Claims

1. A control circuit of a backup power supply, characterized in that, comprising a first backup power supply (100) and a second backup power supply (200), wherein

the first backup power supply (100) is connected with the second backup power supply (200) through a first bus tie switch (1);

the first backup power supply (100) is correspondingly provided with at least one first load bank (2) and at least one second load bank (3) and is connected with the first load bank (2) through a first feeder switch (4), and the first load bank (2) is connected with the second load bank (3) through a second bus tie switch (5); and

the second backup power supply (200) is correspondingly provided with at least one third load bank (6) and at least one fourth load bank (7) and is connected with the second load bank (3) through a second feeder switch (8), the third load bank (6) is connected with the first backup power supply (100) through a third feeder switch (17) and is connected with the fourth load bank (7) through a third bus tie switch (9), and the second backup power supply (200) is connected with the fourth load bank (7) through a fourth feeder switch (10),

the control circuit is configured that when the number of power-supply sources in an abnormal operation state which correspond to the first load bank (2), the second load bank (3), the third load bank (6) and the fourth load bank (7), is less than or equal to a first preset threshold and when the first backup power supply (100) is not in a maintenance mode, turning on the first feeder switch (4), or turning on the first feeder switch (4) and the second bus tie switch (5), and/or, turning on the third feeder switch (17), or turning on the third feeder switch (17) and the third bus tie switch (9), to enable the first backup power supply (100) to supply power to the load banks corresponding to the power-supply sources in the

abnormal state.

2. The control circuit of the backup power supply according to claim 1, characterized in that, the first backup power supply (100) comprises:

a first bus (11); and

a plurality of first generator sets (12) being electrically connected with the first bus (11) and configured to supply power to the first load bank (2) and/or the second load bank (3) and/or the third load bank (6) and/or the fourth load bank (7) through the first bus (11).

3. The control circuit of the backup power supply according to claim 1, characterized in that, the second backup power supply (200) comprises:

a second bus (13); and

a plurality of second generator sets (14) electrically connected with the second bus (13) and configured to supply power to the first load bank (2) and/or the second load bank (3) and/or the third load bank (6) and/or the fourth load bank (7) through the second bus (13).

4. The control circuit of the backup power supply according to claim 1, characterized by further comprising at least one third backup power supply;

each of the third backup power supplies is connected in sequence through a bus tie switch; and

the second backup power supply (200) is connected with a first of the third backup power supplies through a fourth bus tie switch.

5. The control circuit of the backup power supply according to claim 4, characterized in that, the third backup power supply is configured to supply power to the first load bank (2) and/or the second load bank (3) and/or the third load

bank (6) and/or the fourth load bank (7) when the first backup power supply (100) and the second backup power supply (200) are not capable of meeting preset power supply demands for the first load bank (2) and/or the second load bank (3) and/or the third load bank (6) and/or the fourth load bank (7).

6. A control method for a control circuit of a backup power supply, characterized in that, the control method is applied to the control circuit of the backup power supply according to any one of claims 1-5, and comprises:

determining whether power-supply sources corresponding to the first load bank (2), the second load bank (3), the third load bank (6) and the fourth load bank (7) are in an abnormal operation state;

when the power-supply sources are in an abnormal state, determining the number of the power-supply sources in the abnormal state;

when the number of the power-supply sources in the abnormal state is less than or equal to a first preset threshold, determining whether the first backup power supply (100) is in a maintenance mode;

when the first backup power supply (100) is not in the maintenance mode, turning on the first feeder switch (4), or turning on the first feeder switch (4) and the second bus tie switch (5), and/or, turning on the third feeder switch (17), or turning on the third feeder switch (17) and the third bus tie switch (9), to enable the first backup power supply (100) to supply power to the load banks corresponding to the power-supply sources in the abnormal state.

7. The control method for the control circuit of the backup power supply according to claim 6, characterized in that,

when the first backup power supply (100) is in the maintenance mode, determining whether the second backup power supply (200) is in the maintenance mode;

when the second backup power supply (200) is not in the maintenance mode, turning on the second feeder switch (8) and the second bus tie switch (5), and/or turning on the fourth feeder switch (10) and the third bus tie switch (9), so as to enable the second backup power supply (200) to supply power to the load banks corresponding to the power-supply sources in the abnormal state.

8. The control method for the control circuit of the backup power supply according to claim 6, characterized in that,

when the number of the power-supply sources in the abnormal state is greater than the first preset threshold, enabling the first backup power supply (100) and the second backup power supply (200) to supply power to the load banks corresponding to the power-supply sources in the abnormal state.

9. The control method for the control circuit of the backup power supply according to claim 8, characterized in that, enabling the first backup power supply (100) and the second backup power supply (200) to supply power to the load banks corresponding to the power-supply sources in the abnormal state comprises:

selecting to turn on the first feeder switch (4), the second feeder switch (8) and the second bus tie switch (5), and/or to turn on the third feeder switch (17), the fourth feeder switch (10) and the third bus tie switch (9) according to the number of the power-supply sources in the abnormal state, to enable the first backup power supply (100) and the second backup power supply (200) to supply power to the load banks corresponding to the power-supply sources in the abnormal state.

10. The control method for the control circuit of the backup power supply according to claim 6, characterized in that, when the control circuit of the backup power supply further comprises at least one third backup power supply, the

control method further comprises:

when the number of the power-supply sources in the abnormal state is greater than a second preset threshold which is greater than the first preset threshold, the first backup power supply (100), the second backup power supply (200) and the at least one third backup power supply are enabled according to the number of the power-supply sources in the abnormal state, so as to supply power to the load banks corresponding to the power-supply sources in the abnormal state.