Picnic Point to Revesby cable project - Frequently asked questions

Area of interest	Question	Response/Key Messages
GENERAL		
Project justification	Why is the project needed?	Revesby Zone Substation (ZS) is currently supplied by two 132,000 volt Self Contained Fluid Filled (SCFF) underground cables from Transgrid's Sydney South Bulk Supply Point (BSP) located in the Georges River National Park at Picnic Point. These cables are more than 55 years old and are now approaching the end of their service life. They have been subject to failures in recent years and need to be replaced for us to maintain a safe and reliable power supply to customers in the area.
Existing cables	Why can't we just fix the existing cables?	The existing cables are known as self-contained fluid filled cables (SCFF) and Ausgrid has an agreement with the Environmental Protection Agency to progressively remove this type of cable from Ausgrid's network. The fluid filled cables have high maintenance costs, high failure rates, extended repair times and require special jointing. Failure of these cables can lead to leaks with have the potential to cause environmental damage.
Option analysis	Are the cables being replaced in the existing route?	Ausgrid started planning to replace the cables in early 2018. This process involved engaging with the local council and key stakeholders in the areas where the replacement cables could be laid. Ausgrid has investigated the route options and decided on a replacement cable route for the project. The existing cables will be replaced like-for-like so the new ones will be installed along the existing route along Kennedy Street.
Project timing	When will the project start and finish?	Construction for the project is planned to start in late 2018 and continue for approximately 9-12 months. A detailed project and community engagement timeline is below: **To date: Investigate options**: Preliminary investigations conducted along the cable replacement route. Early meetings with stakeholders. **April 2018: Community input**: Information session to introduce the project and collate community feedback. Feedback used by Ausgrid to inform decision making and planning. **May- June 2018: Ground investigation work**: Site investigations to assess ground conditions and pinpoint any

		existing services. Ongoing liaison with the community to minimise impacts. **July - September 2018: Environmental Assessment (REF):** REF prepared and displayed for submissions. Final community feedback incorporated as a part of the project review. Construction approval obtained. **Late 2018: Construction**: Construction, installing conduits and cables, and reinstatement of affected areas completed in stages. Construction will continue for approximately 9-12 months. Ongoing liaison by Ausgrid to minimise construction impacts for the community
Cost	Who pays for the project?	NSW electricity customers are funding the replacement of these cables through the network component of electricity bills.
Community consultation	Will I be able to have a say in the outcome? How will my submission have an impact? What options are there for me to have a say? Where will I see the final outcome and the reason for this? What if the community doesn't agree with the Ausgrid decision?	Community feedback will be one of the factors considered by Ausgrid to plan the cable route and to develop the construction program. Ausgrid has sought to involve community early in this project so we can use local feedback as part of the planning process. Ausgrid held an engagement session on 26 April 2018 where the community was invited to find out more about the project, provide feedback and to speak with the project team. Feedback was incorporated into the planning process. There will be further newsletters with updates, including how we have used community feedback at each project stage. An environmental assessment (REF) will be prepared. This process involves preparation of specialist studies and input from the community, council and other authorities. Between July - September 2018, the REF will be placed on exhibition at several locations and the community invited to make submissions. People along the proposed route will receive a newsletter with further details on this process. Following the REF exhibition, Ausgrid will review all submissions and prepare a report. Ausgrid will then determine the project for approval based on information contained in the REF, the specialist reports, the submissions report and other relevant documents. There are a number of factors that must be considered in developing cable projects, factors are often competing, but Ausgrid endeavours to develop a project that considers and balances all factors.

Project approval process	Who approves the project?	Under *Part 5 of the NSW Environmental Planning and Assessment Act 1979*, Ausgrid is the nominated determining authority for the installation of electrical infrastructure.
Environmental Assessment	Will the environmental impacts be assessed?	An environmental assessment known as a Review of Environmental Factors (REF) will be prepared by Ausgrid. This process involves preparation of specialist studies and compiles the submission on the project from the community, councils and other authorities. Between July - September 2018, the REF will be placed on exhibition at several locations and the community invited to make submissions. People along the proposed route will receive a newsletter with further details on this process. Following the REF exhibition, Ausgrid will review all submissions and prepare a report. Ausgrid will then determine the project for approval based on information contained in the REF, the specialist reports, the submissions report and other relevant documents.
CABLE		
Engineering description	What does this mean?	Revesby Zone Substation is currently supplied by two 132,000 volt underground cables from Transgrid's Sydney South Bulk Supply Point (BSP) located in the Georges River National Park at Picnic Point. One of the existing cables was installed in 1963 and the other in 1981. These cables are of the Self Contained Fluid Filled (SCFF) type and are reaching the end of their serviceable life. They have been listed on Ausgrid's SCFF cable replacement program which aims to minimise environmental impacts from fluid leakages. This forms part of an agreement with the Environmental Protection Agency to replace SCFF cables on the Ausgrid network. The replacement of these cables will enable Ausgrid to maintain a safe and reliable power supply to customers in the area. Ausgrid proposes to replace these two existing cables by installing two new 132,000 volt underground cables in a combined cable trench. These cables will be replaced like-for-like, so the new ones will be installed along the same route. Replacement cables would be laid along Kennedy St, Eastern Ave and Weston St to enter Revesby Zone Substation on Tarro Ave. We will also access an existing easement through the Georges River National Park. The works are scheduled over three stages as follows: 1. Investigation works along the new cable alignment (including minor excavation in roadways to locate underground services and collect soil samples) 2. Construction works along the new cable alignment

		(including excavation to install new conduits and joint bays, backfill of excavations and hauling of new cables) 3. Decommissioning works along the alignment of existing cables (including excavating near existing joint bays, purging of insulating fluid from cables and removal of fluid tanks)
Reliability	Can you guarantee reliability with this style of cable solution? What is the estimated length of life? What happens if this cable fails? What is the capacity of the new cables?	Cross-Linked Polyethylene (XLPE) cables have been in use in the electricity industry for over 20 years. Life expectancy is greater than 40 years. Depending on the nature of the failure, cables can be repaired, or as these cables will be installed in conduits (plastic pipes), the failed cable could be recovered and replaced. Capacity is 250 MVA per feeder .
Timing	How long will the cable take to install and become operational?	The cable will need to be operational by early 2020. Installing the cable will take place around 9-12 months from late 2018.
ENVIRONMENT		
REF	Will an environmental assessment be prepared for the project? How do I comment?	Under the NSW Environmental Planning and Assessment Act 1979, Ausgrid is the determining authority for this project. As part of this process, an environmental assessment known as a Review of Environmental Factors (REF) will be prepared. This process involves preparation of specialist studies and input from the community, councils and other authorities. The REF will be placed on exhibition at several locations and the community invited to make submissions. People along the proposed route will receive a newsletter with further details on this process. Following the REF exhibition, Ausgrid will review all submissions and prepare a report. Ausgrid will then determine the project for approval based on information contained in the REF, the specialist reports, the submissions report and other relevant documents.
Impact to foliage	What is the likely impact to foliage associated with the cable installation?	There is no expected removal required due to cable installation. Minor clearing of re-growth vegetation may be required in isolated locations for the access of the construction equipment.
General construction	What will be the expected	Ausgrid is committed to minimising the impact of its activities on local communities and the environment.

impacts – noise, dust and vibrations	construction impacts?	There will be traffic, parking, and some noise and vibration impacts associated with the work, but Ausgrid will put measures in place to minimise these as much as possible. Before starting any work, Ausgrid carries out an environmental assessment of potential noise and vibration impacts. All work is completed in line with the results of the assessment, the Construction Environmental Management Plan and Ausgrid's environmental management policies. During the work, there will be some temporary changes to traffic and parking arrangements in some streets. Ausgrid will work closely with Council and Roads and Maritime Services (RMS) to minimise our impact on the local road network. A detailed Traffic Management Plan will be prepared in consultation with Council, RMS and other key stakeholders. Access to properties will be maintained at all times during construction, unless alternative arrangements have been made in advance with affected property owners. Some trees and plants may need to be trimmed or removed during construction but this will be avoided where possible. If required it would be assessed in the project's environmental assessment before the project is approved. Once work is finished, Ausgrid will restore any areas impacted by construction to as close to pre-construction conditions as possible.
EMF	What are the risks inherent with EMFs?	Electric and magnetic fields (EMF) are part of the natural environment and are also produced wherever electricity or electrical equipment is in use. Electricity cables and wiring, household appliances and electrical equipment all produce EMF. Magnetic fields drop off quickly as you move away from the source. Ausgrid recognises there are concerns about EMF in the community and takes seriously its responsibility to help address these concerns. Ausgrid complies with Australian and International guidelines for exposure to electric and magnetic fields. Ausgrid designs its new infrastructure to minimise EMF exposure wherever possible. Ausgrid reviews potential EMF exposure as part of its environmental assessment of new infrastructure. Ausgrid and the electricity industry continue to monitor national and international research and policy to ensure a prudent approach to planning new infrastructure. Information is available from the Australian Government's agency responsible for EMF – ARPANSA, the Energy Networks

		Association and the World Health Organisation.
	Where can I get more information on EMF?	Ausgrid has included an independent study on EMF for the Picnic Point to Revesby cable project, available for viewing with the REF. We can also organise visits to take measurements of existing magnetic fields in and around homes. Ausgrid has found on similar projects that this can provide some context to the magnetic fields from the proposed cables in relation to the existing environment. Further information can also be found at Australian Government agency ARPANSA, the Energy Networks Association (ENA) and the World Health Organization (WHO).
IMPACT TO INDIVIDUAL PROPERTIES		
Project stages	How will the project be stages?	The works are scheduled over three stages as follows: 1. Investigation works along the new cable alignment in May-June 2018 (including minor excavation in roadways to locate underground services and collect soil samples) 2. Construction works along the new cable alignment from late 2018 (including excavation to install new conduits and joint bays, backfill of excavations and hauling of new cables) 3. Retire old cables from early 2020. Once the new cables are in operation, Ausgrid will retire the old cables. These works will take place along the alignment of existing cables (including excavating near existing joint bays, purging of fluid from cables and removal of fluid tanks)
Construction process		The cables will be installed by excavating a trench to install the plastic conduits that hold the cables. There will also be associated work at various locations along the route to build underground 'joint bays' and pits to pull through and join sections of cable. Construction is expected to start from late 2018 and be completed in 9-12 months.
	Trenching	The trenching work will involve: • digging trenches, approximately 1.5 metres wide, to lay conduits (plastic pipes) to hold the new cables • filling trenches and resurfacing the area temporarily • trenching and resurfacing takes about three days outside each property depending on ground and weather conditions • excavating of two underground joint bays along the route in the road to feed in and join cables together • feeding in and joining the cables within the joint bays, which takes two to four months to complete. • work on the joint bays occurs in distinct stages • final restoration is completed in consultation with local

		councils, or relevant road authority. There may be trenching crews working at multiple locations simultaneously.
	Will you put the cables in the grass verge?	Cables of this voltage are generally installed in the roadway with the pavements and grass verge allocated for lower voltage cables or power lines.
	Joint bays	At intervals along the route there will be extended works to build underground 'joint bays'. Precast concrete joint bays will be brought to site and placed into pits that will have already been excavated in the road by our contractors. There will also be smaller pits associated with controlling and monitoring the cables and to assist with cable installation. Cables will be brought to the joint bay locations on large cable drums. The cables are pulled through the joint bays and into the conduits. The project team will discuss the proposed location of the joint bays and pits with neighbours as early as possible after our contractors have prepared their construction plans.
	Do you put joint bays in driveways?	No, Ausgrid tries to avoid driveways. As soon as the project team has planned where the joint bays will be located, consultation starts with the immediate neighbours. This is done at least 21 days before the joint bay is excavated in the roadway. Ausgrid and the contractor make contact with all residents adjacent to the joint bays well in advance of work starting to discuss the construction process. Generally joint bays remain in place for a couple of months but access to properties is maintained. This amount of time is required to allow the pit to be excavated, the cables to be pulled through and specialist crews to undertake cable joining work inside the bay. This is done in stages.
Construction impacts	What impacts exist to residents during the construction phase?	Ausgrid is committed to minimising the impact of its activities on local communities and the environment. There will be traffic, parking, and some noise and vibration impacts associated with the work, but Ausgrid will put measures in place to minimise these as much as possible. Before starting any work, Ausgrid carries out an environmental assessment of potential noise and vibration impacts. All work is completed in line with the results of the assessment, the Construction Environmental Management Plan and Ausgrid's environmental management policies.

		During the work, there will be some temporary changes to traffic and parking arrangements in some streets. Ausgrid will work closely with Councils and Roads and Maritime Services (RMS) to minimise our on the local road network. A detailed Traffic Management Plan will be prepared in consultation with Council, RMS and other key stakeholders. Access to properties will be maintained at all times during construction, unless alternative arrangements have been made in advance with affected property owners. Some trees and plants may need to be trimmed or removed during construction but this will be avoided where possible. If required it would be assessed in the project's environmental assessment before the project is approved. Once work is finished, Ausgrid will restore any areas impacted by construction to as close to pre-construction conditions as possible.
Ground investigations	Will Ausgrid undertake site investigations early as there may be many existing services in the area?	Ausgrid will conduct site investigations and pinpoint existing underground services in the area from May 2018. Consultation has already started and will occur during all stages of the project.
	Do you put these cables in a trench with other services?	Ausgrid does not generally put cables in trenches with other services other than fibre optic cables for our network, as there are technical requirements that require certain distance to be kept from other services. There are also safety considerations when working near cables that are in operation.
	Will the restored road surface be safe for pedestrians/ cyclists to use?	Trenches are generally located within the centre of the road, however the cable alignment is largely determined by existing services in the roadway. During construction, control measures would be put in place to ensure the safety of pedestrians / cyclists. Steel plates are usually used to cover any open trenches between shifts and these areas would be sign posted. Trenches are temporarily restored with hot mix asphalt which is equivalent to a normal road surface (except with seams down either side of the trench). The temporarily restored areas are then regularly monitored to ensure surfaces are safe for all road traffic. At a later date the affected section of the road is reinstated

		permanently in consultation with local council or the relevant road authority by specialist road construction crews.
George's River National Park	What is the impact to the George's River National Park?	The cable route will use an existing Ausgrid electrical easement through the George's River National Park which aligns with an existing access track. This has been intentionally selected to minimise the impact to the surrounding environment.
Impact to property values	How will the cable project have an impact on my property value?	Cables are buried beneath the roadway. Ausgrid has no knowledge of an impact on property values as a result of the existence of underground cable systems.
Restoration	What areas will Ausgrid restore?	Ausgrid is obliged by legislation to make good areas disturbed by the installation of electrical infrastructure. All affected areas, including grass verges, will be restored to their previous condition. This process may involve more than one step.
	How will Ausgrid restore affected areas to their previous state?	All areas affected by Ausgrid works will be reinstated to previous condition once work is finished, unless otherwise agreed in advance with the affected stakeholder. Restoration of roadways typically involves two stages: 1. Excavated sections of road will be backfilled immediately and temporarily resurfaced to allow normal use by traffic. 2. Once all cables have been installed and tested, permanent resurfacing will be done in consultation with the relevant authority (i.e. Council, Roads and Maritime Services).
	Who could be contacted about issues with temporary reinstatement? Will there be a community contact at all times?	Ausgrid will engage a contractor to complete all trenching and temporary restoration works. Names and contact details of the relevant contractor will be provided as the first point of call for all enquiries. Secondly, Ausgrid has a dedicated community engagement team for all stages of the project. A 24 hour community construction line is available during all project stages as well as a project email. Residents and businesses are encouraged to contact the community engagement team with any questions or concerns, including questions about installing cables in particular areas.
	How will Ausgrid work with Council to avoid digging up roads that they plan to resurface?	Ausgrid has met early with council in the area where we plan to install cables to receive local information as well as to get details on their program of works. These meetings will continue throughout all stages of the project to keep council updated on our plans and to coordinate works where possible to try to minimise having to excavate after any council road restoration.
Notice of works	How much notice do	Ausgrid generally provides four clear business days' notice before any work begins in an area. This is in addition to the

	residents receive before works start?	progressive information provided during project planning.
Impacts to properties	What will the work site look like?	A typical work site will encompass a number of vehicles including an excavator, a truck to remove the spoil and other trucks containing equipment and crews. On-site personnel including work crews and traffic control staff will also be present. Traffic conditions will also be changed temporarily.
	Will I be able to get my car out of the driveway while you are working in my street?	Yes. Access to properties will be maintained throughout the project unless we have made prior arrangements with you. If crews are working directly in front of your property, they will work with you to help you exit as quickly as possible. Generally, steel plates are placed over the trench to allow cars to drive over the trench – this can take around five to ten minutes to organise depending on the work being undertaken. Traffic controllers will be on site to ensure you can safely enter onto the road/street.
	How long will work take outside my home?	Generally trenching proceeds at a rate of 20-30 meters per day so this means that crews should pass your home in around two-three days. However, this rate depends on how much rock is in the ground as this takes longer to excavate.
	What are the construction hours? Will you be working at night?	We will generally be working standard construction hours from 7am to 6pm Monday to Friday and 8am to 1pm on Saturdays. There may be times when we need to work at night, for example, on major roads and intersections which help to avoid major traffic disruptions. In these cases, we attempt to avoid high impact activities (such as saw cutting or jack hammering) after 11pm where possible. We will advise you in advance of work in your street so you will know when work will start and finish, and the approximate duration of work.
	Will there be a joint bay outside my house, and if so, what does that mean for me and my family?	The exact location of joint bays along the cable routes has not yet been finalised. Once the contract is awarded, the contractor will prepare a detailed project design, including the location of all joint bays. We will make contact with all residents adjacent to the joint bays well in advance of work starting to discuss the construction process. Generally joint bays remain in place for a number of months but access to properties is maintained. This amount of time is required to allow specialist crews to undertake staged cable jointing work inside the bay.

Vegetation	Will trees be protected during construction?	There is no expected removal required due to cable installation. Minor tree trimming may be required in isolated locations for the access of the construction equipment.
	Will any street trees that have been identified as requiring removal be replaced?	Replacement planting and vegetation reinstatement, where street trees have been removed, will be completed in consultation with the relevant council.
OTHER		
What if Ausgrid doesn't replace the cables	What would happen to Ausgrid's network if the cables weren't replaced?	The existing cables are expected to have an increased rate of failure in the future which would decrease the reliability of supply. There is also an environmental and risk associated with retaining these cables in service.
Cost	How does Ausgrid cost cable options?	Ausgrid has completed a range of 132,000 volt cable projects in recent years. Using information from previous projects we are able to assess likely costs and risks of each project.
Overhead versus underground cables	Will this project take the current overhead powerlines and trench them?	Overhead lines along the route are of a lower voltage and cannot be installed in the same trench as 132,000 volt cables that are being replaced by this project.