Australian Government
Department of the Environment and Energy

Title of Proposal - Kidston Solar Farm Stage 2

Section 1 - Summary of your proposed action

Provide a summary of your proposed action, including any consultations undertaken.

1.1 Project Industry Type

Energy Generation and Supply (renewable)

1.2 Provide a detailed description of the proposed action, including all proposed activities.

The Project is a utility scale solar photovoltaic (PV) plant, with the solar panels mounted in rows on horizontal tracking systems. The generation capacity of the Project is up to 270 megawatts (MW), which will be developed in phases.
The Project will include rows of solar panels, electrically connected into arrays, which are connected to inverters where they are inverted from direct current (DC) to alternating current (AC) electricity. Electricity is connected between the array areas via an underground cable or overhead line. The power is collected together at the solar substation and transformed to a voltage suitable to connect directly into the network.
The development plans attached are representative of a concept design phase for the Project, and final design of the solar farm and associated ancillary infrastructure will be dependent on the detailed design undertaken by the appointed contractor. The plans of development provide a developable area which avoids the koala habitat areas and provides a representative worst case area to be developed with solar farm infrastructure, including solar panels, inverters, access tracks etc. The final construction footprint will be located within the developable area.
Key elements of the Project are listed below:
• Solar PV modules, installed in regular arrays.
• Aboveground direct current (DC) cabling which connects each module in a string (approximately 29 modules) to a field combiner box mounted near the modules.
• Underground DC cabling from the combiner boxes to the central inverters.
• Central inverters, step up transformers and switchgear in containers or on skids (power conversion unit or PCU) within each array block which convert DC electricity generated by the solar PV modules to alternating current (AC) for connection to the national electricity grid.
• Underground AC cabling running from the PCUs to UGOH poles and then via overhead 33kV transmission lines to the solar substation.
• Step up transformers and associated equipment in the solar substation to convert 33 kV to 275 kV for connection to the network.
• Internal access tracks to allow for maintenance of the site.
• Perimeter safety fencing around the site.
• Control system to monitor performance of the equipment.
• Site office and maintenance building.
• Temporary infrastructure associated with site construction including the site compound and storage areas.
The final development plan and connection strategy for the project is yet to be finalised,

however the current layout plans for Phase 1 of the Project, being 165 MW, are provided as Appendix A. The connection strategy is dependent on final alignments and locations of third party major electrical infrastructure, being the proposed Powerlink substation and transmission line. However, it is assumed that the connection will be within the developable area provided on the development plans.

1.3 What is the extent and location of your proposed action? Use the polygon tool on the map below to mark the location of your proposed action.

Area	Point	Latitude	Longitude
Project Area	1	-18.864902908161	144.1405752456
Project Area	2	-18.871948610114	144.14059670327
Project Area	3	-18.877491562291	144.14162667153
Project Area	4	-18.879257959077	144.14179833291
Project Area	5	-18.882486730992	144.14132106279
Project Area	6	-18.884638825946	144.14093482469
Project Area	7	-18.886466054672	144.13973319506
Project Area	8	-18.887806009735	144.13818824266
Project Area	9	-18.890932529852	144.13496959185
Project Area	10	-18.892475466317	144.13243758654
Project Area	11	-18.892840896555	144.1323088405
Project Area	12	-18.894911652837	144.1319226024
Project Area	13	-18.899340095796	144.12997725201
Project Area	14	-18.901288967918	144.12868979168
Project Area	15	-18.90210099127	144.12821772289
Project Area	16	-18.903197216544	144.12791731548
Project Area	17	-18.904171632981	144.12748816204
Project Area	18	-18.904537037681	144.12607195568
Project Area	19	-18.904537037681	144.12512781811
Project Area	20	-18.904212233542	144.1244411726
Project Area	21	-18.902344597507	144.12225249004
Project Area	22	-18.902019789112	144.12173750591
Project Area	23	-18.901532575337	144.11680224133
Project Area	24	-18.901248366647	144.1159010191
Project Area	25	-18.901085961464	144.11508562756
Project Area	26	-18.901288967918	144.11401274395
Project Area	27	-18.902060390196	144.11242487621
Project Area	28	-18.903400220436	144.1106653471
Project Area	29	-18.903725026152	144.10959246349
Project Area	30	-18.903846828132	144.10753252697
Project Area	31	-18.903359619678	144.10474302959
Project Area	32	-18.902835073162	144.10240182698
Project Area	33	-18.902510265719	144.10059938252

Area	Point	Latitude	Longitude
Project Area	34	-18.90340348467	144.09931192219
Project Area	35	-18.906001912686	144.09673700154
Project Area	36	-18.864178563121	144.09665117085
Project Area	37	-18.864747105823	144.14059648335
Project Area	38	-18.864902908161	144.1405752456

1.5 Provide a brief physical description of the property on which the proposed action will take place and the location of the proposed action (e.g. proximity to major towns, or for off-shore actions, shortest distance to mainland).

The Project is located on Lot 66 SP258871. The Project is located approximately 280 km north west of Townsville, 280 km south west of Cairns and 50 km south of the town of Einasleigh in north Queensland. The site lies immediately west of the decommissioned Kidston Gold Mine and the Kidston Township. The site can be accessed by road from both Townsville and Cairns with the final (80km section) comprising a well-maintained gravel road.

The entire Project site and surrounding area has been subject to historical exploration permits for minerals from pre-1960 through to post 2010. On this basis, the site has likely been subject to disturbance from historical exploration activities and potentially related mining activities.

Primary land use within and surrounding the site currently comprises cattle grazing, which has historically impacted the ground and shrub layer of the vegetation communities within the site. Minimal operational agricultural infrastructure is located within the Project site, however a network of informal access tracks traverses the site, and these tracks are routinely used for leaseholder access to adjoining areas.

Two Ergon Energy electricity lines traverse the Project site, feeding into the existing Kidston Substation, which is located near the former Kidston Mine site directly adjacent to the Project. Powerlink is currently proposing the development of a 275 kv powerline, of which the location is currently still being finalised, but it is assumed that if the powerline is required to cross the site, Powerlink will take advantage of co-locating the new infrastructure with the existing Ergon Energy easement and access tracks to ensure a regulated land use pattern. Ongoing communication is occurring between the Proponent and Powerlink in relation to avoidance of sensitive environmental receptors and proposed developable areas.

The Copperfield Dam pipeline crosses the south east section of the site. The pipeline was constructed to provide water from the Copperfield Dam to the Kidston Mine for operational water supply. The pipeline also opportunistically supplies a number of rural properties in the area. As a result of specific logistical requirements for the Project, the pipeline may be relocated from its current location.

Two active registered Department of Natural Resources, Mines and Energy groundwater monitoring bores are located within the site. It is assumed the bores are present for the purpose of continued groundwater monitoring associated with the Kidston Mine site.

1.6 What is the size of the proposed action area development footprint (or work area) including disturbance footprint and avoidance footprint (if relevant)?

The extent of the Project area is approximately 1,800 ha, of which 1,489 ha will be cleared and developed for the Project.

1.7 Is the proposed action a street address or lot?

Lot

1.7.2 Describe the lot number and title. Lot 66 SP258871

1.8 Primary Jurisdiction.

Queensland

1.9 Has the person proposing to take the action received any Australian Government grant funding to undertake this project?

Yes

1.9.1 Please provide details.

Genex has received funding from the Australian Renewable Energy Agency (ARENA) totalling $9.0 million to support the development of the Project. The Project financing is also intended to involve debt funding from Clean Energy Finance Corporation, Northern Australia Infrastructure Facility and ARENA and discussions with these parties are ongoing.

1.10 Is the proposed action subject to local government planning approval?

Yes

1.10.1 Is there a local government area and council contact for the proposal?

Yes

1.10.1.0 Council contact officer details

1.10.1.1 Name of relevant council contact officer.

David Munro

1.10.1.2 E-mail

David.Munro@etheridge.qld.gov.au

1.10.1.3 Telephone Number

07 4079 9090

1.11 Provide an estimated start and estimated end date for the proposed action.

Start date 01/2019

End date 06/2020

1.12 Provide details of the context, planning framework and State and/or Local government requirements.

Project Declarations

The Project has been declared both a Prescribed Project and a Critical Infrastructure Project under the *State Development and Public Works Organisation Act 1971*.

Development Permit – State and Local

The Project has received a Development Permit under the *Planning Act 2016*. A copy of the Decision Notice issued by Etheridge Shire Council is provided in Appendix B. The Decision Notice also includes conditions provided by the State Assessment and Referral Agency for clearing of native vegetation, and Ergon Energy for work in relation to an infrastructure easement.

Cultural Heritage Management Agreement

A Cultural Heritage Management Agreement (CHMA) has been executed between Genex and the Ewamian People. The CHMA is in compliance with the Cultural Heritage Duty of Care set out in Section 23 of the *Aboriginal Cultural Heritage Act 2003*. The CHMA is intended to ensure proper and agreed arrangements are in place for the identification and management of Aboriginal Cultural Heritage on land during the course of the Project.

1.13 Describe any public consultation that has been, is being or will be undertaken, including with Indigenous stakeholders.

Consultation activities have been undertaken with the Etheridge Shire Council, State Government and aboriginal party stakeholders. The Proponent met with Etheridge Shire Council formally to discuss the Project in a pre-lodgement forum, prior to lodging the development application. Since approval there has been regular ongoing communications take place with Etheridge Shire Council.

State Government regulators have also been consulted through the application stage of the Project. State Government regulators include:

• Office of the Coordinator General• Department of State Development, Manufacturing, Infrastructure and Planning• Department of Natural Resources, Mines and Energy• Department of Environment and Science• Ergon Energy• Powerlink Queensland.

A number of consultation activities have been undertaken with the indigenous party for the area, being the Ewamian People. A Cultural Heritage survey is currently being undertaken over the Project area.

1.14 Describe any environmental impact assessments that have been or will be carried out under Commonwealth, State or Territory legislation including relevant impacts of the project.

No environmental impact assessments under Commonwealth or State government legislation have been, or are intended to be, undertaken for the Project.

1.15 Is this action part of a staged development (or a component of a larger project)?

No

1.16 Is the proposed action related to other actions or proposals in the region?

Yes

1.16.1 Identify the nature/scope and location of the related action (Including under the relevant legislation).

The Project is considered to be a standalone project, however it is related to other projects in the region. Related projects include the following.

Kidston 50 MW Solar Farm Stage 1 (KS1)

Genex completed the construction of KS1 in early 2018 and is currently undergoing commissioning and testing of the facility. The KS1 project is located on the decommissioned and rehabilitated Tailings Storage Facility of the former Kidston Mine site. KS1 was not referred under the EPBC Act, due to a lack of MNES present on the heavily disturbed site, being decommissioned mine site infrastructure.

Kidston 250 MW Pumped Storage Hydro Project (K2H)

Genex is currently in the process of detailed design for K2H, whereby it proposes to utilise the existing pit voids of the former Kidston Mine site to create a pumped storage hydro project. K2H is a separate project to the Project, however significant opportunities exist for the projects to

work in synergy to create a more efficient overall outcome. K2H is largely located on the Kidston Mining Lease, with the exception of a proposed spillway to the Copperfield River. This aspect of the development will be subject to a self-assessment process under the EPBC Act.

Kidston Connection Project

The Kidston Connection Project is proposed by Powerlink Queensland, and aims to connect Kidston to the existing Powerlink infrastructure located at Mount Fox in Northern Queensland. The Kidston Connection Project includes a new high voltage transmission line, travelling approximately 189 km in length. Whilst this project makes provision for the Project, it provides a much broader capacity to the industry consistent with the North Queensland Clean Energy Hub strategy announced in June 2017 by the Queensland Government. It is anticipated that the Kidston Connection Project will be referred separately by Powerlink to the Department.

Section 2 - Matters of National Environmental Significance

Describe the affected area and the likely impacts of the proposal, emphasising the relevant matters protected by the EPBC Act. Refer to relevant maps as appropriate. The interactive map tool can help determine whether matters of national environmental significance or other matters protected by the EPBC Act are likely to occur in your area of interest. Consideration of likely impacts should include both direct and indirect impacts.

Your assessment of likely impacts should consider whether a bioregional plan is relevant to your proposal. The following resources can assist you in your assessment of likely impacts:

• Profiles of relevant species/communities (where available), that will assist in the identification of whether there is likely to be a significant impact on them if the proposal proceeds;

• Significant Impact Guidelines 1.1 – Matters of National Environmental Significance;

• Significant Impact Guideline 1.2 – Actions on, or impacting upon, Commonwealth land and Actions by Commonwealth Agencies.

2.1 Is the proposed action likely to have ANY direct or indirect impact on the values of any World Heritage properties?

No

2.2 Is the proposed action likely to have ANY direct or indirect impact on the values of any National Heritage places?

No

2.3 Is the proposed action likely to have ANY direct or indirect impact on the ecological character of a Ramsar wetland?

No

2.4 Is the proposed action likely to have ANY direct or indirect impact on the members of any listed species or any threatened ecological community, or their habitat?

Yes

2.4.1 Impact table

Species	Impact
Red goshawk	This species may be found in the Eucalyptus

Species	Impact
	and Corymbia open woodland with native grassy ground-layer on low undulating hills, and the Eucalyptus camaldulensis and Melaleuca argentea co-dominant open forest on alluvium fringing streams. Approximately 1,310.7 ha of suitable habitat may be impacted by the Project. Potential impacts to this species include: • loss of foraging habitat due to vegetation clearing • an increase in noise and activity during the construction phase (short-term).
Gouldian finch	This species may be found in the Eucalyptus and Corymbia open woodland with native grassy ground-layer on low undulating hills, and the Eucalyptus camaldulensis and Melaleuca argentea co-dominant open forest on alluvium fringing streams. Approximately 1,310.7 ha of suitable habitat may be impacted by the Project. Potential impacts to this species include: • loss of habitat due to vegetation clearing • an increase in noise and activity during the construction phase (short-term) • introduction or exacerbation of pest and feral animals.
Southern black-throated finch	This species may be found in the Eucalyptus and Corymbia open woodland with native grassy ground-layer on low undulating hills. No direct impacts are expected to this vegetation community as a result of the Project. Potential indirect impacts to this species include: • an increase in noise and activity during the construction phase (short-term) • introduction or exacerbation of pest and feral animals.
Masked owl (northern)	This species may be found in the Eucalyptus and Corymbia open woodland with native grassy ground-layer on low undulating hills, and the Eucalyptus camaldulensis and Melaleuca argentea co-dominant open forest on alluvium fringing streams. Approximately 1,310.7 ha of suitable habitat may be impacted by the Project. Potential impacts to this species include: • loss of foraging and roosting habitat due to vegetation clearing • an increase in noise and activity during the construction phase (short-term) • introduction or exacerbation of pest and feral animals.

Species	Impact
Ghost bat	This species may be found in the Eucalyptus and Corymbia open woodland with native grassy ground-layer on low undulating hills, and the non-remnant vegetation. Approximately 1,326.3 ha of suitable habitat may be impacted by the Project. Potential impacts to this species include: • loss of foraging and roosting habitat due to vegetation clearing • an increase in noise and activity during the construction phase (short-term) • introduction or exacerbation of pest and feral animals.
Greater glider	This species may be found in the Eucalyptus and Corymbia open woodland with native grassy ground-layer on low undulating hills, and the Eucalyptus camaldulensis and Melaleuca argentea co-dominant open forest on alluvium fringing streams. Approximately 1,310.7 ha of suitable habitat may be impacted by the Project. Potential impacts to this species include: • loss of habitat due to vegetation clearing • an increase in noise and activity during the construction phase (short-term).
Koala	This species may be found in the Eucalyptus and Corymbia open woodland with native grassy ground-layer on low undulating hills, and the Eucalyptus camaldulensis and Melaleuca argentea co-dominant open forest on alluvium fringing streams. Approximately 1,310.7 ha of suitable habitat may be impacted by the Project. Potential impacts to this species include: • loss of habitat due to vegetation clearing • an increase in noise and activity during the construction phase (short-term).

2.4.2 Do you consider this impact to be significant?

No

2.5 Is the proposed action likely to have ANY direct or indirect impact on the members of any listed migratory species, or their habitat?

No

2.6 Is the proposed action to be undertaken in a marine environment (outside Commonwealth marine areas)?

No

2.7 Is the proposed action to be taken on or near Commonwealth land?

No

2.8 Is the proposed action taking place in the Great Barrier Reef Marine Park?

No

2.9 Is the proposed action likely to have ANY direct or indirect impact on a water resource related to coal/gas/mining?

No

2.10 Is the proposed action a nuclear action?

No

2.11 Is the proposed action to be taken by the Commonwealth agency?

No

2.12 Is the proposed action to be undertaken in a Commonwealth Heritage Place Overseas?

No

2.13 Is the proposed action likely to have ANY direct or indirect impact on any part of the environment in the Commonwealth marine area?

No

Section 3 - Description of the project area

Provide a description of the project area and the affected area, including information about the following features (where relevant to the project area and/or affected area, and to the extent not otherwise addressed in Section 2).

3.1 Describe the flora and fauna relevant to the project area.

A number of ecological surveys have been carried out over the site including targeted fauna surveys in May, July and October 2017 and targeted flora surveys, including the ground-truthing of vegetation communities, in May and November 2017. Details are provided in Appendix C.

3.2 Describe the hydrology relevant to the project area (including water flows).

The Project area is located within the catchment of Charles Creek, a tributary of the Copperfield River. Named watercourses traversing the Project site are Charles Creek and Sawpit Creek (a tributary of Charles Creek). Charles Creek flows across the Project site generally in a northerly direction before joining the Copperfield River approximately 15 km to the north of the site. The Copperfield River continues to flow in a northerly direction before joining the Einasleigh River at Einasleigh, approximately 40 km north of the Project area. The Einasleigh River then flows in a north-west to westerly direction before joining the Gilbert River and flowing in a north-westerly direction before discharging into the Gulf of Carpentaria around 125 km to the north of Normanton.

3.3 Describe the soil and vegetation characteristics relevant to the project area.

The Project area contains three Land Zones as defined by Wilson and Taylor (2012).

• Land zone 3: defined as recent Quaternary alluvial systems. This zone typically comprises fertile alluvial soils, including vertosols and sodosols. Alluvial formations associated with • Charles Creek, Sawpit Creek and a number of unnamed watercourses throughout the site fall into this land zone• Land zone 11: described as ranges, hills and lowlands on metamorphic rocks. Soils are mainly shallow, gravelly rudosols and tenosols, with sodosols and chromosols on lower slopes and gently undulating areas• Land zone 12: defined as ranges, hills and lowlands on granitic rocks. Soils are mainly tenosols on steeper slopes with chromosols and sodosols on lower slopes and gently undulating areas.

Vegetation communities impacted by the Project include the following.

• *Eucalyptus* and *Corymbia* open woodlands with a native grassy ground-layer• Shrubland of *Melaleuca citrolens* with emergent *Eucalyptus* and native grassy ground-layer• *Eucalyptus microneura* open woodlands with rocky outcrops• Non-remnant vegetation in cattle yards,

access tracks and powerline easements.

A detailed description of the vegetation communities within the Project area are presented in Appendix C.

3.4 Describe any outstanding natural features and/or any other important or unique values relevant to the project area.

Beyond the conservation significant values identified in Appendix B, no outstanding natural features occur within the referral area or in its immediate vicinity.

3.5 Describe the status of native vegetation relevant to the project area.

Six regional ecosystems (REs) were identified within the Project area:

• 9.3.13: *Melaleuca* spp., *Eucalyptus camaldulensis* and *Casuarina cunninghamiana* fringing open forest on streams and channels• 9.3.20: *Eucalyptus microneura* +/- *Corymbia* spp. woodland on alluvial plains• 9.11.15a: Woodland to low open woodland of *Eucalyptus crebra* +/- *Corymbia erythrophloia*, *Corymbia dallachiana* +/- *Erythrophleum chlorostachys* +/- *Eucalyptus microneura*• 9.12.6b: *Eucalyptus microneura* +/- *Terminalia* spp. +/- *Corymbia* spp. low open woodland on igneous hills• 9.12.6c: Low woodland to low open woodland of *Melaleuca citrolens* +/- *Eucalyptus microneura* +/- *Terminalia* spp• 9.12.12: *Eucalyptus crebra* and *Corymbia erythrophloia* +/- *Eucalyptus microneura* open woodland on igneous rocks.

All six REs are classified as Least Concern under the *Vegetation Management Act 1999*. More information, including the extent of each RE within the Project area, is provided in Appendix C.

3.6 Describe the gradient (or depth range if action is to be taken in a marine area) relevant to the project area.

The natural topography of the site is relatively flat to gently undulating, with a maximum elevation of approximately 560 m AHD in the south-western corner, and a minimum elevation of approximately 520 m AHD in the north-eastern portion of the site.

3.7 Describe the current condition of the environment relevant to the project area.

The Project area is dominated by remnant Eucalyptus woodlands and open forests in good ecological condition on uplands with undulating hills and large ephemeral creeks. Dominant canopy species comprise native trees such as *Eucalyptus crebra* (narrow-leaved ironbark), *Eucalyptus camaldulensis* (river red gum), *Eucalyptus microneura* (Georgetown box), *Corymbia confertiflora* (broad-leaved carbeen) and *Corymbia erythrophloia* (variable- barked bloodwood) throughout the woodland habitats and *Melaleuca fluviatalis* (weeping tea-tree) along the watercourses and drainage lines.

Some exotic flora species were detected during the survey; however the site is largely dominated by native species. Impacts from cattle grazing, the primary land use, are evident in some areas; however much of the Project area is in good condition with well-developed ground and shrub layers. The riparian vegetation (RE 9.3.13) throughout the project area and ironbark woodlands (RE 9.12.12) in the north-west of the project area were in particularly good ecological condition due to the intact groundcover, low weed invasion, developed canopy cover and minimal grazing impacts.

3.8 Describe any Commonwealth Heritage Places or other places recognised as having heritage values relevant to the project area.

No Commonwealth Heritage Places or other significant heritage values are present within the Project area.

3.9 Describe any Indigenous heritage values relevant to the project area.

Indigenous heritage values relevant to the Project area are currently unknown. Genex has entered into a CHMA for the Project. A field survey for cultural heritage values is currently being undertaken with members of the Ewamian People to determine the presence of indigenous heritage values relevant to the Project area.

3.10 Describe the tenure of the action area (e.g. freehold, leasehold) relevant to the project area.

The Project area is located on Lot 66 SP258871, which is subject to a pastoral lease from the State of Queensland. The lot is 17,400 ha in size. The lease holder is currently in the process of negotiating a conversion from pastoral lease to freehold land. The lease holder and Genex Power Limited have a commercial agreement for a rolling 10 year sub-lease over the Project site, as well as an option to purchase, upon conversion to freehold land.

3.11 Describe any existing or any proposed uses relevant to the project area.

Current land use within the site is predominantly low intensity cattle grazing. No additional land uses have been proposed for the Project site.

The Project site also includes a number of existing transmission lines and a water pipeline from the Copperfield Dam to the former Kidston Mine site.

Section 4 - Measures to avoid or reduce impacts

Provide a description of measures that will be implemented to avoid, reduce, manage or offset any relevant impacts of the action. Include, if appropriate, any relevant reports or technical advice relating to the feasibility and effectiveness of the proposed measures.

Examples of relevant measures to avoid or reduce impacts may include the timing of works, avoidance of important habitat, specific design measures, or adoption of specific work practices.

4.1 Describe the measures you will undertake to avoid or reduce impact from your proposed action.

The potential impact of most significance is the loss of habitat through vegetation clearing. The proposed construction footprint will involve the clearing of approximately 1,489 ha of vegetation. The concept design for the Project has considered potential impacts to ecological values and has included measures to minimise impacts.

The concept design has evolved since inception to consider potential environmental impacts. Initially the concept design considered defined setbacks to watercourses within the site, as well as an ecology exclusion area to protect important habitat areas.

The concept design has now evolved to consider the potential impacts identified from detailed ecology surveys, being the presence of koala habitat.

As a result of these measures, all riparian woodland habitat associated with the koala has been avoided. The mitigation through design aims to avoid Koala habitat within the site, maintain ecological corridors and key fauna dispersion corridors along Charles Creek and Sawpit Creek.

Further mitigation measures for the Project are discussed in Section 6.0 of Appendix C.

4.2 For matters protected by the EPBC Act that may be affected by the proposed action, describe the proposed environmental outcomes to be achieved.

The construction of the Project will involve clearing a total of approximately 1,489 ha of fauna habitat. Despite the scale of the Project, large areas of similar habitat exist surrounding the Project area, with limited risk of future development.

The Proponent has committed to avoiding riparian woodlands including *Eucalyptus camaldulensis* fringing woodland, identified as being important to the koala given the presence of food trees and dispersal corridors.

The concept design has been updated on that basis for phase 1 of the Project (see Figure 3 in

Appendix A). This commitment will also apply to future phases in the developable areas identified in Figure 3, Appendix A. The environmental outcome is therefore to avoid direct impact on riparian habitat areas.

Based on this mitigation and in accordance with the EPBC Act significant impact guidelines 1.1, the proposed action is unlikely to result in a significant impact on MNES.

Section 5 – Conclusion on the likelihood of significant impacts

A checkbox tick identifies each of the matters of National Environmental Significance you identified in section 2 of this application as likely to be a significant impact.

Review the matters you have identified below. If a matter ticked below has been incorrectly identified you will need to return to Section 2 to edit.

5.1.1 World Heritage Properties

No

5.1.2 National Heritage Places

No

5.1.3 Wetlands of International Importance (declared Ramsar Wetlands)

No

5.1.4 Listed threatened species or any threatened ecological community

No

5.1.5 Listed migratory species

No

5.1.6 Commonwealth marine environment

No

5.1.7 Protection of the environment from actions involving Commonwealth land

No

5.1.8 Great Barrier Reef Marine Park

No

5.1.9 A water resource, in relation to coal/gas/mining

No

5.1.10 Protection of the environment from nuclear actions

No

5.1.11 Protection of the environment from Commonwealth actions

No

5.1.12 Commonwealth Heritage places overseas

No

5.2 If no significant matters are identified, provide the key reasons why you think the proposed action is not likely to have a significant impact on a matter protected under the EPBC Act and therefore not a controlled action.

Impacts from the Project that have the potential to affect matters protected under the EPBC Act have been considered within this referral submission and the attached technical reports. Key MNES potentially impacted by the Project have been assessed via assessments of significance in accordance with the EPBC Act guidelines. The conclusion of these assessments is that no significant impact is likely to occur.

Observing appropriate setbacks to protect the riparian vegetation along the watercourses, and particularly the 200 m ecological corridor proposed along Charles Creek, will ensure the preservation of significant MNES fauna habitat throughout the site, and maintain important linkages to the vast areas of surrounding suitable habitat for the threatened species.

Section 6 – Environmental record of the person proposing to take the action

Provide details of any proceedings under Commonwealth, State or Territory law against the person proposing to take the action that pertain to the protection of the environment or the conservation and sustainable use of natural resources.

6.1 Does the person taking the action have a satisfactory record of responsible environmental management? Please explain in further detail.

Genex Power Limited (Genex) is an Australian public company listed on the Australian Securities Exchange. Genex is focused on generation and storage of renewable energy. Genex has successfully completed construction on KS1 located at the decommissioned Kidston Mine site without any major environmental incidents.

Since 2015 the environmental management of the former Kidston Mine site has been maintained under a strict protocol according to the Environmental Authority (EA) over the existing mining lease. A permanent site manager is located at Kidston, reporting directly to the Chief Operating Officer. The Department of Environment and Science (DES) undertakes an annual review of the site to ensure the site is maintained as per the EA.

6.2 Provide details of any past or present proceedings under a Commonwealth, State or Territory law for the protection of the environment or the conservation and sustainable use of natural resources against either (a) the person proposing to take the action or, (b) if a permit has been applied for in relation to the action – the person making the application.

None

6.3 If it is a corporation undertaking the action will the action be taken in accordance with the corporation's environmental policy and framework?

Yes

6.3.1 If the person taking the action is a corporation, please provide details of the corporation's environmental policy and planning framework.

Genex is currently implementing a new occupational health, safety and environmental policy ahead of commencement of construction for the Project. A summary of the key components of this policy relating to environmental management include:

• Establishment of environmental objectives and targets, implementation of programs to

achieve them and reporting on their performance;• Minimisation of the environmental impacts of operations through the efficient use of natural resources and the reduction of input materials and waste;• Commitment to and compliance with relevant laws, regulations and environmental management plans for each activity as required by the appropriate regulating authority;• Engagement with stakeholders in relation to their aspirations, values and concerns regarding the development, operation and environmental impacts of Genex's projects;• Commitment to identifying, assessing and controlling environmental impacts of operations by achieving proactive management of activities;• Ensuring that Genex has the resources and the skills necessary to achieve its environmental commitments; and• Communication of the environmental management policy and Genex's environmental performance in an open, transparent and accurate manner.

The construction of the Project will be undertaken by a contractor with a proven track record in environmental performance on similar projects. As part of the selection process for the contractor, the contractors have been required to provide the details on their corporation's environmental policy and environmental management system.

6.4 Has the person taking the action previously referred an action under the EPBC Act, or been responsible for undertaking an action referred under the EPBC Act?

No

Section 7 – Information sources

You are required to provide the references used in preparing the referral including the reliability of the source.

7.1 List references used in preparing the referral (please provide the reference source reliability and any uncertainties of source).

Reference Source	Reliability	Uncertainties
Black-throated Finch Recovery Team (BTF RT), 2004. Recovery plan for the Black-throated Finch Southern Subspecies Poephila cincta cincta. Department of Environment and Conservation (New South Wales), Hurstville, and Queensland Parks and Wildlife Service, Brisbane.	This source is considered to be reliable	N/A
Bostock, P.D and A.E. Holland (2016). Census of the Queensland Flora. Department of Science, Information Technology and Innovation.	This source is considered to be reliable	N/A
Brooker, M.I.H. and Kleinig, D.A. (1994) Field Guide to Eucalypts, Volume III Northern Australia, Bloomings Books.	This source is considered to be reliable	N/A
Bureau of Meteorology (BOM), 2017. Georgetown, Queensland: May/July Daily Weather Observations. Available at: http://www.bom.gov.au/climate/dwo/IDCJDW4047.latest.shtml	This source is considered to be reliable	N/A
Couper, P.J. and C.J. Hoskin, 2008. Litho-refugia: the importance of rock landscapes for the long-term persistence of Australian rainforest fauna. Australian Zoologist. Volume 34 (4).	This source is considered to be reliable	N/A
DEHP, 2009. Biodiversity Planning Assessment for the	This source is considered to be reliable	N/A

Reference Source	Reliability	Uncertainties
Einasleigh Uplands Bioregion – Version 1.1. Department of Environment and Heritage Protection, Brisbane.		
DEWHA, 2009. Significant impact guidelines for the endangered black-throated finch (southern) (Poephila cincta cincta) – Nationally threatened species and ecological communities background paper to the EPBC Act policy statement 3.13. Australian Government.	This source is considered to be reliable	N/A
DNRM, 2017. Vegetation Management Report. Department of Natural Resources and Mines, Brisbane.	This source is considered to be reliable	N/A
DoE, 2015. Referral guideline for 14 birds listed as migratory species under the EPBC Act. Australian Government, Department of the Environment.	This source is considered to be reliable	N/A
DoEE (2013). Matters of National Environmental Significance –Significant Impact Guidelines 1.1. Australian Government Department of the Environment. Available from: http://www.environment.gov.au/system/files/resources/42f84df4-720b-4dcf-b262-48679a3aba58/files/nes-guidelines_1.pdf	This source is considered to be reliable	N/A
DOTEE, 2017. Apus pacificus – Fork-tailed swift. Species Profile and Threats Database. Department of the Environment and Energy. Viewed July 2017: http://www.environment.gov.au/cgi-bin/sprat/public/publicspecies.pl?taxon_id=678	This source is considered to be reliable	N/A
DOTEE, 2017. Species Profile and Threats Database – Lerista vittata – Mount Cooper Lerista. Viewed July 2017: http://www.e	This source is considered to be reliable	N/A

Reference Source	Reliability	Uncertainties
nvironment.gov.au/cgi-bin/sprat/public/publicspecies.pl?taxon_id=1308		
DOTEE, 2017. Species Profile and Threats Database – Actitis hypoleucos – Common sandpiper. Viewed: July 2017: http://www.environment.gov.au/cgi-bin/sprat/public/publicspecies.pl?taxon_id=59309	This source is considered to be reliable	N/A
DOTEE, 2017. Species Profile and Threats Database – Calidris acuminata – Sharp-tailed Sandpiper. Viewed July 2017: http://www.environment.gov.au/cgi-bin/sprat/public/publicspecies.pl?taxon_id=874	This source is considered to be reliable	N/A
DOTEE, 2017. Species Profile and Threats Database – Calidris melanotos – Pectoral Sandpiper. Viewed July 2017: http://www.environment.gov.au/cgi-bin/sprat/public/publicspecies.pl?taxon_id=858	This source is considered to be reliable	N/A
DOTEE, 2017. Species Profile and Threats Database – Dasyurus hallucatus – Northern Quoll. Viewed July 2017: http://www.environment.gov.au/cgi-bin/sprat/public/publicspecies.pl?taxon_id=331	This source is considered to be reliable	N/A
Eyre, T.J., Ferguson, D.J., Hourigan, C.L., Smith, G.C., Mathieson, M.T., Kelly, A.L., Venz, M.F., Hogan, L.D., Rowland, J., 2014. Terrestrial Vertebrate Fauna Survey Guidelines for Queensland, Department of Science, Information Technology, Innovation and the Arts, Brisbane.	This source is considered to be reliable	N/A
Fitzgerald, M; Lazell, B and R. Shine, 2006. Ecology and conservation of the pale-headed snake (Hoplocephalus	This source is considered to be reliable	N/A

Reference Source	Reliability	Uncertainties
bitorquatus, Elapidae). School of Biological Sciences, University of Sydney, NSW.		
Helldin, J. J. (2012). The impact of wind power on terrestrial mammals: A synthesis. Swedish Environmental Protection Agency Report 6510. Stockholm: The Swedish Environmental Protection Agency.	This source is considered to be reliable	N/A
Hill, K. D. (1992). A preliminary account of Cycas (Cycadaceae) in Queensland. Telopea, 177 - 206.	This source is considered to be reliable	N/A
Hill, K. D. (1996). A taxonomic revision of the genus Cycas (Cycadaceae) in Australia. Telopea, 1 - 64.	This source is considered to be reliable	N/A
Hill, K. D. (1998). Cycadophyta. In Flora of Australia. Melbourne: CSIRO.	This source is considered to be reliable	N/A
Milson, J. (2000) Trees and Shrubs of North west Queensland, Department of Primary Industries.	This source is considered to be reliable	N/A
Morcombe, M., 2004. A Field Guide to Australian Birds. Pascal Press, Glebe.	This source is considered to be reliable	N/A
Neldner, V. et al., 2012. Methodology for Survey and Mapping of Vegetation Communities and Regional Ecosystems in Queensland, Brisbane.	This source is considered to be reliable	N/A
Ryan, S. (2006). Red goshawk Erythrotriorchis radiatus: Conservation management profile. Brisbane: EPA.	This source is considered to be reliable	N/A
TSSC, 2016. Conservation Advice – Erythrura gouldieae – Gouldian finch. Australian Government.	This source is considered to be reliable	N/A
Sattler, P. and R. Williams (eds), 1999. The Conservation Status of Queensland’s	This source is considered to be reliable	N/A

Reference Source	Reliability	Uncertainties
Bioregional Ecosystems. Published by Environmental Protection Agency, Brisbane.		
Sattler, P. and R. Williams (eds), 1999. The Conservation Status of Queensland's Bioregional Ecosystems. Published by Environmental Protection Agency, Brisbane.	This source is considered to be reliable	N/A
Stanley, T. D., and E.M. Ross (Eds) (1983), Flora of South-Eastern Queensland, Volume 1, Queensland Herbarium, State of Queensland Department of Primary Industries.	This source is considered to be reliable	N/A
Stanley, T. D., and E.M. Ross (Eds) (1986), Flora of South-Eastern Queensland, Volume 2, State of Queensland Department of Primary Industries.	This source is considered to be reliable	N/A
Stanley, T. D., and E.M. Ross (Eds) (1989), Flora of South-Eastern Queensland, Volume 3, Queensland Herbarium, State of Queensland Department of Primary Industries.	This source is considered to be reliable	N/A
Department of Environment and Resource Management, 2012. National Recovery Plan for the Red Goshawk (Erythrotriochis radiatus). Report to the Department of sustainability, Environment, Water, Population and Communities, Canberra. Queensland Department of Environment and Resource Management, Brisbane.	This source is considered to be reliable	N/A
Department of the Environment (2015) Referral guideline for 14 birds listed as migratory species under the EPBC Act. Available at: http://www.environment.gov.au/system/files/resour	This source is considered to be reliable	N/A

Reference Source	Reliability	Uncertainties
ces/c05f5b87-0a99-4998-897e-7072c236cf83/files/migratory-birds-draft-referral-guideline.pdf (Accessed: 12 April 2018).		
DoEE, 2018. Species Profile and Threats Database – Erythrotriochis radiatus – Red Goshawk. Viewed April2018: http://www.environment.gov.au/cgi-bin/sprat/public/publicspecies.pl?taxon_id=942	This source is considered to be reliable	N/A
DoEE, 2018b. Species Profile and Threats Database – Apus pacificus – Fork-tailed swift. Viewed April2018: http://www.environment.gov.au/cgi-bin/sprat/public/publicspecies.pl?showprofile=Y&taxon_id=678	This source is considered to be reliable	N/A
Garnett, S.T. & G.M. Crowley, 2000. The Action Plan for Australian Birds 2000 – Recovery Outlines and Taxon Summaries. Environment Australia and Birds Australia. Accessed April 2018: http://www.environment.gov.au/biodiversity/threatened/publications/action/birds2000/index.html.	This source is considered to be reliable	N/A
O'Malley, C., 2006. National Recovery Plan for the Gouldian Finch (Erythrura gouldiae). WWF-Australia, Sydney and Parks and Wildlife NT, Department of Natural Resources, Environment and the Arts, NT Government, Palmerston.	This source is considered to be reliable	N/A
Tidemann, S. C. et al., 1999. Breeding Biology of the Gouldian Finch Erythrura gouldiae, an Endangered Finch of Northern Australia. EMU, Volume 99, pp. 191-199.	This source is considered to be reliable	N/A
TSSC, 2016, Conservation Advice – Petauroides volans – Greater Glider. Threatened	This source is considered to be reliable	N/A

Reference Source	Reliability	Uncertainties
Species Scientific Committee.		
TSSC, 2015. Conservation Advice - Erythrotriochis radiatus – Red Goshawk. Threatened Species Scientific Committee.	This source is considered to be reliable	N/A
TSSC, 2016. Conservation Advice – Erythrura gouldiae – Gouldian Finch. Threatened Species Scientific Committee.	This source is considered to be reliable	N/A
TSSC, 2016b, Conservation Advice – Macroderma gigas – Ghost Bat, Threatened Species Scientific Committee.	This source is considered to be reliable	N/A

Section 8 – Proposed alternatives

You are required to complete this section if you have any feasible alternatives to taking the proposed action (including not taking the action) that were considered but not proposed.

8.0 Provide a description of the feasible alternative?

There is no feasible alternative to the Project. The Project site was selected based on a number of constraints and opportunities. The Project selection has included a constraints assessment of the surrounding area, and discounting other potential site options. Constraints considered included ecology, waterways, protected areas, indigenous cultural heritage, non-indigenous cultural heritage, hydraulic analysis, slope analysis, planning and approvals, existing infrastructure. These constraints, coupled with landowner consultation have led to the Project area. In addition, the section of land identified is already subject to existing infrastructure, and will enable the efficient operation of the Project, whilst continuing to allow the current landowner to operate a grazing business on the balance of the land.

The current footprint has been chosen to:

• avoid direct and indirect (proximity) impacts on the “Newcastle Range – The Oaks Nature Refuge”• setback from all water features to ensure avoidance of impacts to riparian corridors, therefore allowing continued biodiversity connectivity through the site; no impact to flow, fish passage and water movement through corridor; and minimizing potential impact to areas of cultural sensitivity• avoidance of known areas of cultural significance (i.e. Kidston Township, and Police Reserve)• avoidance of existing infrastructure, including powerline easements, roads, cattle yards, other existing commercial or agricultural uses present• efficiency of connection to the existing infrastructure connecting the former mine site• avoidance of areas identified through field survey to be of higher ecological value.

There are no areas of non-remnant vegetation available to locate the Project within in the vicinity of the former Kidston Mine site. The surrounding area and majority of Etheridge Shire Council is made up of Category B, Least Concern vegetation.

8.1 Select the relevant alternatives related to your proposed action.

8.27 Do you have another alternative?

No

Section 9 – Contacts, signatures and declarations

Where applicable, you must provide the contact details of each of the following entities: Person Proposing the Action; Proposed Designated Proponent and; Person Preparing the Referral. You will also be required to provide signed declarations from each of the identified entities.

9.0 Is the person proposing to take the action an Organisation or an Individual?

Organisation

9.2 Organisation

9.2.1 Job Title

Commercial Financial Manager

9.2.2 First Name

Craig

9.2.3 Last Name

Francis

9.2.4 E-mail

cf@genexpower.com.au

9.2.5 Postal Address

GPO Box 4626,
Sydney, NSW 2001
Australia

9.2.6 ABN/ACN

ABN

18152098854 - GENEX POWER LIMITED

9.2.7 Organisation Telephone

+612 9048 8850

9.2.8 Organisation E-mail

Info@genexpower.com.au

9.2.9 I qualify for exemption from fees under section 520(4C)(e)(v) of the EPBC Act because I am:

Not applicable

Small Business Declaration

I have read the Department of the Environment and Energy's guidance in the online form concerning the definition of a small a business entity and confirm that I qualify for a small business exemption.

Signature:..... Date: .....

9.2.9.2 I would like to apply for a waiver of full or partial fees under Schedule 1, 5.21A of the EPBC Regulations

No

9.2.9.3 Under sub regulation 5.21A(5), you must include information about the applicant (if not you) the grounds on which the waiver is sought and the reasons why it should be made

Person proposing the action - Declaration

I, Craig Francis, declare that to the best of my knowledge the information I have given on, or attached to the EPBC Act Referral is complete, current and correct. I understand that giving false or misleading information is a serious offence. I declare that I am not taking the action on behalf of or for the benefit of any other person or entity.

Signature:..... Date: 6/7/2018.....

I, _____, the person proposing the action, consent to the designation of _____ as the proponent of the purposes of the action describe in this EPBC Act Referral.

Signature:..... Date: .....

9.3 Is the Proposed Designated Proponent an Organisation or Individual?

Organisation

9.5 Organisation

9.5.1 Job Title

Commercial Financial Manager

9.5.2 First Name

Craig

9.5.3 Last Name

Francis

9.5.4 E-mail

Info@genexpower.com.au

9.5.5 Postal Address

GPO Box 4626
Sydney NSW 2001
Australia

9.5.6 ABN/ACN

ABN

18152098854 - GENEX POWER LIMITED

9.5.7 Organisation Telephone

+612 9048 8850

9.5.8 Organisation E-mail

Info@genexpower.com.au

Proposed designated proponent - Declaration

I, Craig Francis, the proposed designated proponent, consent to the designation of myself as the proponent for the purposes of the action described in this EPBC Act Referral.

Australian Government
Department of the Environment and Energy

Signature:..... Date: ..6/7/2018.

9.6 Is the Referring Party an Organisation or Individual?

Organisation

9.8 Organisation

9.8.1 Job Title

Associate Director - Environment

9.8.2 First Name

Rouven

9.8.3 Last Name

Lau

9.8.4 E-mail

Rouven.Lau@aecom.com

9.8.5 Postal Address

PO Box 5423
Townsville QLD 4810
Australia

9.8.6 ABN/ACN

ABN

20093846925 - AECOM AUSTRALIA PTY LTD

9.8.7 Organisation Telephone

4720 1583

9.8.8 Organisation E-mail

Rouven.Lau@aecom.com

Referring Party - Declaration

Australian Government
Department of the Environment and Energy

I, ROUVEN LAU, I declare that to the best of my knowledge the information I have given on, or attached to this EPBC Act Referral is complete, current and correct. I understand that giving false or misleading information is a serious offence.

Signature:..... Date: 3/7/18

Appendix A - Attachments

The following attachments have been supplied with this EPBC Act Referral:

1. appendix_a_figure_1_-_project_location.pdf
2. appendix_a_figure_2_-_koala_habitat.pdf
3. appendix_a_figure_3_-_phase1conceptdesign.pdf
4. appendix_b_1.10.2_approval_and_condition_note.pdf
5. appendix_b_attachment_1_referral_agencies_conditions.pdf
6. appendix_b_decision_notice.pdf
7. appendix_c_kidston_solar_st_2_fauna_technical_report_rev_a.pdf
8. appendix_c_kidston_solar_st_2_flora_technical_report_rev_b.pdf
9. attachment_d_sia_rev0.pdf
10. k2s_boundary_points.kmz