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Ceres Power Holdings plc
('Ceres', 'Ceres Power' or the 'Company')

Technical Update: Key Performance and Durability Targets Achieved

Ceres Power, the AIM-quoted fuel cell group, is today providing an update on the progress achieved in the development of its unique patented fuel cell technology. Ceres' continued focus is to utilise its technology to deliver a set of commercially viable products that can be mass manufactured and meet a clear market need.

Rigorous testing of the fuel cell stacks has demonstrated that the required levels of durability and performance can be delivered for the market applications it is targeting, namely domestic combined heat and power (CHP) boilers, off-grid generators and auxiliary power units (APUs).

- Successful completion to date of more than 7,500 hours of fuel cell stack testing, reflecting the unique design and the use of well-proven manufacturing techniques
- Testing of more than 50 stacks of up to 1kW power output with repeated thermal cycling (on/off) between room temperature (20oC) and operating temperature (600oC) without performance degradation
- Stack testing on a range of commercially available fuels including natural gas, LPG and propane demonstrating the capability to meet the performance requirements of a wide range of target market applications
- Validation of stack manufacturing and assembly processes with more than 1,000 stack sub-assemblies constructed with a zero failure rate.

As a result of the performance demonstrated during the testing programme our core stack technology has been frozen. This technology will be appropriate for power outputs between 0.5kW and 5kW.

Integrated fuel cell systems have also been demonstrated by coupling lightweight, compact stacks and fuel processors with other key balance of plant components for our planned domestic CHP applications. Our focus is now on completing the designs of end-user products.

As announced at the preliminary results in September, we are currently equipping a new product facility which is expected to be operational by mid-2007 and is designed to produce limited volumes of prototype products incorporating volume manufacturing solutions. These units will be used both for demonstrations and larger field trials. The facility will also be used to develop and validate the manufacturing and assembly processes prior to transfer to mass production.

The scale-up process has been substantially de-risked with the establishment of a supply chain to procure cell, stack and system components utilising technologies with well-proven design lives in excess of 10 years. We are already working closely with a number of OEMs to finalise the arrangements for volume assembly of products utilising fuel cell stacks that will be manufactured by Ceres at a 'mother plant' facility planned to be commissioned in mid-2008.

Peter Bance, Chief Executive of Ceres Power, commented:

"Our testing has demonstrated that our unique technology has overcome many of the obstacles faced by other fuel cell technologies and can deliver durable, efficient and cost effective mass market solutions. We are now focused on completing the design of commercial, compact end-user products."

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About Ceres Power

Ceres is a successful AIM-quoted fuel cell business developing a range of global market applications including residential combined heat and power, on-site / back-up generators and auxiliary power units for transport. Critically, the technology uses low cost materials and existing mass-production techniques. And unlike many fuel cells, the Ceres cell can run on widely available fuels like natural gas, Liquefied Petroleum Gas (LPG) and biofuels as well as on hydrogen.

Since its formation in 2001, the Company has received major recognition for its technology and business credentials.

Ceres won the prestigious 2003 Carbon Trust Innovation Award for the UK's green technology with the best commercial potential.

More recently, Ceres secured a top industrial accolade by winning the Institute of Materials, Minerals and Mining's Gold Medal for 2005.

In January 2006, Ceres Power was selected as the only fuel cell company in the government's new Energy Research Partnership, contributing directly to national energy policy.

Ceres Power has raised over £25 million of funding through two rounds of private equity and its AIM IPO in November 2004. The company enjoys the support of many blue chip City institutions as financial backers including Fidelity, Morley and JP Morgan.

About Ceres Power's Technology

Ceres fuel cell stacks are comprised of multiple fuel cells layered on top of one another, each made from stainless steel with tiny amounts of ceramic coating. The cells combine fuel and air to create electricity and heat via a quiet, solid state electrochemical process similar to a battery. As this process does not involve combustion, unlike an engine or burner, it is highly efficient and environmentally friendly.

Ceres has developed a unique adaptation of Solid Oxide Fuel Cell (SOFC) technology, able to operate at temperatures substantially lower than conventional designs which run at 800 - 1000 degrees C. By using a new generation of ceramic materials known as CGO (cerium gadolinium oxide) instead of the industry standard YSZ (yttria stabilised zirconia), operation at 500 - 600 degrees becomes possible. This in turn allows use of conventional stainless steel as the cell substrate, separating the function of mechanical support from electrochemistry.

The electrochemical layers can then be made extremely thin and optimised for maximum performance, resulting in industry-leading power density levels, whilst the stack material costs are radically reduced. The efficiency of converting fuel into electricity and heat is therefore very high and this efficiency is maintained across a wide part-load range. In addition, the heat-to-power ratio is approximately one-to-one making the technology ideal for applications such as CHP, where levels of electrical output need to be maintained even where heat demand is modest.

In contrast to totally ceramic cells, these metal-supported cells are

mechanically highly robust and can be easily sealed (e.g. through welding) and have thermal expansion coefficients well matched to their ceramic coatings. This allows great resistance to thermal shock, permitting rapid start-up times and the potential for thousands of ON / OFF cycles for everyday usability. In addition, the technology retains the fuel flexibility of SOFC, and has proven ability to run highly efficiently on commercially available fuels such as natural gas, LPG and biofuels.

In conjunction with the Ceres stack programme, the Company has been developing the non fuel cell elements within the complete product, known as the balance of plant ("BOP"), as part of its systems integration activities aimed at delivering products for specific customers. Because of the unique attributes of the technology, Ceres Power has been able to dramatically reduce the time and cost of BOP development and systems integration by utilising mature component supply chains and ordinary, low cost materials. Unlike other fuel cell designs which operate at more extreme temperatures, time-consuming and expensive bespoke solutions for BOP components are not required.

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