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# Hospital cuts energy by £15,000 using variable-speed drives

A hospital is set to save around £15,000 a year on air handling costs following the installation of variable-speed drives (VSDs) by ABB authorised value provider Inverter Drive systems (IDS).

The project involved fitting ABB drives to a number of air handling units (AHUs) in Bedford Hospital's maternity and pathology departments, cutting air volumes to save on energy use.

Bedford Hospital NHS Trust is a 370-bed acute district general hospital serving patients in North and Mid Bedfordshire. IDS approached the hospital with a proposal to investigate its motor-driven fan applications with a view to using VSDs to cut energy use.

Kevin Stephenson, Estate Manager for Engineering, says: "We were attracted by IDS' proposal, particularly by the low payback times of around a year they said we could achieve."

IDS investigated the AHUs and together with the hospital, identified four AHUs as suitable candidates for retrofitting with VSDs. These were in the waiting rooms and other general areas of the neo-natal unit, maternity outpatients department, pathology ground, first and second floors. "We knew this would cause minimal disruption, as we could alter the air volumes and save energy without the need to meet the air change rates in more critical areas such as theatres," says Stephenson.

Previously, the AHUs were used direct-on-line, with no form of control. IDS proposed retrofitting four AHUs, two in each department. The solution involved four 11 kW drives and one each of 7.5 kW, 15 kW and 3 kW. All were three-phase, ABB HVAC drives, ACH550, with IP54 enclosures.

Before installation, IDS had predicted a speed reduction of 15 percent but achieved 20 percent. This equated to a saving in energy costs of £15,000 a year, with payback in only 11 months. As well as the energy saving, the motors will run quieter, also suffering less wear and tear and therefore reducing the maintenance requirement.

Says Stephenson: "We were very pleased with the way the project went. IDS completed the installation on time and did what they said they would do. We have had no problems since the VSDs were installed in June 2013."

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**Caption:** Bedford Hospital is set to save £15,000 a year on air handling costs following the installation of ABB variable-speed drives.

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