CLAIMS

1. Method for operating a power plant (1) comprising a gas turbine (2) and a steam power generation system (10) that activate at least one electric generator (20), wherein the gas turbine (2) produces flue gases (8) that are supplied into a boiler (11) of the steam power generation system (10), characterised in that in a steady operation the gas turbine (2) generates a first output power (30) greater or less than zero, the steam power generation system (10) generates a second output power (31) greater than zero, and the total generated power (32) being the sum of the first and second output power (30, 31) is substantially equal to a house load (33) of the power plant (1).

2. Method according to claim 1, characterised in that the steam power generation system (10) generates a second output power (31) larger than the house load (33), and in that the power generated by the steam power generation system (10) in excess of the house load (33) is used to drive the gas turbine (2).

3. Method according to claim 1, characterised in that the electric generator (20) is connected to a grid (21).

4. Method for starting up a power plant (1) comprising a gas turbine (2) and a steam power generation system (10) that activate at least one electric generator

(20), wherein the gas turbine (2) produces flue gases (8) that are supplied into a boiler (11) of the steam power generation system (10), characterised by:

- starting up and loading up the gas turbine (2) for it to generate a first output power (30) greater than zero and substantially equal to house load, then
- starting up and loading up the steam power generation system (10) for it to generate a second output power (31) greater then zero,
- while the steam power generation system (10) is loaded up, decreasing the first output power (30) while the total generated power (32) being the sum of the first and second output power (30, 31) is substantially equal to a house load (33) of the power plant (1), then
- maintaining the power plant (1) in a steady operation with the total generated power (32) substantially equal to a house load (33) of the power plant (1).

5. Method according to claim 4, characterised by connecting the electric generator (20) to a grid (21).

6. Method according to claim 4, characterised in that:

- within the boiler (11) steam is generated that is then expanded in one or more turbines (12) of the

steam power generation system (10),

- the turbine (12) has a stator (12a) and a rotor (12b),

- while decreasing the first output power (30), the gas turbine (2) is regulated to get a steam minimum temperature compatible with the rotor (12b).

7. Method for reducing the power of power plant (1) comprising a gas turbine (2) and a steam power generation system (10) that activate at least one electric generator (20), wherein the gas turbine (2) produces flue gases (8) that are supplied into a boiler (11) of the steam power generation system (10), wherein within the boiler (11) steam is generated that is then expanded in a turbine (12) of the steam power generation system (10), and wherein the turbine (12) has a stator (12a) and a rotor (12b), the method comprising:

- decreasing a first output power (30) of the gas turbine (2), then
- decreasing a second output power (31) of the steam power generation system (10), then
- further decreasing the first output power (30) of the gas turbine (2), such that the total generated power (32) being sum of the first and second output power (30, 31) is substantially equal to a house load (33) of the power plant (1), then

- maintaining the power plant (1) in a steady operation with the total generated power (32) substantially equal to a house load (33) of the power plant (1).

8. Method according to claim 7, characterised in that during the first decreasing of the first output power (30), the first output power (30) is decreased up to achieve a minimum steam temperature compatible with the rotor (12b).

9. Method according to claim 7, characterised by the disconnecting the power plant (1) from the grid (21).

CLAIMS

1. Method for operating a power plant (1) comprising a gas turbine (2) and a steam power generation system (10) that activate at least one electric generator (20), wherein the gas turbine (2) produces flue gases (8) that are supplied into a boiler (11) of the steam power generation system (10), and produces steam that is expanded in a steam turbine (12) characterised in that in a steady operation the gas turbine (2) generates a first output power (30) greater or less than zero, the steam power generation system (10) generates a second output power (31) greater than zero, and the total generated power (32) being the sum of the first and second output power (30, 31) is substantially equal to a house load (33) of the power plant (1).

2. Method according to claim 1, characterised in that the steam power generation system (10) generates a second output power (31) larger than the house load (33), and in that the power generated by the steam power generation system (10) in excess of the house load (33) is used to drive the gas turbine (2).

3. Method according to claim 1, characterised in that the electric generator (20) is connected to a grid (21).

4. Method for starting up a power plant (1) comprising a

gas turbine (2) and a steam power generation system (10) that activate at least one electric generator (20), wherein the gas turbine (2) produces flue gases (8) that are supplied into a boiler (11) of the steam power generation system (10), characterised by:

- starting up and loading up the gas turbine (2) for it to generate a first output power (30) greater than zero and substantially equal to house load, then
- starting up and loading up the steam power generation system (10) for it to generate a second output power (31) greater then zero,
- while the steam power generation system (10) is loaded up, decreasing the first output power (30) down to below zero while the total generated power (32) being the sum of the first and second output power (30, 31) is substantially equal to a house load (33) of the power plant (1), then
- maintaining the power plant (1) in a steady operation with the total generated power (32) substantially equal to a house load (33) of the power plant (1).

5. Method according to claim 4, characterised by connecting the electric generator (20) to a grid (21).

6. Method according to claim 4, characterised in that:

- within the boiler (11) steam is generated that is then expanded in one or more turbines (12) of the steam power generation system (10),
- the turbine (12) has a stator (12a) and a rotor (12b),
- while decreasing the first output power (30), the gas turbine (2) is regulated to get a steam minimum temperature compatible with the rotor (12b).

7. Method for reducing the power of power plant (1) comprising a gas turbine (2) and a steam power generation system (10) that activate at least one electric generator (20), wherein the gas turbine (2) produces flue gases (8) that are supplied into a boiler (11) of the steam power generation system (10), wherein within the boiler (11) steam is generated that is then expanded in a turbine (12) of the steam power generation system (10), and wherein the turbine (12) has a stator (12a) and a rotor (12b), the method comprising:

- decreasing a first output power (30) of the gas turbine (2), then
- decreasing a second output power (31) of the steam power generation system (10), then
- further decreasing the first output power (30) of the gas turbine (2), such that the total generated power (32) being sum of the first and second

output power (30, 31) is substantially equal to a house load (33) of the power plant (1), then

- maintaining the power plant (1) in a steady operation with the total generated power (32) substantially equal to a house load (33) of the power plant (1).

8. Method according to claim 7, characterised in that during the first decreasing of the first output power (30), the first output power (30) is decreased up to achieve a minimum steam temperature compatible with the rotor (12b).

9. Method according to claim 7, characterised by the disconnecting the power plant (1) from the grid (21).