Claims

1. A battery controller comprising:

~~a holder that holds, at a predetermined time, a value of an amount of a received power , the received power having been supplied from an electrical power receiving system to equipment that is to be supplied with a power from a rechargeable battery ;~~

~~a calculator that calculates a difference between a present value of the amount of the received power supplied from the electrical power system to equipment and a last-held value of the amount of the received power last-held by the holder at the predetermined time;~~

~~an acquirer that acquires a command value of the amount of the received power for each predetermined time period defined by a predetermined time interval;~~

~~a calculator that calculates a limit value of the amount of the received power for each time that is shorter than the predetermined time, based on the command value of the amount of the received power for each predetermined time period; and~~

a controller configured to~~that~~ controls at least one of charge and discharge of a~~in~~ ~~the~~ rechargeable battery, based at least in part on a~~the~~ difference between a present value of an amount of a received power supplied from an electrical power system to equipment and a last-held value of an amount of a received power,~~calculated by the calculator~~ and based at least in part on a~~the~~ limit value of the amount of the received power, and~~.~~

~~2. The battery controller according to claim 1, wherein, if the amount of the received power supplied to equipment in excess of the limit value is at or above the allowable amount of the received power by the rechargeable battery, then the controller collectively controls the charge and discharge in the rechargeable battery until the predetermined time.~~

~~3.~~ ~~The battery controller according to claim 1 or 2, wherein~~ the controller configured to outputs a signal indicating an output value of the rechargeable battery to the rechargeable battery, based on a value that is less by a margin value than a maximum output power value of the rechargeable battery.

24. The battery controller according to claim 13, further comprising:

a holder configured to hold, at predetermined times, values of the amount of the received power, the received power having been supplied from the electrical power system to equipment that is to be supplied with a power from the rechargeable batterywherein the controller outputs a signal indicating the output value of the rechargeable battery to the rechargeable battery, based on a value that is less by a margin value than the maximum output power value tof the rechargeable battery.

3. The battery controller according to claim 2, further comprising:

a first calculator configured to calculate the difference between the present value of the amount of the received power and the last-held value of the amount of the received power last-held by the holder at the predetermined time.

4. The battery controller according to claim 3, further comprising:

an acquirer configured to acquire a command value or planned value of the amount of the received power for each predetermined time period defined by a predetermined time interval; and

a second calculator configured to calculate the limit value of the amount of the received power for each time that is shorter than the predetermined time period, by using the command value or planned value as a limit value of the amount of the received power at an end of the predetermined time period.

5. A management system comprising:

a battery controller comprisingincluding:

a holder that holds at a predetermined time a value of an amount of a received power supplied from an electrical power system to equipment supplied with a power from a rechargeable battery;

a first calculator that calculates a difference between a present value of the amount of the received power supplied from the electrical power system to equipment and in the holder at the predetermined time;

~~an acquirer that acquires a command value of the amount of the received power for each predetermined time period defined by a predetermined time interval;~~

~~a~~ first~~second~~ calculator configured to~~that~~ calculates ~~a~~ limit values of the amount of the ~~received~~ power at~~for each~~ time intervals that are~~is~~ shorter than a~~the~~ predetermined time period, by using a respective~~based on the~~ command value or a respective planned value of the amount of the ~~received~~ power for each of the predetermined time periods as a limit value of the amount of the power at an end of each of the predetermined time periods; and

~~a~~ a controller configured to~~that~~ controls~~,~~ at the time intervals, at least one of charge and discharge of a~~in the~~ rechargeable battery to suppress the power from exceeding either the command value or planned value, based at least in part on ~~the~~ differences between present values of the amount of power supplied from an electrical power system to equipment and last-held values of the amount of power at the time intervals, and based at least in part on the limit values calculated by the first calculator ~~and the limit value of the amount of the received power; and~~

~~an operating database that stores a command value of the amount of the received power for each predetermined time period~~.

6. The~~A battery control method in a~~ battery controller according to claim 5, further~~the method~~ comprising:

~~holding, by~~ a holder configured to hold, at the~~a predetermined~~ time intervals,~~a~~ values of the~~an~~ amount of the~~a~~ received power, the received power having been supplied from the~~an~~ electrical power system to equipment that is to be supplied with a power from the~~a~~ rechargeable battery.~~;~~

7. The battery controller according to claim 6, further comprising:

~~calculating, by~~ a second calculator configured to calculate, at the time intervals, the~~a~~ differences between the~~a~~ present values of the amount of ~~the received~~ power supplied from the electrical power system to equipment and the~~a~~ last-held values of the amount of ~~the received~~ power~~, last held by the holder at the predetermined time;~~

8. The battery controller according to claim 7, further comprising:

~~acquiring, by~~ an acquirer configured to acquire~~,~~ ~~a~~ command values or planned value of the amount of the received power for the~~each~~ predetermined time periods defined by ~~a~~ predetermined time intervals.~~;~~

~~calculating, by a calculator, a limit value of the amount of the received power for each time that is shorter than the predetermined time, based on the command value of the amount of the received power for each predetermined time period; and~~

~~controlling, by a controller, charge and discharge in the rechargeable battery, based on the difference calculated by the calculator and the limit value of the amount of the received power.~~

~~7. A charge discharge control program for causing a computer to execute:~~

~~holding at a predetermined time a value of an amount of a received power supplied from an electrical power system to equipment supplied with a power from a rechargeable battery;~~

~~calculating a difference between a present value of the amount of the received power supplied from the electrical power system to equipment and a last held value of the amount of the received power held at the predetermined time;~~

~~acquiring a command value of the amount of the received power for each predetermined time period defined by a predetermined time interval;~~

~~calculating a limit value of the amount of the received power for each time that is shorter than the predetermined time, based on the command value of the amount of the received power for each predetermined time period; and~~

~~controlling charge and discharge in the rechargeable battery, based on the calculated difference and the limit value of the amount of the received power.~~

~~8. A computer readable storage medium storing a charge discharge control program for causing a computer to execute:~~

~~holding at a predetermined time a value of an amount of a received power supplied from an electrical power system to equipment supplied with a power from a rechargeable battery;~~

~~calculating a difference between a present value of the amount of the received power supplied from the electrical power system to equipment and a value of the amount of the received power held at the predetermined time;~~

~~acquiring a command value of the amount of the received power for each predetermined time period defined by a predetermined time interval;~~

~~calculating a limit value of the amount of the received power for each time that is shorter than the predetermined time, based on the command value of the amount of the received power for each predetermined time period; and~~

~~controlling charge and discharge in the rechargeable battery, based on the calculated difference and the limit value of the amount of the received power.~~