of Patent Document 1 is applied. In this case, the load may be biased in each battery, and the deterioration of a specific battery may progress.

[0005]

In consideration of the above circumstances, embodiments of the present disclosure provide a battery control system, a battery control method, a battery control program, and an integrated controller that can prevent progression of deterioration of a specific battery.

Means to Solve the Problem

[0006]

An aspect of the present disclosure is a battery control system that controls a plurality of batteries, the battery control system including a first inverter configured to convert direct current power from a first battery into alternating current power, a second inverter configured to convert direct current power from a second battery into alternating current power, and an integrated controller configured to control the first inverter and the second inverter, in which the first inverter is configured to switch operations between GFM control for causing the first battery to function as a voltage source and GFL control for causing the first battery to function as a current source, the second inverter is configured to switch operations between GFM control for causing the second battery to function as a voltage source and GFL control for causing the second battery to function as a current source, the integrated controller switches operations of the first inverter and the second inverter between the GFL control and the GFM control based on: temperatures of the first battery and the second battery or temperatures of the first inverter and the second inverter; or SOH of the first battery and the second battery, and an operating state of the current source is adjusted based on a change in amplitude and frequency in an alternating current voltage generated by the voltage source.

[0007]

Another aspect of the present disclosure is a battery control method that includes a step of switching operations of a first inverter is configured to convert direct current power from a first battery into alternating current power and a second inverter is configured to convert direct current power from a second battery into alternating current power between GFL control and GFM control based on: temperatures of the first battery and the second battery or temperatures of the first inverter and the second inverter; or SOH of the first battery and the second battery, and a step of adjusting an operating state in the GFL control based on a change in amplitude and frequency in an alternating current voltage generated based on the GFM control, in which the GFM control is control for causing the first battery or the second battery to function as a voltage source, and the GFL control is control for causing the first battery or the second battery to function as a current source.

[0008]

Another aspect of the present disclosure is a battery control program that causes a computer to execute a step of switching operations of a first inverter configured to convert direct current power from a first battery into alternating current power and a second inverter configured to convert direct current power from a second battery into alternating current power between GFL control and GFM control based on feature values of the first battery and the second battery or temperatures of the first inverter and the second inverter, and a step of adjusting an operating state in the GFL control based on a change in amplitude and frequency in an alternating current voltage generated based on the GFM control, in which the GFM control causes the first battery or the second battery to function as a voltage source, and the GFL control causes the first battery or the second battery to function as a current source.

[0009]

Another aspect of present disclosure is an integrated controller that controls a

first inverter converting direct current power from a first battery into alternating current power and a second inverter converting direct current power from a second battery into alternating current power, the integrated controller is configured to output an operation switching signal for switching operations of the first inverter and the second inverter between GFL control and GFM control based on: temperatures of the first battery and the second battery or temperatures of the first inverter and the second inverter; or SOH of the first battery and the second battery in which the GFM control causes the first battery or the second battery to function as a voltage source, the GFL control causes the first battery or the second battery to function as a current source, and an operating state of the current source is adjusted based on a change in amplitude and frequency in an alternating current voltage generated by the voltage source.

Effects of the Invention

[0010]

According to the present disclosure, it is possible to provide the battery control system, the battery control method, battery control program, and the integrated controller that can prevent the deterioration of the battery.

Brief Description of Drawings

[0011]

[FIG. 1] A diagram showing a configuration example of a microgrid according to the present disclosure.

[FIG. 2] A diagram showing GFM control according to the present disclosure.

[FIG. 3] A diagram showing GFL control according to the present disclosure.

Description of Embodiments

[0012]