[Document Name] Claims

1. A target power calculation apparatus comprising:

a learning unit configured to perform machine learning with respect to an adequacy determination model that receives, as inputs, control information and information indicative of a comfort index, and outputs information indicative of ~~learn~~ whether a target power set in a first period is adequate, the ~~according to~~ control information and the information indicative of a comfort index being obtained upon performing a demand control process in the first period based on the set target power;

an inference unit configured to infer and output information indicative of whether a target power set in a second period is adequate, upon receiving ~~according to~~ control information and information indicative of a comfort index obtained upon performing a demand control process in the second period, based on the adequacy determination model trained ~~a result of learning~~ by the learning unit; and

a correction unit configured to correct the target power set in the second period based on a predetermined correction amount upon the inference unit inferring that there is inadequacy.

2. The target power calculation apparatus as claimed in claim 1, wherein the control information includes information indicating status of occurrences of suspension levels that indicate an extent to which supply of power is suspended by performing a demand

control process.

3. The target power calculation apparatus as claimed in claim 2, wherein the control information includes either cumulative time lengths of the suspension levels or proportions of the cumulative time lengths of the suspension levels.

4. The target power calculation apparatus as claimed in any one of claims 1 to 3, wherein the learning unit is configured to learn whether the target power set in the first period is adequate, in accordance with a dataset containing a combination of the control information obtained upon performing the demand control process in the first period and information indicative of a comfort level of a room which is provided with an air-conditioner for which the demand control process in the first period is performed.

5. A target power calculation apparatus comprising:

an obtainment unit configured to obtain track-record information about power consumed by performing a demand control process during a first period based on a set target power; and

a learning unit configured to perform machine learning with respect to a target power model that receive, as inputs, the track-record information about consumed power and information indicative of a comfort index, and outputs information indicative of ~~learn~~ a right target power suited to be set in the first period ~~according to the track-record~~

~~information about consumed power~~.

6. The target power calculation apparatus as claimed in claim 5, wherein the obtainment unit further obtains device information about an air-conditioner for which the demand control process in the first period is performed, the device information including one or more of an operating time length, a device type, an item attribute, a thermal load, and a capacity, of the air-conditioner, and

the learning unit learns the right target power suited to be set in the first period according to a dataset including a combination of the track-record information about consumed power and the device information.

7. The target power calculation apparatus as claimed in claim 5, wherein the obtainment unit further obtains environmental information that corresponds to the track-record information about consumed power obtained upon performing the demand control process in the first period, the environmental information including one or more of weather, insolation, outdoor temperature, outdoor humidity, room temperature, room humidity, and a number of occupants, and

the learning unit learns the right target power suited to be set in the first period according to a dataset including a combination of the track-record information about consumed power and the environmental information.

8. The target power calculation apparatus

as claimed in claim 5, further comprising an inference unit configured to infer a right target power suited to be set in a second period, from track-record information about power consumed by performing a demand control process in the second period based on a result of learning by the learning unit.

~~9. A target power calculation apparatus comprising:~~

~~a calculation unit configured to calculate a reward concerning a target power set in a first period, from control information obtained upon performing a demand control process in the first period based on a set target power; and~~

~~a learning unit configured to learn a right target power suited to be set in a second period, according to track-record information about power consumed by performing the demand control process in the first period based on the set target power,~~

~~wherein the learning unit learns the right target power suited to be set in the second period based on the reward.~~

~~10. The target power calculation apparatus as claimed in claim 9, wherein the control information includes information indicating status of occurrences of suspension levels that indicate an extent to which supply of power is suspended by performing a demand control process.~~

~~11. The target power calculation apparatus as claimed in claim 10, wherein the control information includes either cumulative time lengths~~

~~of the suspension levels or proportions of the cumulative time lengths of the suspension levels.~~

~~12. The target power calculation apparatus as claimed in any one of claims 9 to 11, wherein the calculation unit calculates the reward concerning the target power set in the first period, based on the control information obtained upon performing the demand control process in the first period and information indicative of a comfort level of a room which is provided with an air-conditioner for which the demand control process in the first period is performed.~~

~~13. The target power calculation apparatus as claimed in claim 9, wherein device information is further obtained about an air-conditioner for which the demand control process in the first period is performed, the device information including one or more of an operating time length, a device type, an item attribute, a thermal load, and a capacity, of the air-conditioner, and~~

~~the learning unit learns the right target power suited to be set in the second period according to a dataset including a combination of the track-record information about consumed power and the device information.~~

~~14. The target power calculation apparatus as claimed in claim 9, wherein environmental information is further obtained that corresponds to the track-record information about consumed power obtained upon performing the demand control process~~

~~in the first period, the environmental information including one or more of weather, insolation, outdoor temperature, outdoor humidity, room temperature, room humidity, and a number of occupants, and~~

~~the learning unit learns the right target power suited to be set in the second period according to a dataset including a combination of the track-record information about consumed power and the environmental information.~~

~~15. The target power calculation apparatus as claimed in claim 9, wherein the calculation unit is configured to infer whether the target power set in the first period is adequate, from control information obtained upon performing the demand control process in the first period, based on a result of learning by a learning unit that learns whether a target power set in a predetermined period is adequate, from control information obtained upon performing a demand control process in the predetermined period based on a set target power, and is configured to calculate the reward concerning the target power set in the first period from inferred adequacy.~~

~~16~~9. A target power calculation method comprising:

a learning process of performing machine learning with respect to an adequacy determination model that receives, as inputs, control information and information indicative of a comfort index, and outputs information indicative of ~~learning~~ whether a target power set in a first period is adequate, the

~~according to~~ control information and the information indicative of a comfort index being obtained upon performing a demand control process in the first period based on the set target power;

an inference process of inferring and outputting information indicative of whether a target power set in a second period is adequate, upon receiving ~~according to~~ control information and information indicative of a comfort index obtained upon performing a demand control process in the second period, based on the adequacy determination model trained ~~a result of learning~~ by the learning process; and

a correction process of correcting the target power set in the second period based on a predetermined correction amount upon inferring in the inference process that there is inadequacy.

~~17~~10. A target power calculation program for causing a computer to perform:

a learning process of performing machine learning with respect to an adequacy determination model that receives, as inputs, control information and information indicative of a comfort index, and outputs information indicative of ~~learning~~ whether a target power set in a first period is adequate, ~~according to~~the control information and the information indicative of a comfort index being obtained upon performing a demand control process in the first period based on the set target power;

an inference process of inferring and outputting information indicative of whether a target power set in a second period is adequate, upon

receiving ~~according to~~ control information and information indicative of a comfort index obtained upon performing a demand control process in the second period, based on the adequacy determination model trained ~~a result of learning~~ by the learning process; and

a correction process of correcting the target power set in the second period based on a predetermined correction amount upon inferring in the inference process that there is inadequacy.

~~18~~11. A target power calculation method comprising:

an obtainment process of obtaining track-record information about power consumed by performing a demand control process during a first period based on a set target power; and

a learning process of performing machine learning with respect to a target power model that receive, as inputs, the track-record information about consumed power and information indicative of a comfort index, and outputs information indicative of ~~learning~~ a right target power suited to be set in the first period ~~according to the track-record information about consumed power~~.

~~19~~12. A target power calculation program for causing a computer to perform:

an obtainment process of obtaining track-record information about power consumed by performing a demand control process during a first period based on a set target power; and

a learning process of performing machine

learning with respect to a target power model that receive, as inputs, the track-record information about consumed power and information indicative of a comfort index, and outputs information indicative of ~~learning~~ a right target power suited to be set in the first period~~ according to the track-record information about consumed power~~.

~~20. A target power calculation method comprising:~~

~~a calculation process of calculating a reward concerning a target power set in a first period, from control information obtained upon performing a demand control process in the first period based on a set target power; and~~

~~a learning process of learning a right target power suited to be set in a second period, according to track-record information about power consumed by performing the demand control process in the first period based on the set target power,~~

~~wherein the learning process learns the right target power suited to be set in the second period based on the reward.~~

~~21. A target power calculation program for causing a computer to perform:~~

~~a calculation process of calculating a reward concerning a target power set in a first period, from control information obtained upon performing a demand control process in the first period based on a set target power; and~~

~~a learning process of learning a right target power suited to be set in a second period,~~

~~according to track-record information about power consumed by performing the demand control process in the first period based on the set target power,~~

~~wherein the learning process learns the right target power suited to be set in the second period based on the reward.~~