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(54) **A DISPATCHABLE DATACENTRE ENERGY SYSTEM AND A METHOD OF OPERATION**

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ABSTRACT

A dispatchable datacentre energy system is provided. The system comprises a power conditioning system for providing conditioned power to a datacentre; wherein the power conditioning system includes a primary battery system for providing a primary energy reserve to the datacentre and being available to supply power to a grid operably connected to the datacentre in response to a dispatch request from a grid operator. A secondary battery system provides a secondary energy reserve to the datacentre and being available to supply power to the grid in response to the dispatch request. A power generation system provides a third energy reserve to the datacentre and being available to supply power to the grid in response to the dispatch request. A controller is provided for predicting grid conditions and being configured for selectively controlling at least one of the primary battery system; the secondary battery system and the power generation system in response to the predicted grid conditions; and wherein the controller is responsive to the dispatch request to adjust power consumption of the datacentre from the grid or power supply from at least one of the primary battery system, the secondary battery system and the power generation to the grid.

