

ENERGY

MTU ONSITE ENERGY PROVIDES EMERGENCY BACKUP SOLUTION FOR ADELAIDE'S FLAGSHIP HOSPITAL



// **Who** : Nilsen Australia

// **What** : MTU Onsite Energy Emergency Backup System

// **Where** : Royal Adelaide Hospital, Adelaide, South Australia



Australia



South Australia

The \$2.3 billion Royal Adelaide Hospital has been listed as the single largest capital investment project in the history of South Australia. Built to the world's best standards, it is the state's flagship hospital, providing a comprehensive range of the most complex clinical care for the people of South Australia. To deliver emergency power to the all-new hospital, the local MTU partner Penske Power Systems has supplied and managed the installation of six diesel-powered MTU 20V 4000 DS 2650 generators.

Located in Adelaide's West End, the Royal Adelaide Hospital (RAH) spans the equivalent of three city blocks with almost four hectares of internal and external green space. Its design blueprint is based upon some of the world's leading hospitals, combining cutting-edge health care technology with new standards in conservation and environmental management. Accordingly, the RAH will deliver the most technologically advanced and environmentally sustainable medical facility in Australia. The 800-bed hospital has the capacity to treat more than 400,000 outpatients and deliver overnight care to approximately 85,000 inpatients every year.

With 40 technical suites on a 10-hectare site, reliable power supply is critical. Nilsen Australia, a leading electro-technology company, was relied upon to power the large

scale project, subcontracting all electrical and integrated communication services that are underpinned by MTU's reliable Series 4000 engine. As part of its work with Nilsen Australia, the local MTU Onsite Energy partner Penske Power Systems supplied and installed six 20V 4000 DS 2650 diesel generators that are instrumental in delivering standby power to the new hospital.

Specified for work in black start conditions, the innovative MTU Onsite Energy configuration features best-in-class load acceptance, delivering 100 per cent capacity to the entire RAH site within 18 seconds. Importantly, the 3D-listed units deliver 2.08 MW each and boast fuel systems capable of extending to 72-hour intervals. Housed within the hospital's east and west plant rooms, each 21 tonne MTU Onsite Energy unit features integrated exhaust,



Housed within Royal Adelaide Hospital's east and west plant rooms, six MTU 20V 4000 DS 2650 diesel generators provide standby power and are capable to deliver 100 per cent capacity to the entire site in just 18 seconds.

controls and silencer systems, ensuring the delivery of a combined output of 12.48 MW when required. Additionally, the MTU Onsite Energy generator sets maintain critical operations at high ambient temperatures, and also comply with detailed earthquake requirements as part of the RAH's Tier 1 disaster recovery hospital classification.

Due to the scope and size of the project, Penske Power Systems allocated a full-time site manager to service the project, providing complete engineering and project management to Nilsen. Penske's engineering team also completed a full equipment risk assessment and support for system integration, as well as building additional system protection features into generator set controls.

Sources

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<http://www.esdnews.com.au/adelaides-newest-hospital-gets-blackout-plan/>

MTU Onsite Energy Corporation

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MTU Onsite Energy is a brand of Rolls-Royce Power Systems. It provides diesel and gas-based power system solutions: from mission-critical to standby power to continuous power, heating and cooling. MTU Onsite Energy power systems are based on diesel engines with up to 3,250 kilowatts (kWe) power output and gas engines up to 2,530 kW.

