

**29 June 2007**

**ITM Power Plc  
("ITM" or "the Company")**

**Progress Report**

ITM Power's principal aims are the commercialisation of the hydrogen economy and the development of technology to enable the replacement of hydrocarbon fuels. The Company is pleased to announce significant progress in these objectives:

**Electrolytic Hydrogen Fuelling for the ITM Bi-Fuel Car:**

**The Electrolyser:** ITM is making good progress in the design and construction of a 'home refuelling' system using an ITM electrolyser to convert renewable or off peak electricity into hydrogen. This device depends upon an electrolyser stack of 10kW electrical input operating at pressures of 75 bar. The Company is pleased to announce that a prototype electrolyser has now operated at the requisite power (10kW).

The pressure test target 75 bar (or 1125lb/sq inch) originally set for December 2007 has been achieved. This programme was accelerated to provide early technical information for the design of the 2008 factory production units which are anticipated to combine both pressure and power capabilities in a single unit.

**The Bi-Fuel Car:** In conjunction with the University of Hertfordshire, ITM has modified a petrol engine Ford Focus to operate using pure hydrogen able to be supplied by an ITM electrolyser before switching to gasoline. An ITM self pressuring electrolyser has now successfully fuelled this vehicle. Drivability in public road conditions when using hydrogen has proved to be excellent.

This vehicle has been refuelled with hydrogen to a pressure of 75 bar for range testing purposes and has exceeded 25 miles on a single charge of hydrogen both when tested on a rolling road, and during testing on public highways.

Later this year, ITM plan to publicly demonstrate both the vehicle and refuelling system using electrolyser prototypes that will closely resemble the initial units to be manufactured at the new Sheffield production site.

**Fuel Cell Developments:**

The Company is pleased to announce that the fuel cell cost reduction programme is proceeding on track, and it has succeeded in increasing the performance of its hydrogen and oxygen fuel cell system so that the resulting fuel cell meets the cost reduction target for June 2007 of less than \$500/kW if produced in accordance with the assumptions set out in the Technical Update, 18 October 2006.

This has been achieved principally by further increases in the power density at which the ITM hydrophilic material can operate, leaving the reduction in platinum loading and/or the replacement of platinum as technologies available to meet the Company's future cost reduction strategy.

**Membrane Durability:**

ITM's longest term electrolyser membrane test cell has been taken out of service after 11,500 hours of intermittent operation (i.e. 11,500 hours on in a total test exceeding 20 months) following an anomalous *decrease* in operating voltage. Detailed examination shows that the membrane had become contaminated with metallic debris, consistent with corrosion products from other parts of the cell and associated test equipment. When removed the membrane was found to be robust, un-punctured and continuous, there was no evidence of chemical erosion or impending mechanical failure. In the total test programme of well in excess of 50,000 hours no other similar examples of anomalous voltage decrease have been noted. As a precaution the Company is redesigning its longevity test cells to reduce the possibility of similar contamination disrupting future trials.

Jim Heathcote, CEO, ITM Power Plc commented: "This longevity test has been in operation for nearly two years and has achieved very positive results which clearly make the product commercially viable. It should be noted that the process of contamination does not necessarily imply membrane failure and cell design modification could further improve durability."

### **Hydrogen Diesel Applications:**

ITM has installed an electrolyser and on-board emission monitoring equipment into a road-going vehicle (a Range Rover 3l diesel). This equipment has demonstrated that an ITM electrolyser can operate successfully in the demanding environment of a moving vehicle, and direct observations of reproducible reductions in the principle emissions have been recorded while the electrolyser was active. However, the full commercial or military implications of the results cannot be judged in advance of a research programme such as that agreed with ABRO.

### **New Manufacturing Facility:**

The design work for the new 15,000sq ft Sheffield site is nearing completion and preparation work has begun for the installation of the equipment to manufacture annually up to 10 megawatts of electrolysers. This plant will have one of the largest electrolyser production capabilities in the world. The Company is finalising the design of the electrolyser units which are anticipated to be produced in the new factory. So far this programme is on time and budget.

Jim Heathcote, CEO, ITM Power Plc commented: "The Company has made tremendous technical advances which are being included in the design of electrolyser systems for production in the new Sheffield facility in the first half of 2008. The Bi-Fuel car and refuelling system very clearly demonstrates a simple, convenient and low cost transportation solution that significantly reduces greenhouse gases and helps mitigate climate change. We believe combining electrolysers with an internal combustion engine vehicle brings affordable hydrogen transportation forward by many years."

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