

Template

Proposal Content Document

Table 1: General proposal content description

Proposal title	Derby Future Energy System
Proponent name	Regional Power Corporation T/A Horizon Power
Short description	<p>Horizon Power is proposing to construct the Derby Future Energy System (FES) in Derby in the Kimberley region of WA (the Proposal). The Proposal will ensure security of energy supply to Derby after the expiry of the current Power Purchase Agreement. As part of this future energy supply, Horizon Power is targeting higher renewables and a reduction in emissions as part of the decarbonisation strategy for the town.</p> <p>The Derby FES will consist of ground-mounted solar PV system, battery energy storage systems (BESS), a network connection route and a thermal power station.</p> <p>The solar and BESS facility is proposed to be located at either Site A or Site B. Site A is located approximately 2.5 km south of Derby on Lot 31 on Deposited Plan 207640. Site B is located approximately 5 km south of Derby on Lots 5, 14 and 15 on Deposited Plan 230140.</p> <p>A network connection route will follow Derby Highway, Wodehouse Street and Broome Street to connect the solar and BESS facility to a substation at the existing power station site on Broome Street in Derby. The network connection will be either an overhead or underground electrical transmission line and will be up to 8.9 km long.</p> <p>The new thermal power station will be installed adjacent to the existing power station on Broome Street in Derby.</p>

Table 2: Proposal content elements

Proposal element	Location / description	Maximum extent, capacity or range
Physical elements		
Solar and BESS facility Thermal power station Network connection	The solar and BESS facility is proposed to be located at either Site A or Site B, approximately 2.5 km and 5 km south of Derby respectively, with the network connection route following Derby Highway, Wodehouse Street and Broome Street to connect the solar and BESS facility to a substation at the existing power station site on Broome Street in Derby. The new thermal power station would be installed adjacent to	Clearing within the Development Envelope (DE) of up to 73.5 ha of native vegetation within a total DE area of 307.3 ha.

	<p>the existing power station on Broome Street in Derby.</p> <p>See Figure 1.</p>	
Construction elements		
<p>Solar and BESS facility</p>	<p>The solar and BESS facility is proposed to be located at either Site A or Site B, approximately 2.5 km and 5 km south of Derby respectively.</p> <p>See Figure 1.</p>	<p>Clearing of up to 60 ha of native vegetation to accommodate the following permanent and temporary project elements. This will involve clearing of vegetation, topsoil removal and stockpiling, grading and excavations.</p> <p>Permanent elements:</p> <ul style="list-style-type: none"> • Permanent clearing for construction and operation including weed control. • Construction of access roads and tracks. • Construction of water supply bores. • Installation of a solar PV and BESS including ground mounted solar panels, inverters, transformers, cabling, battery containers, substation and other ancillary infrastructure. <p>Temporary elements:</p> <ul style="list-style-type: none"> • Minor and preliminary works including site surveying and marking, Soil and geotechnical investigations. • Temporary lay down areas, ablutions, kitchen, offices, crib room, first aid, water supply and generators. • Concrete supply via either establishment of a temporary on-site concrete batch plant or concrete truck deliveries.
<p>Network connection route</p>	<p>The network connection route follows Derby Highway, Wodehouse Street and Broome Street to connect the solar and BESS facility to a substation at the existing power station site on Broome Street in Derby.</p> <p>See Figure 1.</p>	<p>Clearing within the DE of up to 12.5 ha of native vegetation to accommodate the following permanent and temporary project elements. This will involve clearing of vegetation, topsoil removal and stockpiling, grading and excavations.</p> <p>Permanent elements:</p> <ul style="list-style-type: none"> • Permanent clearing for construction and operation including weed control.

		<ul style="list-style-type: none"> • Installation of either overhead or underground network connection. • Construction of access roads and tracks. <p>Temporary elements:</p> <ul style="list-style-type: none"> • Minor preliminary works including site surveying and marking. • Soil and geotechnical investigations. • Temporary lay down areas, water supply and generators.
<p>Thermal power station</p>	<p>The new thermal power station would be installed adjacent to the existing power station on Broome Street in Derby.</p> <p>See Figure 1.</p>	<p>Clearing within the DE of up to 1.01 ha of native vegetation to accommodate the following permanent and temporary project elements. This will involve clearing of vegetation, topsoil removal and stockpiling, grading and excavations.</p> <p>Permanent elements:</p> <ul style="list-style-type: none"> • Potential construction of a water bore (water will otherwise be provided via truck). • Installation of the thermal power station consisting of engine generators, transformers, substation, cooling system, gas supply system, electrical and control cabling, gas pipelines and other auxiliary infrastructure. • Access tracks. <p>Temporary elements:</p> <ul style="list-style-type: none"> • Site surveying and marking. • Clearing for soil and geotechnical investigations. • Concrete supply via either establishment of a temporary on-site concrete batch plant or concrete truck deliveries. • Supply of civil materials for ground levelling and fill will be trucked in from local sources. • Temporary lay down areas, ablutions, kitchen, offices, crib room, first aid, water supply and generators.

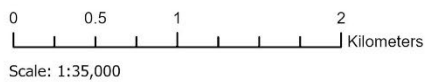
Operational elements		
Solar and BESS facility	<p>The solar and BESS facility is proposed to be located at either Site A or Site B, approximately 2.5 km and 5 km south of Derby respectively.</p> <p>Derby FES project will consist of solar PV system (nominally up to 21 megawatts alternating current (MWAC)), and battery energy storage systems (BESS) (nominally up to 10 megawatts MW/ 55 megawatt-hr (MWh)).</p> <p>See Figure 1.</p>	<p>Operational activities:</p> <ul style="list-style-type: none"> • Operation and maintenance of the solar and BESS facility. • Routine maintenance activities including weed and vegetation control.
Network connection	<p>The network connection route (up to 8.9 km) follows Derby Highway, Wodehouse Street and Broome Street to the substation at the existing power station site on Broome Street in Derby.</p> <p>See Figure 1.</p>	<p>Operational activities:</p> <ul style="list-style-type: none"> • Operation and monitoring of the network connection. • Routine maintenance activities including weed and vegetation control.
Thermal power station	<p>The new thermal power station will consist of a thermal generation system (nominally up to 8 megawatts (MW)) and will be installed adjacent to the existing power station on Broome Street in Derby.</p> <p>See Figure 1.</p>	<p>Operational activities:</p> <ul style="list-style-type: none"> • Operation and monitoring of the thermal power station. • Routine maintenance activities including weed and vegetation control.
Proposal elements with greenhouse gas emissions		
Construction elements:		
Scope 1	<p>Construction Fuel – 754 tCO₂-e</p> <p>Vegetation clearing – 5,544 tCO₂-e</p> <p>Total: 6,289 tCO₂-e</p>	
Scope 2	0	
Scope 3	<p>Construction Fuel – 184 tCO₂-e</p> <p>Materials – 12,575 tCO₂-e</p> <p>Transport of materials – 839 tCO₂-e</p> <p>Total: 13,598 tCO₂-e</p>	
TOTAL	19,887 tCO₂-e	

Operation elements:		
Scope 1	5,448 tCO ₂ -e/year	
Scope 2	0	
Scope 3	901 tCO ₂ -e/year	
TOTAL	6,349 tCO₂-e/year	
Rehabilitation		
No rehabilitation will be undertaken as part of the Proposal. The DE is to be permanently cleared, with temporary impacted areas still within the permanent footprint.		
Commissioning		
There are no environmental impacts specific to commissioning.		
Decommissioning		
Infrastructure is expected to be permanent and become part of the Derby electricity network. The agreement with the independent power producer will likely be 20 years, with options for extension. The facility is expected to be refurbished/replaced as required and continue to be utilised. If the infrastructure should be decommissioned, this would be at end of asset life.		
Other elements which affect extent of effects on the environment		
Proposal time*	Maximum project life	23 years
	Construction phase	The construction phase of the Proposal is estimated to take three years, subject to approvals, from 2027 – 2029.
	Operations phase	20 years
	Decommissioning phase	N/A

* Proponents should only provide realistic timeframes to avoid unnecessary change to proposal applications at referral (section 38C), assessment (section 43A) or post assessment (section 45C).



Figure 1 | Proposal Location and Development Envelope



All figures have the projection GDA2020

Figure 1. Proposal location and Development Envelope