CLAIMS:

1- A system, comprising a power control module, at least one power supply and at least one DC load, the at least one power supply including an AC grid, said power control module interfacing said at least one DC load and the at least one power supply to supply DC power to said at least one DC load, the at least one DC load including a chiller.

2- The system of claim 1, wherein said at least one power supply ~~comprises at least one AC power supply and~~further includes at least one DC power supply, said power control module, from said ~~at least one AC power supply~~AC grid and said at least one DC power supply, supplying DC power to said at least one DC load.

3- The system of claim 2, wherein said power control module controls energy supply to the at least one DC loads from the ~~at least one~~ AC ~~power supply~~grid and said at least one DC power supply.

4- The system of any one of claims 2 and 3, wherein in case of excess energy, said power control module at least one of: i) feeds back excess energy to the ~~at least one AC power supply~~AC grid and ii) causes storage of extra energy.

5- The system of any one of claims ~~1~~2 to 4, wherein said at least one DC ~~load~~power supply is ~~one of: high voltage DC loads and low voltage DC loads~~a renewable energy source.

6- The system of any one of claims 1 to 5, wherein said at least one DC load comprises a chiller comprising a DC powered compressor.

7- The system of any one of claims 1 to 6, wherein said ~~at least one DC load comprises comprising a chiller comprising~~chiller includes a DC powered oil free magnetic bearing compressor.

8- The system of any one of claims 1 to 7, wherein said at least one DC load ~~comprises a chiller comprising a DC powered oil free magnetic bearing compressor,~~includes DC powered controls and powered valves.

9- The system of any one of claims 1 to 8, wherein said ~~at least one DC load comprises~~chiller is an air-cooled chiller with DC powered condenser coil fans.

10- The system of any one of claims 1 to 8, wherein said ~~at least one DC load comprises~~chiller is a water-cooled chiller.

11- A power supply integration method~~,~~ comprising interfacing an AC grid with at least one DC load, and supplying DC power to the at least ~~power supply~~one DC load, the at least one DC load including a chiller.

12- The method of claim 11, comprising interfacing at least one of : i) ~~an~~the AC ~~power supply~~grid and ii) a DC power supply, and supplying, from the at least one of : i) ~~an~~the AC ~~power supply~~grid and ~~a~~ ii) ~~a~~the DC power supply, DC power to the at least one DC load.

13- The method of claim 12, interfacing ~~at least one~~the AC ~~power supply~~grid and the at least one DC power supply and controlling energy supply to the at least one DC load from the ~~at least one AC power supply~~AC grid and the at least one DC power supply.

14- The method of any one of claims 12 and 13, comprising, in case of excess energy, at least one of: i) feeding back excess energy into the AC ~~power supply~~grid and ii) causing storage of extra energy.

15- The method of any one of claims ~~11~~12 to 14, wherein the ~~at least one~~ DC ~~load is one of: high voltage~~ power supply supplies a DC ~~loads and low voltage DC loads.~~power supply from a renewable energy source.

16- The method of any one of claims 11 to 15, wherein the ~~at least one DC load~~ chiller comprises a ~~chiller comprising a~~ DC powered compressor.

17- The method of any one of claims 11 to 16, ~~wherein the at least one DC load comprises a~~the chiller comprising a DC powered oil free magnetic bearing compressor.

18- The method of any one of claims 11 to 17, wherein the at least one DC load comprises ~~a chiller comprising a DC powered oil free magnetic bearing compressor,~~ DC powered controls and powered valves.

19- The method of any one of claims 11 to 18, wherein the ~~at least one DC load comprises an~~chiller is air- cooled ~~chiller with DC powered condenser coil fans~~.

20- The method of any one of claims 11 to 18, wherein the ~~at least one DC load comprises a~~chiller is water- cooled ~~chiller~~.