Claims

1. A hydroelectric turbine system operational method comprising the steps of:
deploying a hydroelectric turbine within a body of water;
permitting the turbine to rotate and generate electrical power in response to the flow of water past the turbine; and
absorbing the electrical power into a load bank electrically connected to the turbine, the load bank being mounted to the hydroelectric turbine system.

2. An operational method according to claim 1 comprising the steps of:
providing the load bank as a resistive load bank and/or an inductive load bank.

3. An operational method according to claim 1 or 2 comprising the steps of:
providing the load bank as one or more heating elements;
passing the electrical power through the heating elements in order to generate heat; and
dissipating the heat to the water flowing past the turbine system.

4. An operational method according to any preceding claim comprising the steps of:
connecting an electrical output of the turbine to an electrical grid; and
electrically disconnecting the load bank from the turbine.

5. An operational method according to any of claims 1 to 4 comprising the step of:
monitoring one or more operating parameters of the turbine system while the load bank is electrically connected to the turbine.

6. An operational method according to any preceding claim comprising the steps of:
installing electrical cabling to transfer electrical power from the turbine to a remote location; and
prior to electrical connection of the cabling to the turbine, absorbing the electrical power generated by the turbine into the load bank.

7. An operational method according to claim 6 comprising electrically connecting the cabling to the turbine and operating the turbine; electrically disconnecting the cabling from the turbine to allow for maintenance/removal of the turbine; and prior to the maintenance/removal of the turbine absorbing the electrical power generated by the turbine into the load bank.

8. An operational method according to any preceding claim comprising, in the step of deploying the turbine, suspending the turbine beneath a vessel;

using the vessel to tow the turbine through the water such as to effect rotation of the turbine to generate electrical power; and

absorbing the electrical power into the load bank.

9. An operational method according to any of claims 6 to 8 comprising the step of absorbing excess electrical power, generated during normal operation of the turbine, into the load bank.

10. An operational method according to any of claims 6 to 8 comprising the step of switching the electrical load generated by the turbine from the load bank to the electrical cabling once the electrical cabling is electrically connected to the turbine.

11. A hydroelectric turbine system comprising a base; a hydroelectric turbine mounted to the base; and a load bank mounted to the base and/or the turbine, the load bank being electrically connected to an electrical output of the turbine.

12. A hydroelectric turbine system according to claim 10 in which the load bank comprises a resistive load bank and/or an inductive load bank.

13. A hydroelectric turbine system according to claim 11 or 12 in which the load bank comprises one or more heating elements which are adapted to dissipate heat, in use, to surrounding water.

14. A hydroelectric turbine system according to any of claims 11 to 13 in which the load bank is removably mounted to the base and/or turbine.

Claims

1. A hydroelectric turbine system operational method comprising the steps of:
deploying a hydroelectric turbine on a seabed within a tidal body of water;
permitting the turbine to rotate and generate electrical power in response to the tidal flow of water past the turbine; and
absorbing the electrical power into a load bank electrically connected to the turbine, the load bank being mounted to the hydroelectric turbine system.

2. An operational method according to claim 1 comprising the steps of;
providing the load bank as a resistive load bank and/or an inductive load bank.

3. An operational method according to claim 1 or 2 comprising the steps of:
providing the load bank as one or more heating elements;
passing the electrical power through the heating elements in order to generate heat; and
dissipating the heat to the water flowing past the turbine system.

4. An operational method according to any preceding claim comprising the steps of:
connecting an electrical output of the turbine to an electrical grid; and
electrically disconnecting the load bank from the turbine.

5. An operational method according to any of claims 1 to 4 comprising the step of:
monitoring one or more operating parameters of the turbine system while the load bank is electrically connected to the turbine.

6. An operational method according to any preceding claim comprising the steps of:
installing electrical cabling to transfer electrical power from the turbine to a remote location; and
prior to electrical connection of the cabling to the turbine, absorbing the electrical power generated by the turbine into the load bank.

7. An operational method according to claim 6 comprising electrically connecting the cabling to the turbine and operating the turbine; electrically disconnecting the cabling from the turbine to allow for maintenance/removal of the turbine; and prior to the maintenance/removal of the turbine absorbing the electrical power generated by the turbine into the load bank.

8. An operational method according to any preceding claim comprising, in the step of deploying the turbine, suspending the turbine beneath a vessel;
using the vessel to tow the turbine through the water such as to effect rotation of the turbine to generate electrical power; and
absorbing the electrical power into the load bank.

9. An operational method according to any of claims 6 to 8 comprising the step of absorbing excess electrical power, generated during normal operation of the turbine, into the load bank.

10. An operational method according to any of claims 6 to 8 comprising the step of switching the electrical load generated by the turbine from the load bank to the electrical cabling once the electrical cabling is electrically connected to the turbine.