CLAIMS

[Claim 1] A power receiving device comprising:

a power receiving unit configured to receive power in a contactless manner from a power supply configured to supply power at a constant current value;

a step-up/step-down chopper connected to the power receiving unit and configured to control and supply power supplied from the power receiving unit to a load;

an auxiliary power supply connected to the step-up/step-down chopper and configured to supply power to the load via the step-up/step-down chopper; and

a bypass section configured to allow the power receiving unit to bypass the step-up/step-down chopper to supply power to the auxiliary power supply, wherein

the bypass section includes a switching section configured to switch on and off of supply of power from the power receiving unit to the auxiliary power supply via the bypass section, the switching section turns on to allow the power receiving unit to supply power to the auxiliary power supply via the bypass section when a predetermined condition is satisfied, and turns off to allow the power receiving unit to stop the supply of the power to the auxiliary power supply via the bypass section when the predetermined condition is not satisfied,

the predetermined condition includes a case where a voltage of the auxiliary power supply is equal to or less than a first predetermined value, and

the power is supplied from the power receiving unit to the load via

the step-up/step-down chopper regardless of whether the switching section is in an on state or an off state.

[Claim 2] The power receiving device according to claim 1, wherein

the predetermined condition includes a case in which an input voltage of the step-up/step-down chopper is equal to or less than a second predetermined value, and

the switching section turns on when the voltage of the auxiliary power supply is equal to or less than the first predetermined value and the input voltage of the step-up/step-down chopper is equal to or less than the second predetermined value.

[Claim 3] The power receiving device according to claim 2, wherein

the predetermined condition includes a case in which an output voltage of the step-up/step-down chopper is equal to or more than a third predetermined value, and

the switching section turns on when the voltage of the auxiliary power supply is equal to or less than the first predetermined value and the input voltage of the step-up/step-down chopper is equal to or less than the second predetermined value, and the output voltage of the step-up/step-down chopper is equal to or more than the third predetermined value.

[Claim 4] The power receiving device according to any one of claims 1 to 3, wherein the bypass section is a circuit including a comparator.

[Claim 5] A contactless power feeding system, comprising:

the power receiving device according to any one of claims 1 to 4; and

a power transmission device configured to transmit power at a constant current value to the power receiving device.

[Claim 6] The contactless power feeding system according to claim 5, wherein

the power transmission device has a feeder provided along a track rail and

the power receiving device is provided to a traveling vehicle traveling on the track rail.