstatement Plan for post-construction reinstatement of works areas to stablies exils and promote regrowth of native wegetation. Rectification of emerging erosion issues after each wet season. Dangerous Goods and Hazardous Substances Registers maintained at all storage and handing locations. An Environmental Emergency and Spill Response Plan will be in place and equipment provided at all storage and handling locations. Construction and operations staff trained in spill response.	Unlikely	Limited	Long-term	Minor	Бу	High	MINOT	During construction, visual inspections of disturbed areas and erosion and sediment controls as per ESCP (lafter is ginificant rainall events, at a minimum). Annual post wet season monitoring of rehabilitation success until disturbed areas are stabilised. Visual inspections of drainage structures, discharge points and site boundaries following rain events. Post-wet season inspections of all project locations and rectification of emerging erosion issues.



Powell Creek Electrode	Factor	Potential Impact	Avoidance	Mitigation	Likelihood	Scale	Duration	Magnitude	value	Value	Certainty	Residual Impac	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 modeled flood extent (0.1% AEP/1- int)00-year flood event) and outside of mapped storm surge zones. Site selection process for Solar Precinct and DCS included avoidance of major watercourses. Progressive clearing, construction and reinstatement will be undertaken. Stormwater drainage will be installed to capture and manage runoff. Stormwater captured within facilities will discharge to land, via erosion and sediment controls. Roadstide drainage and culverts will be designed and installed in accordance with acceptance Austroads standards. Avoid extracting groundwater to an extent that there are adverse impacts to aquatic habitats. Dangerous Goods and Hazarduos Substances will be stored and handled in accordance, with regulated standards and codes of practice, and manufacturer's directions.	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. Drainage, erosion, and sediment controls installed and maintained in accordance with ESCPs that align with IECA 2008. Reinstatement of lootprints for construction of OHTL Corridor post-construction. Develop and implement a Reinstatement Plan for post-construction reinstatement of works areas to stabilise solas and promote regrowth of native wegetation. Rectification of emerging erosion issues after each wet season. Dangerous Goods and Hazardous Substances Registers will be maintained at all storage and handling locations. Construction and operations staff will be trained in sill response.	Unlikely	Limited	Short-term	Minor	FOW		High	Minor	During construction, visual inspections of disturbed areas and erosion and sediment controls as per ESCP (after significant rainfal events, at a minimum). Annual post wet season monitoring of revegetation success unit disturbed areas are stabilised. Visual inspections of drainage structures, discharge points and site boundaries following rain events. Post-wet season inspections of all project locations and rectification of emerging erosion issues. Routine visual inspections around storage locations and work areas.	Internal records of ESCP inspections, as stipulated in ESCPs. External reporting in accordance with environmental approval conditions. Internal records of volumes used and stored in accordance with Workplace Health and Safety Regulations. Internal reporting on environmental performance. Internal records of water quality monitoring. Incidents of off-ste 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. Clearing will be undertaken progressively. Dangerous Goods and Hazardous Substances will be stored and handled in accordance with regulated standards and ocdes of practice, and manufacturer's direction. 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. 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. Drainage, erosion, and sediment control installed and maintained in accordance with ESCP that align with the IECA 2008. Develop and implement a Reinstatement Plan for post-construction reinstatement of works areas to stabilize soils and promote regrowth of native vegetation. Rectification of emerging erosion issues after each wet season. Dangerous Goods and Hazardous Substances Registers maintained at all storage and handling locations. An Environmental Emergency and Spill Response Plan will be in place and equipment provided at all storage and handling locations.	Unlikely	Limited	Short-term	Minor	Low		High	Minor	During construction, visual inspections of disturbed areas and erosion and sediment controls as per ESCP (after significant rainfall events, at a minimum). Annual post wet season monitoring of rehabilitation success until disturbed areas are stabilised. Visual inspections of drainage structures, discharge points and site boundaries following rain events. 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. Internal records of ESCP inspections, as stipulated in ESCPs. External reporting in accordance with environmental approval conditions. Internal records of water quality monitoring. Internal records of woltrey used and stored in accordance with Workplan Health and Safety Regulations. Incidents of off-site pollution or nuisance reported to the NT EPA within 24 hours.
x	Community and economy	Visual impacts because of construction of the Project	Avoid siting project infrastructure in sensitive areas.	Consultation with project stakeholders and consideration of vegetation planting to achieve a level of visual screening for project infrastructure.	Likely	Limited	Short-ter	Minor	Medium	Medium	High	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: • Dust suppression using water • Vehicle speed restrictions • All trucks containing road base or other high dust generating materials will be covered • Stockples will be covered or wetted down where practical • Dust screens (vegetation or cloth) • Reducing or ceasing high risk dust generation work • Progressively rehabilitate construction areas as son as on bnore transured	Likely	Localised	m Medium-term	Minor	Low		High	Minor	Visible dust monitoring for adaptive management techniques. 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).	NA
x	Community and economy	Noise levels about EPA noise guideline values at nearest sensitive receptors.	Maintain separation distances to residences where possible.	Such as to billed request. Where not possible (especially for construction noise which has a larger screening distance) 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	Localised	Short-term	Minor	Medium	Modium	High	Minor	If noise complaints are unable to be resolved following adaptive management and adoption of additional miligation measures, noise monitoring may be undertaken to demonstrate achievement of the NT EPA Noise Management Framework Guideline 2018.	NA
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. 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.



Powell Creek Electrode	Factor	Potential Impact	Avoidance	Mitigation	Likelihood	Scale	Duration	Magnitude	Value	Certainty	Residual Impac	Monitoring	Reporting
x	Culture and heritage	Direct impact to heritage features	No activities will occur within sacred and heritage sites identified as a no-go zone inthe AAPA certificate(Appendix 4.1).	The CHMP will be prepared in consultation withTraditional Ownersand the NTHeritage Branchin alignment with the framework described in Section 13.5.1.	Unlikely					Low	None	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: • Dust suppression using water • Vehicle speed restrictions • All trucks containing road base or other high dust generating materials will be covered • Stockpiles will be covered or wetted down where practical • Dust suppressively in fix dust generation work • Progressively rehabilitate construction areas as soon as no longer required.	Likely	Localised	Medium-term	Minor	Low	High	Minor	Visible dust monitoring for adaptive management techniques. 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	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	Short-term	Negligible - Minor	Low	High	Minor	Ni	Nii



DCS Electrode	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-terr	Minor	High	High	Minor	Consistent with Draft EIS Measures	Consistent with Draft EIS Measures
x	Terrestrial environmental quality	Disturbance of potential acid sulfate soils (PASS)	Consistent with Draft EIS Measures	Consistent with Draft EIS Measures	Possible	Limited	n Short-tern	Minor	Medium	High	Minor	Consistent with Draft EIS Measures	Consistent with Draft EIS Measures
DCS Electrode	Terrestrial environmental quality	Erosion and topsoil migration caused by soil disturbance	Consistent with Draft EIS Measures	Consistent with Draft EIS Measures	Likely	Limited	n Medium-term	Minor	Low	Medium	Minor	Consistent with Draft EIS Measures	Consistent with Draft EIS Measures
DCS Electrode	Terrestrial ecosystems	Loss of vegetation and habitat	Significant vegetation and threatened species habitat will be assigned an appropriate constraint rating and managed in accordance with the Constraints Planning and Field Development Produce (Appendix 4.1). Micro-aiting of project infrastructure to avoid significant vegetation where possible. Preferential use of existing cleared areas where possible for temporary construction requirements such as access tracks, laydown areas and construction camps.	Clearance only within the boundaries approved in licences obtained to clear native vegetation as per the Planning Act and/or the Pastoral Land Act. Re-instatement of all temporary construction footprints and follow-up weed control post- construction. Post-operations rehabilitation of cleared areas as per the Decommissioning and Rehabilitation Plan. Develop and implement Flora and Fauna Management	Likely	Limited	Permanent	Minor	Medium	High	Minor	Consistent with Draft EIS measures. Visual inspections during clearing to ensure clearing is within approved boundaries, Results recorded, along with any photographs. Rehabilitation inspections following first wet season post-construction or until vegetation is established and sites are stable.	Consistent with Draft EIS measures: Records of clearing undertaken. External reporting in accordance with environmental approval conditions.
DCS Electrode	Terrestrial ecosystems	Loss or deterioration of significant vegetation by land clearing	Significant vegetation and threatened species habitat wilb easigned an appropriate constraint rating and managed in accordance with the Constraints Planning and Field Development Produce (Appendix 4.1). Micro-sting of project infrastructure to avoid significant vegetation where possible. Preferential use of existing cleared areas where possible for temporary construction requirements such as access tracks laydown areas and construction cames.	Clearance only within the boundaries approved in licences obtained to clear native vegetation as per the Planning Act and/or the Pastoral Land Act. Re-instatement of all temporary construction footprints and follow-up weed control post- construction. Post-operations rehabilitation of cleared areas as per the Decommissioning and Rehabilitation Plan.	Possible	Limited	Permanent	Minor	Medium	High	Minor	Consistent with Draft EIS measures. Visual inspections during clearing to ensure clearing is within approved boundaries. Results recorded, along with any photographs. Rehabilitation inspections following first wet season post-construction or until vegetation is established and sites are stable.	Consistent with Draft EIS measures: Records of clearing undertaken. External reporting in accordance with environmental approval conditions.
DCS Electrode	Terrestrial ecosystems	Threatened species (restricted range).	All threatened species known records and habitat area will be assigned a constraint rating and managed in accordance with the Constraints Planning and Field Development Procedure (Appendix 4.1) Appropriate implementation of avoidance (micro- siting) and mitigation (pre-clearance surveys and use of a fauna spotter-catched) measures will be applied in accordance with the Constraints Planning and Field Development Procedure (Appendix 4.1)	Clearance only within the boundaries approved in licences obtained to clear native vegetation as per the Planning Act 1999 (NT) and/or the Pastoral Land Act 1992 (NT). Reinstatement of all temporary construction footprints. Post-operations rehabilitation of cleared areas as per the Decommissioning and Rehabilitation Plan. Darwin Cycad (Cycas armstrongii): Where clearing of Darwin Cycad cannot be avoided, impacted species would be salvaged and translocated for re- planting into the re-instated area where possible. Areas known to support threatened flora species are clearly flagged and signposted as 'No-Go Zones.'		Assessed in Section 5.6						Visual inspections during clearing to ensure clearing is within approved boundaries. Results recorded, along with any photographs. Rehabilitation inspections following first wet season post-construction or until vegetation is established and sites are stable.	Records of clearing undertaken External reporting in accordance with environmental approval conditions
DCS Electrode	Terrestrial ecosystems	Degradation of flora and vegetation in surrounding areas by dust deposition.	Consistent with Draft EIS measures.	Consistent with Draft EIS measures.		Con	sistent	with Dra	aft EIS		Minor	Consistent with Draft EIS measures.	Consistent with Draft EIS measures.
DCS Electrode	Terrestrial ecosystems	Introduction and spread of weeds.	Avoid introducing new weeds into proposal footprint by implementing weed hygiene, as per the Weed Management Plan (Appendix 5.3)	I 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.		Con	Consistent with Draft E				Moderate	As per the Weed Management Plan (Appendix 5.3).	As per the Weed Management Plan (Appendix 5.3).
DCS Electrode	Terrestrial ecosystems	Changes in fire regimes.	Observe fire bans.	Develop and implement a Bushfire Management Plan, including first response capability	Consistent with Draft EIS						Minor	Visual monitoring for fires. Monitoring NAFI website for proximate fires which may impact proposal. Monitoring conditions for fire risk.	Any fires reported to Bushfires NT or appropriate authority.

management systems installed at the DCS

and at similar volumes to pre-development

conditions.

vegetation.

wet season.

Stormwater drainage will be installed to capture and post-construction reinstatement of works area to

Electrode is to discharge water to similar locations

Drainage, erosion, and sediment controls will be

installed and maintained in accordance with ESCP that align with the IECA 2008.

Develop and implement a Reinstatement Plan for

Rectification of emerging erosion issues after each

stabilise soils and promote regrowth of native

Factor

Terrestrial ecosystems

Terrestrial ecosystems

Ferrestrial ecosystems

Hydrological processes

Hydrological processes

from erosion and sedimentation

caused by soil disturbance

Increased turbidity in surface waters DCS Electrode locations selection process avoid

watercourses.

manage runoff.

Progressive clearing, construction and

reinstatement will be undertaken.

DCS

Electrode

DCS Electrode

DCS Electrode

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Potential Impact	Avoidance	Mitigation	Likelihood	Scale	Duration	Magnitude	Value	Certainty	Residual Impact	Monitoring	Reporting
Direct fauna mortality by collision with construction vehicles.	Avoiding clearing large hollow-bearing trees where possible.	Site inductions will ensure that all personnel arc aware of potential/confirmed areas of fauna habitat, are aware of their obligations and know the correct procedures for fauna encounters. Clearing will be conducted in a single direction, allowing any fauna to move out of way of clearing activities. If fauna is spotted in immediate clearing area and are in danger, clearing will be stopped until safe to continue. Clearing will ensure that all personnel are aware of their obligations and know the correct procedures for fauna encounters. Vehicle speed restrictions apply when travelling near uncleared areas or in higher risk conditions. Develop and implement a Flora and Fauna Management Plan with a specific section to address any risk to Avian species		Con	sistent	with Dra	ft EIS		Minor	Record any fauna encounters, injuries, or death as result of works for the duration of works. Information on lanua 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. External reporting in accordance with environmental approval conditions.
labitat degradation and fragmentation	Consistent with Draft EIS measures.	Reinstatement of all temporary construction footprints and follow-up weed control post- construction.	Unlikely	Limited	Long-ter	Minor	Medium	High	Minor	Nil.	Nil.
Changes to fauna behaviour due to noise, light, and waste management	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	m Medium-terr	Minor	Low	High	Minor	Nil.	Nil.
Alteration to surface water flows and looding potential in watercourses and wetlands caused by land development	DCS Electrode locations selection process included avoidance of major watercourses.	Drainage, erosion, and sediment controls installed and maintained in accordance with ESCPs that align with the IECA 2008. Design criteria for engineered stormwater			3					During construction, visual inspections will be undertaken of disturbed areas and erosion and sediment controls as per ESCP. Annual post-wet season monitoring of reinstatement	Internal records of ESCP inspection, as stipulated in ESCPs. Internal reporting on environmental performance. External reporting in accordance with environmental

Short-term

Long-term

Minor

Medium

Medium Minor

High Minor

High Mino

Possible Limited

Unlikely Limited success until disturbed areas are stabilised.

Visual inspection of seasonal swamp

Visual inspections of drainage structures, discharge

points and site boundaries following rain events.

at DCS for evidence of sedimentation; implement water quality monitoring if required.

During construction, visual inspections will be

success until disturbed areas are stabilised.

monitoring if required.

undertaken of disturbed areas and erosion and sediment controls as per ESCP.

Visual inspections of drainage structures, discharge points and site boundaries following rain events.

evidence of sedimentation; implement water quality

Post-wet season inspections of all project locations and rectification of emerging erosion issues.

Visual inspection of seasonal swamp at DCS for

approval conditions.

approval conditions.

ESCPs.

Annual post-wet season monitoring of reinstatement External reporting in accordance with environmental

Internal records of ESCP inspection, as stipulated in

Internal reporting on environmental performance.

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DCS Electrode	Factor	Potential Impact	Avoidance	Mitigation	Likelihood	Scale	Duration	Magnitude	Value	Certainty	Residual Impact	Monitoring	Reporting
x	Aquatic ecosystems	Direct loss of aquatic habitat	Solar Precinct and DCS avoid watercourses. Clearing will be undertaken progressively. Dangerous Goods and Hazardous Substances will be stored and handled in accordance with regulated standards and codes of practice, and manufacturer's direction. 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. 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. Drainage, erosion, and sediment control installed and maintained in accordance with ESCP that align with the IECA 2008. Develop and implement a Reinstatement Plan for post-construction reinstatement of works areas to stabilise soils and promote regrowth of native vegetation. Rectification of emerging erosion issues after each wet season. Dangerous Goods and Hazardous Substances Registers maintained at all storage and handling locations. An Environmental Emergency and Spill Response Plan will be in place and equipment provided at all storage and handling locations. Construction and operations staff trained in spill response.	Unlikely	Limited	Long-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). Annual post wet season monitoring of rehabilitation success until disturbed areas are stabilied. Visual inspections of drainage structures, discharge points and site boundaries following rain events. Post-wet season inspections of all project tocations and rectification of emerging erosion issues.	Reporting in accordance with EMPs as described in Chapter 17 of the Draft EIS. External reporting in accordance with environmental approval conditions. Internal records of water quality monitoring. Internal records of water quality monitoring. Internal records of values used and stored in accordance with Workplan Health and Safety Regulations. 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	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. Site selection process for Solar Precinct and DCS included avoidance of major watercourses. Progressive clearing, construction and reinstatement will be undertaken. Stormwater dranage will be installed to capture and manage rundf. Stormwater captured within facilities will discharge to land, via erosion and sediment controls. Roadside drainage and cuverts will be designed and installed in accordance with acceptance Austroads standards. Avoid extracting groundwater to an extent that there are adverse impacts to aquatic habitats. Avoid extracting groundwater to an extent that there standards and codes of practicus Substances will be stored and handled in accordance, and manufacturer's directions.	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. Drainage, erosion, and sediment controls installed and maintained in accordance with ESCPs that align with IECA 2008. Reinstatement of footprints for construction of OHTL Corridor post-construction. Develop and implement a Reinstatement Plan for post-construction reinstatement of works areas to stabilise solis and promote regrowth of native vegetation. Rectification of emerging erosion issues after each wet season. Dangerous Goods and Hazardous Substances Registers will be maintained at all storage and handling locations. Construction and operations staff will be trained in solit resonase.	Unlikely	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). Annual post wet season monitoring of revegetation success until disturbed areas are stabilised. Visual inspections of drainage structures, discharge points and site boundaries following rain events. Post-wet season inspections of all project locations and rectification of emerging erosion issues. Routine visual inspections around storage locations and work areas.	Internal records of ESCP inspections, as stipulated in ESCPs. External reporting in accordance with environmental approval conditions. Internal records of volumes used and stored in accordance with Workplace Health and Safety Regulations. Internal reporting on environmental performance. Internal reporting on environmental performance. Internal records of water quality monitoring. Incidents of off-ste polution 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. Clearing will be undertaken progressively. Dangerous Goods and Hazardous Substances will be stored and handled in accordance with regulated standards and codes of practice, and manufacturer's direction. 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. 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. Drainage, erosion, and sediment control installed and maintained in accordance with ESCP that align with the IECA 2008. Develop and implement a Reinstatement Plan for post-construction reinstatement of works areas to stabilise soils and promote regrowth of native vegetation. Rectification of emerging erosion issues after each wet season. Dangerous Goods and Hazardous Substances Registers maintained at al storage and handling locations. An Environmental Emergency and Spill Response Plan will be in place and equipment provided at all storage and handling locations.	Unlikely	Limited	Long-term	Minor	Medium	High	Minor	During construction, visual inspections of disturbed areas and erosion and sediment controls as per ESCP (after significant rainfal events, at a minimum). Annual post wet season monitoring of rehabilitation success until disturbed areas are stabilised. Visual inspections of drainage structures, discharge points and site boundaries following rain events. 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. Internal records of ESCP inspections, as stipulated in ESCPs. External reporting in accordance with environmental approval conditions. Internal records of water quality monitoring. Internal records of water quality monitoring. Internal records of volumes used and stored in accordance with Workplan Health and Safety Regulations. Incidents of off-site pollution or nuisance reported to the NT EPA within 24 hours.
x	Community and economy	Visual impacts because of construction of the Project	Avoid siting project infrastructure in sensitive areas.	Consultation with project stakeholders and consideration of vegetation planting to achieve a level of visual screening for project infrastructure.	Likely	Limited	Short-tern	Minor	Medium	High	Minor	N/A	N/A



DCS Electrode	Factor	Potential Impact	Avoidance	Mitigation	Likelihood	Scale	Duration	Magnitude	Value	Certainty	Residual Impact	Monitoring	Reporting
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: • Dust suppression using water • Vehicle speed restrictions • All trucks containing road base or other high dust generating materials will be covered • Stockpiles will be covered or wetted down where practical • Dust screens (vegetation or cloth) • Reducing or ceasing high risk dust generation work • Progressively rehabilitate construction areas as soon as no longer required.	Likely	Localised	Medium-term	Minor	Low	High	Minor	Visible dust monitoring for adaptive management techniques. 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	Noise levels about EPA noise guideline values at nearest sensitive receptors.	Maintain separation distances to residences where possible.	Where not possible (especially for construction noise which has a larger screening distance) 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	Localised	Short-term	Minor	Medium	High	Minor	If noise complaints are unable to be resolved following adaptive management and adoption of additional milgistion measures, noise monitoring may be undertaken to demonstrate achievement of the NT EPA Noise Management Framework Guideline 2018.	NA
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. 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	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. Prepare Traffic Management Plans in consultation with the DIPL. Obtain permits for all overweight or over-mass vehicle movements required under the Motor Vehicles Act 1949 (NT) in accordance with NT requirements. Use buses for movements between personnel accommodation and work sites. Traffic movements to be timed to avoid peak hour traffic in built-up areas where practicable.	Likely	Localised	Short-term	Minor	Medium	High	Minor	As per developed Construction Plans and Traffic Management Plans. Ongoing engagement with DIPL.	NA
x	Culture and heritage	Direct impact to heritage features	No activities will occur within sacred and heritage sites identified as a no-go zone inthe AAPA certificate(Appendix 4.1).	The CHMP will be prepared in consultation withTraditional Ownersand the NTHeritage Branchin alignment with the framework described in Section 13.5.1.	Possible					Low	Minor	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: • Dust suppression using water • Vehicle speed restrictions • All trucks containing road base or other high dust generating materials will be covered • Stockpiles will be covered • Stockpiles will be covered or wetted down where practical • Dust screens (vegetation or cloth) • Reducing or ceasing high risk dust generation work • Progressively rehabilitate construction areas as soon as no longer required.	Likely	Localised	Short-term	Minor	Medium	High	Minor	Visible dust monitoring for adaptive management techniques. Climatic Conditions (hot, dry, and windy conditions leading to a higher risk). TSP or PMIO monitoring for high-risk areas (adjacent to communities where separation distances to receptors may not be met).	NA
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	Short-term	Negligible - Minor	Low	High	Minor	Ni	Ni



Subsea Cable System	Factor	Potential Impact	Avoidance	Mitigation	Likelihood	Scale	Duration	Magnitude	Value	Certainty	Residual Impac	Monitoring	Reporting
x	Marine environmental quality	Sediment re-suspension in the water column caused by cable burial via mass flow-excavator and dredging (i.e., increased turbidity)	Route selection avoids areas of significant marine habitat as much as possible. Placement of materials/equipment in sensitive areas will be avoided. Cable burial methods will be selected to suit the local seabed conditions and limit the amount of material that requires dredging. During dredging and deposition, a fauna spotter will be utilised to minimise any harm to fauna and to conduct visual inspections of the works airning to limit environmental impact.	All dredging and disposal will be conducted in accordance with the legislative framework outlined in Appendix 8.3, including the NAGD and Environment Protection (Sea Dumping) Act 1981 (Cwth) in particular, and will draw on WAMSI to implement best management practices. Design, install and operate Subsea Cable System in accordance with the Guidelines on Best Environmental Practices in Cable Installation, and Operation (OSPAR, 2012). Disposal of spoil will avoid periods of storms when the water column is chaotic to decrease turbidity. Adaptive management process will be applied (Table 8-1).	Likely	Widespread	Short-term	Moderate	Medium	High	t Moderate	Turbidiy monitoring in impact zone and baseline/reference site during cable installation in high-risk area (shallow waters <20m depth).	External reporting in accordance with environmental approval conditions. The Proponent will respond to complaints raised.
x	Marine environmental quality	Re-suspension of contaminated sediments via dredging	Sediments to be dredged are not contaminated.	N/A	Unlikely					High	Minor	Implementation of the Marine Environmental Management Plan.	Reporting on the Marine Environmental Management Plan.
Subsea Cable System	Marine environmental quality	Contamination of Potential Spoil Grounds.	Sediments to be disposed of are not contaminated and therefore will not contaminate the Potential Spoil Disposal Grounds.	N/A	Unlikely					High	Minor	Implementation of the Marine Environmental Management Plan.	Reporting on the Marine Environmental Management Plan.
Subsea Cable System	Community and economy	Noise from Subsea Cable System installation impacts on marine users	Subsea Cable System avoids busy marine areas such as Darwin Harbour. Cable laying activities average speed is 500 m per hour (12 km per day) to limit duration of noise emissions in a given area.	Marine vessels selected have similar noise emissions to other commercial vessels used in the area.	Possible	Localised	Short-term	Minor	Low	High	Minor	N/A	NA
Subsea Cable System	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-ter	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.
Subsea Cable System	Marine ecosystems	Direct loss or disturbance of benthic communities and habitat for seagrass coral and macroalgae due to dredging and spoil disposal.	Route B design and selection of potential spoil disposal grounds, where possible, have avoided tipographical areas along the sea floor which are associated with areas of higher habitat value. Placement of materials/equipment in sensitive areas will be avoided. Cable burdla methods will be selected to suit the local seabed conditions and limit the amount of material that requires dredging.	Design, install and operate Subsea Cable System in accordance with the Guidelines on Best Environmental Practices in Cable Installation, and Operation (OSPAR, 2012). All dredging and disposal will be conducted in accordance with the legislative framework outlined in Appendix 8.3. including the National Assessment Guidelines for Dredging 2009 and Sea Dumping Act in particular, and will draw on WANS1 to implement best management practices. Disposal of spoil will avoid periods of storms when the water column is chaotic to decrease turbidity. Adaptive management process will be applied (Figure 9 1).	Likely	Regional	m Medium-term	Minor	Low	High	Minor	Turbidity monitoring in impact zone and baseline/reference site during cable installation in high-risk area (shallow, <10 m depth).	Internal reporting on environmental performance. External reporting in accordance with environmental approval conditions.
Subsea Cable System	Marine ecosystems	Habitat degradation due to elevated turbidty in marine waters as a result o increased suspended sediment concentrations during sandwave removal and spoil disposal	Route B design and selection of potential spoil disposal grounds, where possible, have avoided topographical areas along the sea floor which are associated with areas of higher habitat value. Impact avoidance measures as per to minimise habitat loss, degradation and direct fauna mortality and spills.	Design, install and operate Subsea Cable System in accordance with the Guidelines on Best Environmental Practices in Cable Installation, and Operation (OSPAR, 2012). North Marine Parks Network Management Plan and National Light Pollution Guidelines for Wildlife will be adhered to during construction of the Subsea Cable System. Mitigations as per above to minimise habitat loss, derardation and direct fauna mortality and snills.	Possible	Localised	Medium-term	Moderate	Low	High	Moderate	Turbidity monitoring in impact zone and baseline/reference site during cable installation in high-risk area (shallow, <10 m depth).	Internal reporting on environmental performance. External reporting in accordance with environmental approval conditions.
Subsea Cable System	Marine ecosystems	Mortality or impaired function to benthos and fish due to smothering a a result of increased sedimentation.	Route B design and selection of potential spoil disposal grounds, where possible, have avoided topographical areas along the sea floor which are associated with areas of higher habitat value. During dredging and deposition, a fauna spotter will be utilised to minimise any harm to fauna and to conduct visual inspections of the works airning to limit environmental impact.	Design, install and operate Subsea Cable System in accordance with the Guidelines on Best Environmental Practices in Cable Installation, and Operation (OSPAR, 2012). All dredging and disposal will be conducted in accordance with the legislative framework outlined in Appendix 8.3, including the National Assessment Guidelines for Dredging 2009 and Sea Dumping Act in particular, and will draw on WAMSI to implement best management practices.	Possible	Localised	Medium-term	Minor	Low	High	Minor	Visual observation for marine fauna activity in accordance with the Marine Environment Management Plan.	internal incident reporting.
Subsea Cable System	Marine ecosystems	Gradual change in habitat/benthic community as a result of disposal sediment dredged that is of a different sediment type to potential spoil disposal ground (ie. muddy sand onto a fine sand or gravelly sand areas).	NE	Sandwaves proposed to be dredged and potential spoil disposal grounds are of similar grainsize where possible.	Unlikely	Localised	Medium-term	Minor	Low	High	Minor	Nil.	Nil.

Subsea Cable System	Factor	Potential Impact	Avoidance	Mitigation	Likelihood	Scale	Duration	Magnitude	Value	Certainty	Residual Impact	Monitoring	Reporting
Subsea Cable System	Marine ecosystems	Changes to marine fauna behaviour due to noise and light disturbance during sandwave removal and spoil disposal	Route B design and selection of potential spoil disposal grounds, where possible, have avoided tropographical areas along the sea floor which are associated with areas of higher habitat value. Cable paying activities move up to 600 m per hour which limited the duration of noise emissions in any given area.	Lighting will be energy efficient and designed to minimise hard contrasts, without compromising navigation safety and security. Minimised use of lights at night as feasible to reduce light trespass and to maintain dark skies. Where possible, lights will be shielded with exterior cu-off fixures to limik light emissions at a vertical angle of no more than 90 degrees from straight down.	Likely	Localised	Medium-term	Minor	Medium	Moderate	Moderate	Visual observations for signs of changes in behaviour of marine fauna activity in accordance with the Marine Environment Management Plan.	Visual observations reporting as required.
Subsea Cable System	Marine ecosystems	Direct fauna mortality or injury due to vessel collision or spoil disposal	During dredging and deposition, a fauna spotter will be utilised to minimise any harm to fauna. Adhere to National Strategy for Reducing Vessel Strike on Cetaceans and other Marine Megafauna (Commonwealth of Australia 2017)	If a listed species is injured or killed, the proponent must ensure that: - All use of the equipment that injured or killed the listed species ceases immediately - The activity does not resume without the written permission of the Director.	Possible	Isolated	Medi um-term	Minor	Medium	High	Minor	Visual observation for marine fauna activity in accordance with the Marine Environment Management Plan.	Within the Oceanic Shoals Marine Park where a "listed species" as defined by the Environment Protection and Bodiversity Conservation Regulations 2000, is injured or killed in undertaking the Activities, the proponent must notify the Director's Duty Officer on 0419 293 465, as soon as practicable, and in any case no longer than 72 hours, following that event. Any interference with a cetacean (even unintentional) is to be notified to DCCEEW as per the requirements of Division 3, Part 13 of the EPBC Act the EPBC Act.



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