

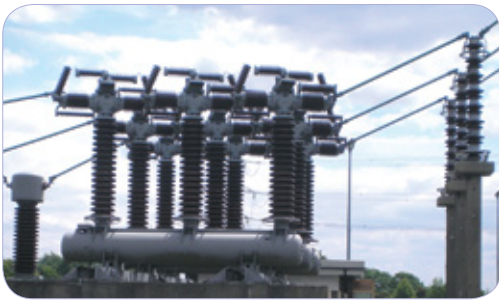


casestudy

product	customer	sector
		National Grid (www.nationalgrid.com) is one of the largest electricity and gas companies in the world, serving millions of customers in the UK and USA

National Grid chose the Pnu Power for more dependable backup with far lower lifetime operating costs: a real win-win solution.



A single Pnu Power 5™ at National Grid, Capenhurst, replaces TWO conventional battery systems, which were previously housed inside the substation to protect air blast circuit breakers.

challenge

- provide a 'no break' energy supply for 48V communication loads and 110V electricity switching for network substations at National Grid's 275kV switchyard, Capenhurst, UK
- reduce ongoing maintenance and testing costs
- enhance confidence in standby power reliability/availability

solution

- one Pnu Power 5™ Compressed Air Battery, with a 5kW dual 48/110V DC output, has replaced two existing lead acid battery standby systems (48V and 110V).
- powered by the facility's existing air blast breaker compressed air ring main (cylinders were an option)
- low cost installation in under 2 hours

benefits

- maintenance reduced to one annual inspection, significantly lowering operating costs
- accurate GUI display of system condition and run time availability increases confidence
- external weatherproof unit (IP54) frees space in substation

standard specifications

	Pnu Power³ 3kW Compressed Air Battery	Pnu Power⁵ 5kW Compressed Air Battery	Pnu Power¹⁰ 10kW Compressed Air Battery
Output	3kW	5kW	10kW
Height/Width/Depth	1700mm (66.9") x 800mm (31.5ins) x 600mm (23.6")	1700mm (66.9") x 800mm (31.5ins) x 600mm (23.6")	2200mm (86.6") x 800mm (31.5") x 800mm (31.5")
Weight	125kg (275lbs)	150kg (330lbs)	230kg (506lbs)
Supply Pressure	15 bar (217.5 psi)	28 bar (406 psi)	35 bar (507.5 psi)
Run Time from standard extendable cylinder pack	40 minutes	24 minutes	12 minutes

POWER

AC Voltage	Customer specified: 110-240 Vac 1 Phase, 380-480 Vac 3 Phase 50/60Hz
DC Voltage	Customer specified: 12-340 Vdc +/-ve grounding available as standard
AC + DC	Multiple outputs available
Voltage regulation	+/- 0.5%

OPERATIONAL SPECIFICATIONS

Mode	Standby or UPS power
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ENERGY SOURCE

Source	High pressure cylinders or medium pressure plant main
Air quality	Standard industrial
Recharge type	Cylinder replacement or automatic compressor

ENVIRONMENTAL

Operating temperature	-40 to +50°C (-40 to +122°F)
Storage temperature	-40 to +60°C (-40 to +140°F)
Humidity	>95% non-condensing
Heat dissipation	<100W in standby mode
Noise	<65dBA at 5m as standard across range
Enclosure	Standard industrial: internal & external options

INSTRUMENTATION

Local	LCD display shows run time remaining and operational status
Remote	Ethernet (TCP-IP) or standard modem

STANDARDS

Safety	CE Certified
Emissions	CE Certified
Immunity	CE Certified



Compressed Air Batteries
the smarter backup choice

Technical Information & Support

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