

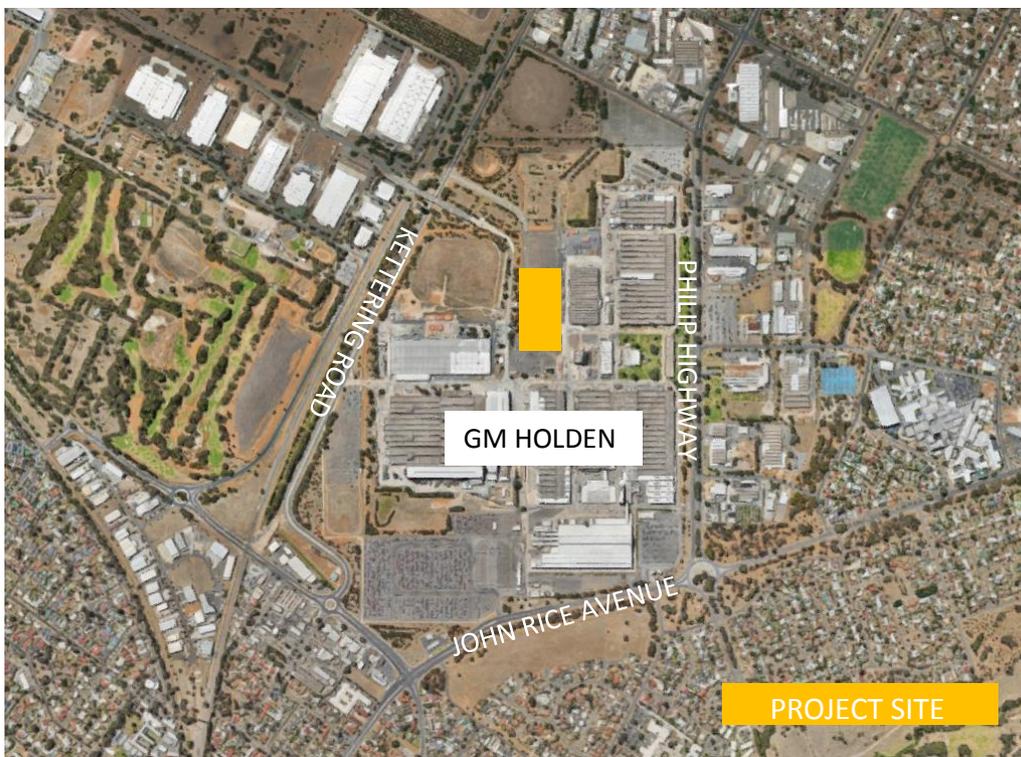
BACK UP POWER PLANT

Project Update – September 2017

Since the announcement of the preferred approach for the development of a State owned back up power plant in August, works to construct nine temporary generators at the General Motors Holden site in Elizabeth and adjacent to the Desalination Plant in Lonsdale have progressed significantly.

The generation units are being located at these sites as a temporary solution to supply emergency electricity during the 2017/18 and 2018/19 summer periods while the permanent site is being established. The project is on schedule for completion by December 2017. The temporary generators will reduce the likelihood of interruption to your electricity supply (known as load shedding).

This project is an important part of the broader \$550 million Energy Plan to deliver reliable, affordable and clean power for all South Australians.



Location map of General Motors Holden and project site



**Government of
South Australia**

Temporary generators

Nine GE TM2500 aero-derivative turbine units have been chosen as the preferred option to provide emergency generation to the State because of their ability operate effectively when the system is under duress.

154 megawatts of generation will be installed at the General Motors (GM) Holden site in Elizabeth (five units) and 123 megawatts of generation will be installed adjacent to the Desalination Plant in Lonsdale (four units). The hybrid generators will initially operate on diesel fuel over the next two summers, before being relocated to a permanent location to operate on gas.

Testing and commissioning

Testing and commissioning of the temporary generators will be undertaken throughout October 2017. Testing will involve switching on the units one at a time. Once operational, the units will be tested one at a time, once a month during the day for less than 30 minutes each. This approach will minimise disturbances for nearby businesses and residents.

Operation

The temporary generators will only be operated as the last generators to be switched on in the State when there is a high risk of load shedding. An analysis of the National Electricity Market shows that load shedding events have occurred infrequently and have typically lasted for less than an hour. As such, the temporary generators are forecast to operate at most only a few times per year and for short durations.

While there will be instances when you may hear the units while they are switched on, we hope that you understand that they are operating to provide reliable energy in your local area and for all South Australians.

Noise

A comprehensive assessment of potential noise impacts from the temporary generators has been carried out. Potential noise levels have been compared with the indicative noise levels applicable for your area as outlined in the *South Australia Environment Protection (Noise) Policy 2017* (see tables below).

Site	Residential level (day)	Residential level (night)
Elizabeth	52 dB	45 dB

Predicted noise levels from temporary generators operating at full load are outlined below. Full load means that all units are switched on at once. Note that in most cases, the temporary generators will not all be operating at full load when supporting the electricity network and so these noise levels will only be experienced on rare occasions.



Day time

Condition	Residential level – Properties in the north	Residential level – Properties in the south
No wind	55	51
Wind	59	55

In bad wind conditions, noise levels for residents close to the GM Holden site are predicted to exceed the noise criteria by up to 7 dB(A) while the temporary generators are operating at full load during the day/ evening. Typical noise levels experienced by residents standing outside of their house during full load operation could be noisy. The sound level could be compared with the sounds at a department store.

Predicted noise levels for day time maintenance operations comply with EPA criteria for nearby residents.

Night time

Condition	Residential level – Properties in the north	Residential level – Properties in the south
No wind	59	55
Wind	59	55

While an assessment has been undertaken for night time scenarios, the temporary generators are most likely to be required to operate when electricity demand peaks in the late afternoon/ early evening and are unlikely to be required to operate at night when electricity demand levels are lower.

Noise levels for residents close to the GM Holden site are predicted to exceed the noise criteria by up to 14 dB(A) when the temporary generators are operating at full load during the night. Typical noise levels experienced by residents standing outside of their house during full load operation could be noisy. The sound level could be compared with the sounds at a department store or people talking.



Typical noise sources and their respective noise levels

The table below provides a list of sounds and the associated noise levels to help you understand the figures used in this document.

Noise Level dB(A)	Source	Subjective Description
120	Rock Concert	Intolerable
110	Accelerating Motorcycle (at five metres)	
100	Pneumatic Hammer (at two metres)	Very Noisy
90	Loud Factory	
80	Kerbside of Busy Street, Shouting	Noisy
70	Busy Traffic	
60	Department Store, Speech Level	
50	Quiet Restaurant	
40	Residential Area at Night	Quiet
30	Theatre	
20	Rustling of Leaves	Very Quiet
10	Human Breathing (at three metres)	
0	Threshold of Hearing for Normal Young People	

** Adelaide City Council Noise Technical Fact Sheet/ Bies D.A and Hansen C.H, Engineering Noise Control: Theory and Practice*

For more information

The State Government is constructing the back-up power plant in order to reduce the risk of interruptions to your electricity supply. When the power plant is switched on, nearby businesses and residents may be able to hear the sound of the temporary generators.

If you would like to speak to a member of the project team about construction works or noise during the testing and commissioning of the generators, please call 1300 764 489 during business hours Monday to Friday or email OurEnergyPlan@sa.gov.au.

For more information about the temporary generation project or to view a copy of the proposed Noise Management Plan please visit ourenergyplan.sa.gov.au.

The temporary generators will be required to be licensed by the Environment Protection Authority. All EPA licences can be viewed on the EPA website at epa.sa.gov.au.



**Government of
South Australia**