~~An object~~ Embodiments of the present invention ~~is~~ seeks to provide a battery control system, a battery control device, a battery control method and a program that can solve the above described problem.

Solution to Problem

[0019]

A battery control device according to a first aspect of the present invention is a battery control device controlling an operation of a battery connected to a power system, the device includes:

detection means that detects battery-related information that shows a state of the battery, or a state of an interconnection point of the power system and the battery;

first communication means that transmits a detection result of the detection means to an external device, and executes reception processing to receive operation control information to control the operation of the battery from the external device at a predetermined time interval; and

control means that executes battery operation control processing to control the operation of the battery based on a state of the power system and based on the operation control information received by the first communication means, at a time interval shorter than the predetermined time interval.

[0020]

A battery control system according to a second aspect of the present invention is a battery control system including a first control device that controls an operation of a battery connected to a power system, and a second control device that communicates with the first control device, wherein

the first control device includes:

detection means that detects battery-related information that shows a state of the battery or a state of an interconnection point of the power system and the battery,

first communication means that transmits a detection result of the detection means to the second control device, and executes reception processing to receive operation control information to control the operation of the battery from the second control device at a predetermined time interval, and

control means that executes battery operation control processing ~~of controlling~~to control the operation of the battery based on a state of the power system and based on the operation control information received by the first communication means at a time interval shorter than the predetermined time interval, and

the second control device includes:

second communication means that communicates with the first control means, and receives the detection result of the detection means,

recognition means that recognizes a situation of the power system, and

processing means that generates the operation control information based on the detection result of detection means received by the second communication means, and based on the situation of the power system recognized by the recognition means, and transmits the operation control information from the second communication means to the first control device.

[0021]

A battery control method according to a third aspect of the present invention is a battery control method that is performed by a battery control device that controls an operation of a battery connected to a power system, the method includes:

detecting battery-related information that shows a state of the battery, or a state of an interconnection point of the power system and the battery;

transmitting the battery-related information to an external device, and executing reception processing to receive operation control information to control the operation of the battery from the external device at a predetermined time interval; and

executing battery operation control processing to control the operation of the battery based on a state of the power system and based on the operation control information at a time interval shorter than the predetermined time interval.

[0022]

A battery control method according to a fourth aspect of the present invention is a battery control method that is performed by a battery control system including a first control device that controls an operation of a battery connected to a power system, and a second control device that communicates with the first control device,

wherein the first control device detects battery-related information that shows a state of the battery, or a state of an interconnection point of the power system and the battery,

the first control device transmits the battery-related information to the second control device, and executes reception processing to receive operation control information to control the operation of the battery from the second control device at a predetermined time interval,

the first control device executes battery operation control processing to control the operation of the battery based on a state of the power system and based on the operation control information at a time interval shorter than the predetermined time interval,

the second control device receives the battery-related information from the first control device,

the second control device recognizes a situation of the power system, and

the second control device generates the operation control information, based on the battery-related information and based on the situation of the power system, and transmits the operation control information to the first control device.

[0023]

A recording medium according to a fifth aspect of the present invention is a computer-readable recording medium recording a program for causing a computer to execute:

a detection procedure of detecting battery-related information that shows a state of a battery connected to a power system, or a state of an interconnection point of the power system and the battery;

a communication procedure of transmitting the battery-related information to an external device, and executing reception processing to receive operation control information to control an operation of the battery from the external device at a predetermined time interval; and

a control procedure of executing battery operation control processing to control the operation of the battery, based on a state of the power system and based on the operation control information at a time interval shorter than the predetermined time interval.

Advantageous Effect of Invention

[0024]

According to embodiments of the present invention, the time interval at which the first control device (the battery control device) acquires the operation control information from the second control device (the external device) is longer than the operation time interval at which the first control device carries out the battery operation control processing control the operation of the battery by using the operation control information. Therefore, as compared with the case where the time interval, at which the first control device acquires the operation control information, is the operation time interval at which the first control device carries out the battery operation control processing or shorter, the processing to acquire the operation control information is less influenced by a communication trouble that is likely to occur between the first control device and the second control device. In addition, the first control device controls the operation of the battery based on the operation control information provided from the second control device and based on the state of the power system, and thereby it becomes possible to adjust the operation of the battery in response to an actual change in the state of the power system while following the operation control information.

Brief Description of Drawings