We claim that:

1. A monitoring system configured to monitor a steam-using facility that includes a steam supply unit that is supplied with steam, a steam-using unit that uses supplied steam, and a steam discharge unit that discharges steam after use, the monitoring system comprising:

a temperature sensor that is a trap temperature sensor configured to detect a temperature of a steam trap provided in the steam discharge unit and/or a steam temperature sensor configured to detect a temperature of steam flowing into the steam trap; and

a pressure sensor configured to detect a pressure of steam flowing into the steam trap, wherein

the monitoring system determines that there is an occurrence of an abnormality or a sign of the abnormality in the steam trap when (i) a temperature detection value obtained by the temperature sensor and/or statistical temperature data obtained by performing statistical processing on the temperature detection value deviates from a predetermined criterion thereof and (ii) a pressure detection value obtained by the pressure sensor and/or statistical pressure data obtained by performing statistical processing on the pressure detection value deviates from a predetermined criterion thereof, and

the monitoring system determines that there is an occurrence of an abnormality or there is a sign of the abnormality in a steam supply valve that is provided in the steam supply unit when (i) the pressure detection value and/or the statistical pressure data deviates from a predetermined criterion thereof and (ii) the temperature detection value and the statistical temperature data satisfy predetermined criteria thereof.

2. The monitoring system according to claim 1, further comprising

an abnormality notification unit that can notify a manager of the steam-using facility of occurrence of an abnormality when it is determined that there is an occurrence of the abnormality or there is a sign of the abnormality.

3. The monitoring system according to claim 1 or 2, wherein

the steam trap includes an automatic cleaning mechanism that can automatically remove a clogging material generated in the steam trap, and

the monitoring system operates the automatic cleaning mechanism upon determining that there is an occurrence of an abnormality or a sign of the abnormality in the steam trap.

4. A monitoring method for monitoring a steam-using facility that includes a steam supply unit that is supplied with steam, a steam-using unit that uses supplied steam, and a steam discharge unit that discharges steam after use, the monitoring method comprising:

a temperature detection step of detecting a temperature of a steam trap provided in the steam discharge unit and/or a temperature of steam flowing into the steam trap;

a pressure detection step of detecting a pressure of steam flowing into the steam trap; and

a determination step of

determining that there is an occurrence of an abnormality or a sign of the abnormality in the steam trap when (i) a temperature detection value obtained in the temperature detection step and/or statistical temperature data obtained by performing statistical processing on the temperature detection value deviates from a predetermined criterion thereof and (ii) a pressure detection value obtained in the pressure detection step and/or statistical pressure data obtained by performing statistical processing on the pressure detection value deviates from a predetermined criterion thereof, and

determining that there is an occurrence of an abnormality or there is a sign of the abnormality in a steam supply valve that is provided in the steam supply unit when (i) the pressure detection value and/or the statistical pressure data deviates from a predetermined criterion thereof and (ii) the temperature detection value and the statistical temperature data satisfy predetermined criteria thereof.

5. A monitoring program for monitoring a steam-using facility that includes a steam supply unit that is supplied with steam, a steam-using unit that uses supplied steam, and a steam discharge unit that discharges steam after use, the monitoring program causing a computer to execute:

a temperature detection function for detecting a signal from a trap temperature sensor configured to detect a temperature of a steam trap provided in the steam discharge unit and/or a steam temperature sensor configured to detect a temperature of steam flowing into the steam trap;

a pressure detection function for detecting a signal from a pressure sensor configured to detect a pressure of steam flowing into the steam trap; and

a determination function for

determining that there is an occurrence of an abnormality or a sign of the abnormality in the steam trap when (i) a temperature detection value obtained by executing the temperature detection function and/or statistical temperature data obtained by

performing statistical processing on the temperature detection value deviates from a predetermined criterion thereof and (ii) a pressure detection value obtained by executing the pressure detection function and/or statistical pressure data obtained by performing statistical processing on the pressure detection value deviates from a predetermined criterion thereof, and

determining that there is an occurrence of an abnormality or there is a sign of the abnormality in a steam supply valve that is provided in the steam supply unit when (i) the pressure detection value and/or the statistical pressure data deviates from a predetermined criterion thereof and (ii) the temperature detection value and the statistical temperature data satisfy predetermined criteria thereof.