WHAT IS CLAIMED IS

1. A power supply apparatus comprising:

at least one modular reserve battery magazine that is provided with a plurality of compartments; and

a plurality of reserve battery modules respectively replaceably provided in corresponding ones of the plurality of compartments, each of the plurality of reserve battery modules being configured to provide power when a reserve battery provided therein is activated, wherein

each reserve battery module of the plurality of reserve battery modules comprises a sleeve and a reserve battery provided within the sleeve, the sleeve being configured to fit within one of the plurality of compartments in a predetermined orientation, and

each sleeve is detachably connectable within any compartment of the plurality of compartments and includes electrical connections so that each reserve battery module of the plurality of reserve battery modules is separately replaceable while the power supply apparatus remains remotely located.

2. The power supply apparatus according to claim 1, further comprising:

an electrically powered control system for controlling the power supply apparatus.

3. The power supply apparatus according to claim 2, further comprising:

a communication unit that communicates when at least one reserve battery module of the plurality of reserve battery modules is activated.

4. The power supply apparatus according to claim 3, wherein

the communication unit is configured to communicate with an external control unit to remotely control the electrically powered control system.

5. The power supply apparatus according to claim 3, wherein

the communication unit is configured to communicate an output power of an activated reserve battery module of the plurality of reserve battery modules.

6. The power supply apparatus according to claim 2, wherein

the electrically powered control system activates a predetermined number of reserve battery modules depending on an amount of power required.

7. The power supply apparatus according to claim 1, wherein

the plurality of compartments in the at least one reserve battery magazine includes at least five compartments that are linearly aligned.

8. The power supply apparatus according to claim 1, wherein

the at least one reserve battery magazine includes a handle provided on one side surface thereof.

9. The power supply apparatus according to claim 1, wherein

the at least one reserve battery magazine is attached to a base plate and at least one other reserve battery magazine is attached to the at least one reserve battery magazine on a side opposite to the base plate in a stacked arrangement.

10. The power supply apparatus according to claim 9, wherein

the at least one reserve battery magazine and the at least one other reserve battery magazine are provided with one of a guide rail and a groove to facilitate stacking.

11. The power supply apparatus according to claim 1, wherein

the at least one reserve battery magazine comprises four reserve battery magazines that are stacked on top of each other to form an array of compartments, at least some of the compartments in the array having reserve battery modules disposed therein.

12. The power supply apparatus according to claim 1, wherein

an opening of each compartment has a chamfered edge to facilitate installation of each sleeve within each compartment.

13. The power supply apparatus according to claim 12, wherein

each sleeve includes a groove and an o-ring provided in the groove to lock each sleeve in place within the magazine compartment.

14. The power supply apparatus according to claim 13, wherein

each compartment includes a groove that aligns with the groove and o-ring provided on the sleeve when each reserve battery module is provided in the predetermined orientation.

15. The power supply apparatus according to claim 12, wherein

each sleeve includes a guide rail to facilitate positioning each sleeve within a corresponding magazine compartment in the at least one reserve battery magazine.

16. The power supply apparatus according to claim 1, wherein

each sleeve has a chamfered edge to facilitate installation of each sleeve within each compartment.

17. The power supply apparatus according to claim 1, wherein

each sleeve is provided with a handle configured to be grasped by a robotic gripper.

18. The power supply apparatus according to claim 10, wherein

the at least one reserve battery magazine and the at least one other reserve battery magazine are bolted together.

19. The power supply apparatus according to claim 1, wherein the power supply apparatus is provided as part of a subsea system that includes a blowout preventer for sealing a pipe of an oil drilling rig.

20. The power supply apparatus according to claim 1, wherein

the reserve batteries in the plurality of reserve battery modules are selected from the group consisting of lithium alloy/iron disulfide thermal batteries, molten salt high temperature thermal batteries, silver zinc batteries, and lithium/oxyhalide batteries.

21. The power supply apparatus according to claim 1, wherein

each reserve battery module of the plurality of reserve battery modules includes an electrically-activated activator.

22. The power supply apparatus according to claim 1, wherein

each reserve battery module of the plurality of reserve battery modules includes a mechanically-activated activator.

23. The power supply apparatus according to claim 22, wherein

the mechanically-activated activator is a striker pin.

24. The power supply apparatus according to claim 1, wherein

the electrical connections are water-proof, high-pressure resistant connections.

25. The power supply apparatus according to claim 2, further comprising:

a primary battery electrically coupled to the control system, wherein

the reserve batteries in each of the plurality of reserve battery modules are backup batteries connected to the primary battery such that the reserve batteries are only utilized when the primary battery is not able to support power requirements.

26. The power supply apparatus according to claim 1, wherein

the power supply apparatus is provided in a system that is at least one of a point of load electrical power distribution, a hybrid power system, and a critical system.

27. The power supply apparatus according to claim 1, wherein the power supply apparatus is provided in a subsea system that is disposed on a seafloor.

28. A method of providing backup power with a power supply apparatus, the method comprising:

replaceably electrically coupling at least one reserve battery module of a plurality of reserve battery modules in a respective compartment of at least one reserve

battery magazine having a plurality of compartments, the at least one reserve battery magazine being provided in the power supply apparatus, wherein

the at least one reserve battery module is configured to provide power when a reserve battery provided therein is activated,

the at least one reserve battery module comprises a sleeve and a reserve battery that is provided within the sleeve, the sleeve being configured to fit within one of the plurality of compartments in a predetermined orientation, and

the sleeve is detachably connectable within any compartment of the plurality of compartments and includes electrical connections so the at least one reserve battery module is separately replaceable while the power supply apparatus remains remotely located.

29. The method according to claim 28, wherein the power supply apparatus is provided in a subsea system that includes a blowout preventer for sealing a pipe of an oil drilling rig.

30. The method according to claim 28, wherein the power supply apparatus is provided in a subsea system that is disposed on a seafloor.

31. The method according to claim 28, further comprising:

communicating when the at least one reserve battery module is activated.

32. The method according to claim 28, further comprising:

receiving a command from an external control unit to remotely activate the at least one reserve battery module.

33. The method according to claim 28, further comprising:

communicating an output power of an activated reserve battery module of the plurality of reserve battery modules.

34. The method according to claim 28, further comprising:

activating a predetermined number of reserve battery modules of the plurality of reserve battery modules depending on an amount of power required.

1. A power supply apparatus comprising:

at least one modular reserve battery magazine that is provided with a plurality of compartments; and

a plurality of reserve battery modules respectively replaceably provided in corresponding ones of the plurality of compartments, each of the plurality of reserve battery modules being configured to provide power when a reserve battery provided therein is activated, wherein

each reserve battery module of the plurality of reserve battery modules comprises a sleeve and a reserve battery provided within the sleeve,

each of the compartments and reserve battery modules defines corresponding guides that are configured to facilitate insertion of the reserve battery modules within the corresponding compartments at a predetermined orientation, each sleeve being detachably connectable within any compartment, and

each of the reserve battery modules includes electrical connections that are configured to enable each reserve battery module to be separately replaceable while the power supply apparatus is disposed in subsea conditions, and to enable each reserve battery of the replaceable reserve battery module to become activated subsequent to being inserted in the corresponding compartment at the predetermined orientation..

2. The power supply apparatus according to claim 1, further comprising:

an electrically powered control system for controlling the power supply apparatus.

3. The power supply apparatus according to claim 2, further comprising:

a communication unit that communicates when at least one reserve battery module of the plurality of reserve battery modules is activated.

4. The power supply apparatus according to claim 3, wherein

the communication unit is configured to communicate with an external control unit to remotely control the electrically powered control system.

5. The power supply apparatus according to claim 3, wherein

the communication unit is configured to communicate an output power of an activated reserve battery module of the plurality of reserve battery modules.

6. The power supply apparatus according to claim 2, wherein

the electrically powered control system activates a predetermined number of reserve battery modules depending on an amount of power required.

7. The power supply apparatus according to claim 1, wherein

the plurality of compartments in the at least one reserve battery magazine includes at least five compartments that are linearly aligned.

8. The power supply apparatus according to claim 1, wherein

the at least one reserve battery magazine includes a handle provided on one side surface thereof.

9. The power supply apparatus according to claim 1, wherein

the at least one reserve battery magazine is attached to a base plate and at least one other reserve battery magazine is attached to the at least one reserve battery magazine on a side opposite to the base plate in a stacked arrangement.

10. The power supply apparatus according to claim 9, wherein

the at least one reserve battery magazine and the at least one other reserve battery magazine are provided with one of the guides and a groove to facilitate stacking.

11. The power supply apparatus according to claim 1, wherein

the at least one reserve battery magazine comprises four reserve battery magazines that are stacked on top of each other to form an array of compartments, at least some of the compartments in the array having reserve battery modules disposed therein.

12. The power supply apparatus according to claim 1, wherein

an opening of each compartment has a chamfered edge to facilitate installation of each sleeve within each compartment.

13. The power supply apparatus according to claim 12, wherein

each sleeve includes a groove and an o-ring provided in the groove to lock each sleeve in place within the magazine compartment.

14. The power supply apparatus according to claim 13, wherein

each compartment includes a groove that aligns with the groove and o-ring provided on the sleeve when each reserve battery module is provided in the predetermined orientation.

15. The power supply apparatus according to claim 12, wherein

each sleeve includes a guide rail to facilitate positioning each sleeve within a corresponding magazine compartment in the at least one reserve battery magazine.

16. The power supply apparatus according to claim 1, wherein

each sleeve has a chamfered edge to facilitate installation of each sleeve within each compartment.

17. The power supply apparatus according to claim 1, wherein

each sleeve is provided with a handle configured to be grasped by a robotic gripper.

18. The power supply apparatus according to claim 10, wherein

the at least one reserve battery magazine and the at least one other reserve battery magazine are bolted together.

19. The power supply apparatus according to claim 1, wherein the power supply apparatus is provided as part of a subsea system that includes a blowout preventer for sealing a pipe of an oil drilling rig.

20. The power supply apparatus according to claim 1, wherein

the reserve batteries in the plurality of reserve battery modules are selected from the group consisting of lithium alloy/iron disulfide thermal batteries, molten salt high temperature thermal batteries, silver zinc batteries, and lithium/oxyhalide batteries.

21. The power supply apparatus according to claim 1, wherein

each reserve battery module of the plurality of reserve battery modules includes an electrically-activated activator.

22. The power supply apparatus according to claim 1, wherein

each reserve battery module of the plurality of reserve battery modules includes a mechanically-activated activator.

23. The power supply apparatus according to claim 22, wherein

the mechanically-activated activator is a striker pin.

24. The power supply apparatus according to claim 1, wherein

the electrical connections are water-proof, high-pressure resistant connections.

25. The power supply apparatus according to claim 2, further comprising:

a primary battery electrically coupled to the control system, wherein

the reserve batteries in each of the plurality of reserve battery modules are backup batteries connected to the primary battery such that the reserve batteries are only utilized when the primary battery is not able to support power requirements.

26. The power supply apparatus according to claim 1, wherein

the power supply apparatus is provided in a system that is at least one of a point of load electrical power distribution, a hybrid power system, and a critical system.

27. The power supply apparatus according to claim 1, wherein the power supply apparatus is provided in a subsea system that is disposed on a seafloor.

28. A method of providing backup power with a power supply apparatus, the method comprising:

replaceably electrically coupling at least one reserve battery module of a plurality of reserve battery modules in a respective compartment of at least one reserve battery magazine having a plurality of compartments, the at least one reserve battery magazine being provided in the power supply apparatus, wherein

the at least one reserve battery module is configured to provide power when a reserve battery provided therein is activated,

the at least one reserve battery module comprises a sleeve and a reserve battery that is provided within the sleeve that is detachably connectable within its respective compartment, the sleeve being configured to fit within one of the plurality of compartments,

the one of the plurality of compartments and the at least one reserve battery module define corresponding guides that are configured to facilitate insertion of the reserve battery module within the corresponding compartment at a predetermined orientation, and

the at least one reserve battery module includes electrical connections that are configured to enable the reserve battery module to be separately replaceable while the power supply apparatus is disposed in subsea conditions, and to enable the respective reserve battery of the replaceable reserve battery module to become activated subsequent to being inserted in the corresponding compartment at the predetermined orientation.

29. The method according to claim 28, wherein the power supply apparatus is provided in a subsea system that includes a blowout preventer for sealing a pipe of an oil drilling rig.

30. The method according to claim 28, wherein the power supply apparatus is provided in a subsea system that is disposed on a seafloor.

31. The method according to claim 28, further comprising:

communicating when the at least one reserve battery module is activated.

32. The method according to claim 28, further comprising:

receiving a command from an external control unit to remotely activate the at least one reserve battery module.

33. The method according to claim 28, further comprising:

communicating an output power of an activated reserve battery module of the plurality of reserve battery modules.

34. The method according to claim 28, further comprising:

activating a predetermined number of reserve battery modules of the plurality of reserve battery modules depending on an amount of power required.

35. A power supply apparatus comprising:

at least one modular reserve battery magazine that is provided with a plurality of compartments; and

a plurality of reserve battery modules respectively replaceably provided in corresponding ones of the plurality of compartments, each of the plurality of reserve battery modules being configured to provide power when a reserve battery provided therein is activated, wherein

each reserve battery module of the plurality of reserve battery modules comprises a sleeve and a reserve battery provided within the sleeve, the sleeve being configured to fit within one of the plurality of compartments in a predetermined orientation,

each sleeve is detachably connectable within any compartment of the plurality of compartments and includes electrical connections so that each reserve battery module of the plurality of reserve battery modules is separately replaceable while the power supply apparatus remains remotely located,

the at least one reserve battery magazine is attached to a base plate and at least one other reserve battery magazine is attached to the at least one reserve battery magazine on a side opposite to the base plate in a stacked arrangement, and

the at least one reserve battery magazine and the at least one other reserve battery magazine are provided with one of a guide rail and a groove to facilitate stacking.

36. The power supply apparatus according to claim 35, wherein

the at least one reserve battery magazine and the at least one other reserve battery magazine are bolted together.