



SHIRE OF ASHBURTON

PILBARA
UNDERGROUND
POWER PROJECT

ONSLOW CUSTOMER INFORMATION



Government of Western Australia
Department of Regional Development



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ONSLOW MAJOR DEVELOPMENTS – NEXT 3 YEARS

PILBARA
UNDERGROUND
POWER PROJECT

Stage 1

- New Power Station located in Lot 555 (expandable for the future)
- New transmission line to connect the power station supplies to Onslow
- New zone substation located in Lot 880
- Network extensions into the town (U/G)
- Undergrounding of existing overhead network in town

Stage 2

- Solar and Battery Storage (siting feasibility studies underway)
- Gas lateral: 23km 4" pipeline (complete - by others) and 87 km of 6 inch pipeline (existing)



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HORIZON POWER ONSLOW FUTURE DEVELOPMENTS

PILBARA
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Legend	
	Undergrounding of existing overhead network in town
	Network extensions
	Temporary power station line that will be removed
	New transmission line to connect the power station supplies to Onslow



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ABOUT PUPP

PILBARA
UNDERGROUND
POWER PROJECT

THE PILBARA UNDERGROUND POWER PROJECT

The Pilbara Underground Power Project (PUPP) is a partnership between the Government of Western Australia (through the Royalties for Regions Pilbara Cities Initiative) and Local Government Authorities, delivered by Horizon Power.

The project aims to provide cyclone affected North West towns with a safer and more reliable power supply, by replacing overhead electricity infrastructure with underground networks.



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GOVERNING BODY

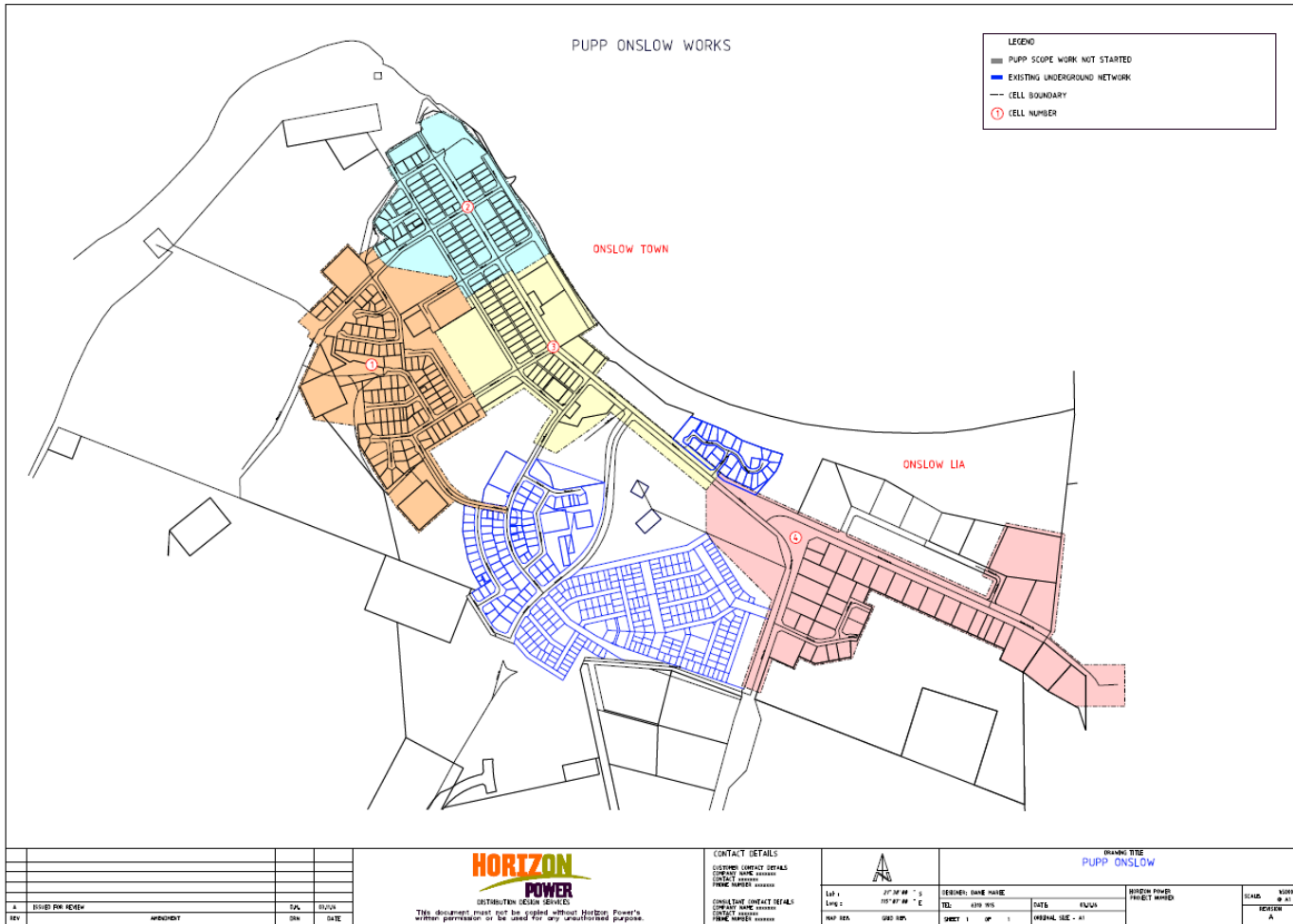
PUPP EXTERNAL STEERING COMMITTEE

The role of the External Steering Committee is to provide external oversight and governance of Pilbara Underground Power Project.

Member	Organisation	Proxy
Terry Hill, CEO	Pilbara Development Commission	Richard Bairstow, Manager Infrastructure
Ziggy Wilk, General Manager Pilbara Grid	Horizon Power	James Carney, Manager Pilbara Network, Pilbara Underground Power
Victor Browner, A/Executive Director	Public Utilities Office, Department Finance	Brad Smart, Senior Analyst
Chris Adams, CEO	City of Karratha	Phillip Trestrail, Director Corporate Services
Neil Hartley, CEO	Shire of Ashburton	Anika Serer, Executive Manager Strategic & Economic Development
Anthony Williams Engineering Technical Officer	Town of Port Hedland	Daniel Van Vo, Coordinator Technical Services

PUPP PROJECT SCOPE

PILBARA UNDERGROUND POWER PROJECT



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PUPP PROJECT STAGES & TIMELINE

PILBARA
UNDERGROUND
POWER PROJECT

STAGES	TIMELINE
Planning	Completed
Design	Completed
Tender process (compliance)	Completed
Community Information Session & Shire of Ashburton approval	Pending
PROPOSED TIMELINE IF ACCEPTED BY THE SHIRE OF ASHBURTON	
Civil works	Commence March 2017
Electrical connections	Commence October 2017 (4 months overlap with civil)
Dismantling of old powerlines and poles	Completion by April 2018

COMMUNITY ENGAGEMENT

PILBARA
UNDERGROUND
POWER PROJECT

THE PILBARA UNDERGROUND POWER PROJECT (PUPP) TEAM UNDERTAKE A COMBINATION OF COMMUNICATION METHODS TO ENSURE THE COMMUNITY IS ENGAGED AND INFORMED AT EVERY STEP OF THE PROJECT.

Communication methods:

- Notification delivered to PO Box via Australia Post (no letter boxes in Onslow)
- Notification hand delivered to resident by PUPP team & contractors (personal visits)
- Local newspaper and radio advertising
- Street signage

Frequency:

- Civil work
4 notices delivered to residents / starting 3 weeks prior to planned works
- Electrical connections
6 notices delivered to residents / starting 2 weeks prior to planned works
- Dismantling
1 notice delivered to residents / starting 2 weeks prior to planned works



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INITIAL STAGES

The initial stages of civil work include surveying, locating services and installing distribution equipment and streetlights. Community engagement (notifications) commence with residents three weeks prior to works.



Transformer installation



Hole boring for streetlight installation

CABLE INSTALLATION

Cables are installed under the street verge using directional drilling however; numerous excavations are necessary for equipment installation and cable work.



Directional drilling for mains conduit installation



Mains cable installation



Directional drilling for consumer conduit installation

STAGES OF WORK - CIVIL

YOUR PROPERTY

An area of concrete or paving will need to be cut and removed under the meter box for the installation of the new consumer cable. Once this is complete the hole will be backfilled and concreted.



Core boring used for concrete cut out



After

PILLAR INSTALLATION

A trench may be required inside the property boundary to install the connection pillar that will supply your property. These pillars are generally installed in the corner of every second property and in most cases, will service two dwellings.



Cables installed



Cables being prepared for energisation



Completed pillar

YOUR PROPERTY

An entry point for the cable is made in the wall under your meter box and a metal cover (also known as a 'top hat') will be placed over the cable to ensure your safety and protect the cable. This cover will stay in place permanently. The existing overhead cable is removed and the new underground cable connected to your meter.



An entry point for the cable is made in the wall under the meter box



The 'Top Hat' in place

REMOVAL OF OLD OVERHEAD POWERLINES AND POLES



Removal of overhead powerlines

ENHANCED VISUAL APPEARANCE

PILBARA
UNDERGROUND
POWER PROJECT



Before underground power



Removal of old powerlines



Underground power works complete



Transformer installation



New street lights



Green mini-pillar



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BENEFITS OF UNDERGROUND POWER

PILBARA
UNDERGROUND
POWER PROJECT

- Resilience of electrical infrastructure during cyclones - reduced impact on outages & safety
- Fewer power interruptions due to severe weather
- Enhanced visual appearance of your property
- Reduced street tree pruning requirements meaning trees can grow to natural height and provide more shade
- Brighter, safer streets with the new street lighting system
- Reduces personal safety hazards caused by fallen power lines, pruning near power lines and car accidents involving power poles
- Reduce risk of power outages for local businesses (minimise risk of lost revenue)
- A build-up of salt deposits on overhead lines can cause outages and can be prevented by underground power.
- Reduce risk of power outages caused by birds / small animals that come into contact and short circuit power lines

BENEFITS OF UNDERGROUND POWER

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UNDERGROUND
POWER PROJECT

RESILIENCE OF UNDERGROUND INFRASTRUCTURE DURING CYCLONES - REDUCED IMPACT ON OUTAGES & SAFETY

SPOTLIGHT RESPONDING TO CYCLONES & EMERGENCIES

Horizon Power's Emergency Management Team (EMT) and local response teams were on a state of heightened operational readiness over the cyclone season (November 2012 – April 2013).

The EMT was active for 19 days in 2012/13 to protect communities and restore systems impacted by severe weather events. Horizon Power works closely with the Department of Fire and Emergency Services and other State services through the State Emergency Coordination Group.

SEVERE TROPICAL CYCLONE NARELLE – JANUARY 2013

Severe Tropical Cyclone (TC) Narelle (a Category 4 cyclone with winds of 185 kilometres per hour) passed approximately 330 kilometres northwest of Exmouth but did not make landfall. Our communities in West Pilbara and North Gascoyne were impacted by severe weather (lightning, wind and heavy rain) associated with TC Narelle only resulting in a few minor unplanned power interruptions in Exmouth and Roebourne.

TROPICAL CYCLONE PETA – JANUARY 2013

TC Peta made landfall near Point Samson, near Karratha on 23 January. Across much of the West Pilbara district, TC Peta dropped heavy rains that caused widespread flooding. Despite the severe weather associated with TC Peta in the West Kimberley and Pilbara, Horizon Power was able to maintain reliable power supply to our customers in these areas. The benefits of underground power supplies in cyclone prone areas were clearly demonstrated during this severe weather event.

SEVERE TROPICAL CYCLONE RUSTY – FEBRUARY 2013

Severe TC Rusty reached Category 4 strength and made landfall on 27 February east of Port Hedland, near Pardoo. Due to the slow-moving nature of the cyclone, Port Hedland experienced 39 hours of winds of at least gale-force strength (with the maximum gust of 119 kilometres per hour) and very high rainfall. There were some recorded outages affecting approximately 25 per cent of our customers in Port Hedland. Three quarters of our customers were restored within four hours and the remaining customers were restored within 24 hours.

SHARING RESOURCES WITH WESTERN POWER

Horizon Power again this year provided support crews to Western Power during severe storms experienced in the South West Interconnected System (SWIS) in the third quarter of 2012. Western Power crews were on standby to provide assistance in the wake of TC Rusty in February 2013. This year we again demonstrated our ability to work effectively with State emergency organisations and other utilities to restore power supplies as quickly as possible following these severe weather events. Our emergency response is one we are proud of.



“ THIS YEAR WE AGAIN DEMONSTRATED OUR ABILITY TO WORK EFFECTIVELY WITH STATE EMERGENCY ORGANISATIONS AND OTHER UTILITIES TO RESTORE POWER SUPPLIES AS QUICKLY AS POSSIBLE FOLLOWING THESE SEVERE WEATHER EVENTS ”

BENEFITS OF UNDERGROUND POWER

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RESILIENCE OF UNDERGROUND INFRASTRUCTURE DURING CYCLONES - REDUCED IMPACT ON OUTAGES & SAFETY

CYCLONE HEIDI IN 2012

- Outages impacted more than 3,000 customers in Port Hedland and South Hedland.
- The category two cyclone damaged the overhead network which took a few hours to repair during which time the community had to remain indoors.
- All nine undergrounded systems remained in service but power was lost for more than 12 hours at each of the eight overhead systems.
- There would have been minimum disruption, if any at all, if the electricity distribution system had been fully underground.



RESILIENCE OF UNDERGROUND INFRASTRUCTURE DURING CYCLONES - REDUCED IMPACT ON OUTAGES & SAFETY

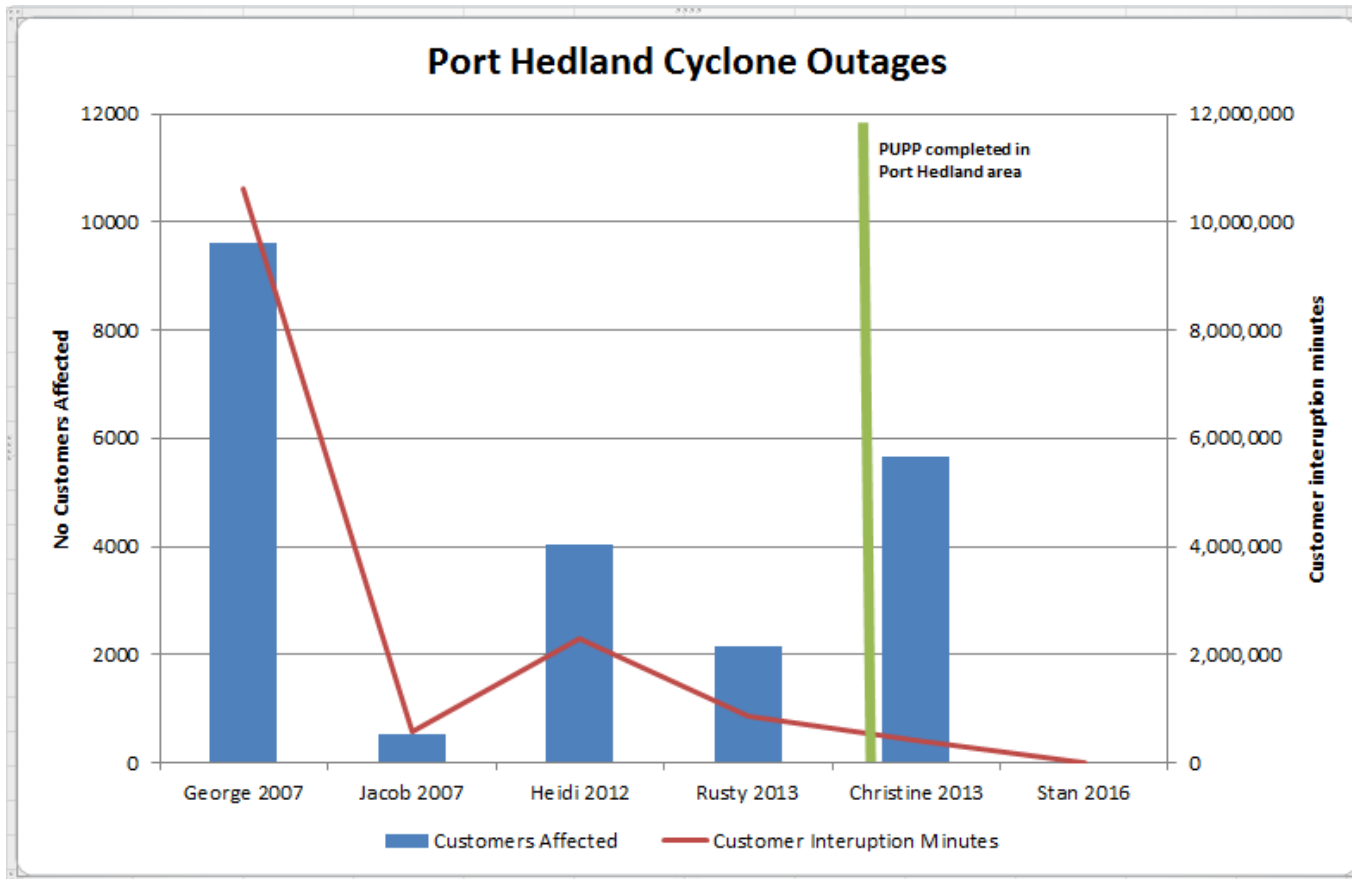
CYCLONE CHRISTINE IN 2013

- Electricity was lost to the majority of customers (over 7000) in Karratha and approx. 100 customers in Port Hedland.
- Customers in Karratha that were already connected to the underground network had power restored quickly once the all clear was given and the fault at the Karratha power station which caused the outage, was resolved.
- Customers on the overhead network experienced lengthy outages. This outage was caused by damage that occurred to the power station in Karratha during red alert as well as damage to overhead distribution systems. A transmission line running between Port Hedland and Karratha was damaged during this cyclone; however this was not the cause of the outage.



BENEFITS OF UNDERGROUND POWER

RESILIENCE OF UNDERGROUND INFRASTRUCTURE DURING CYCLONES - REDUCED IMPACT ON CUSTOMER OUTAGE DURATION



MEET THE HP PUPP TEAM

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UNDERGROUND
POWER PROJECT

James Carney - Manager Pilbara Network

Andy Allaway – Project Construction Manager

Belton Tshado – Onslow Site Supervisor

Michelle Piefke - Quality Assurance Coordinator

Justine Franklin - Access Controller

Leeanne Hopley - Site Administration



A Site Supervisor will be stationed onsite in Onslow to oversee the delivery of works and ensure the project is delivered within set timelines and budget.

“The Karratha project is ahead of schedule and under budget – which is testament to a dedicated project team, highly experienced contractors and well-tested methodology.” James Carney, Manager Pilbara Network



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STEPPING INTO THE FUTURE KEEPING YOU SAFE

PILBARA
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Embrace the benefits of underground power with improved safety, reliability and streetscapes.



HORIZON
POWER

City of
Karratha

shire of Ashburton
reef to range



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PILBARA
DEVELOPMENT
COMMISSION

PILBARA CITIES

QUESTIONS & ANSWERS

PILBARA
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FREQUENTLY ASKED QUESTIONS



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