CLAIMS

1. A fluid leakage data management apparatus which manages data on fluid leak portions collected through a fluid leak diagnosis of a plant comprising:

a display unit on which the data and an area map image of each diagnosis area in the plant;

an input unit to which positional data which is a position of the fluid leak portions at which leakage is detected on the area map image is input; and

a data processing unit, wherein

the data processing unit converts positional data of fluid leak portions occurring in piping of the plant, of the positional data of each fluid leak portion input to the input unit, to coordinate values on the area map image; and displays, on the display unit, a pipe connection deducing image in which indicators representing each fluid leak portion are displayed superimposed on a piping diagram image of the plant at locations corresponding to the coordination values of the fluid leak portions, the values being obtained by the said conversion.

2. A fluid leakage data management apparatus which manages data on fluid leak portions collected through a fluid leak diagnosis of a plant comprising:

a display unit on which the data and a configuration diagram image of the plant;

an input unit to which positional data which is a position of the fluid leak portions at which leakage is detected on the configuration diagram image is input; and

a data processing unit, wherein

the data processing unit converts positional data of fluid leak portions occurring in piping of the plant, of the positional data of each fluid leak portion input to the input unit, to coordinate values on the configuration diagram image, and generates a leak portion display image in which indicators representing each fluid leak portion are displayed superimposed on the configuration diagram image at locations corresponding to the coordination values on the configuration diagram image; and wherein

the data processing unit is configured to display, on the display unit, a pipe connection deducing image in which a piping diagram image of the plant and an image of a range in the leak portion display image that corresponds to the range shown by the piping diagram image are displayed next to each other.

3. The management apparatus according to claim 1 or 2,wherein

the data processing unit is configured to display, on the pipe connection deducing image, an indicator in a highlighted manner when the indicator is located at a position where

no pipe is shown.

4. The management apparatus according to any one of claims 1 - 3, wherein:

the data processing unit is configured to deduce a series of pipes that are in a connected state based on a distribution of the indicators on the pipe connection deducing image, and to display the series of pipes that are deduced to be in the connected state on the pipe connection deducing image in a state in which the pipes are shown to be in the connected state.

5. The management apparatus according to any one of claims 1 to 4, wherein

the data processing unit is configured to display, on the pipe connection deducing image, an indicator in a highlighted manner when the indicator is located at a position corresponding to an unused pipe to which the flow of fluid has been cut off.

6. The management apparatus according to claim 5, wherein

the data processing unit is further configured to display the unused pipe, of pipes shown on the pipe connection deducing image, such that the unused pipe is differentiated from the other pipes.

7. A method for deducing pipe connection, wherein a fluid leakage data management apparatus which manages data on fluid leak portions collected through a fluid leak diagnosis of a plant is used, the management apparatus including:

a display unit on which the data and a configuration diagram image of the plant;

an input unit to which positional data which is a position of the fluid leak portions at which leakage is detected on the configuration diagram image is input; and

a data processing unit that converts positional data of each fluid leak portion occurring in piping of the plant, of the fluid leak portions input to the input unit, to coordinate values on the configuration diagram image, and displays, on the display unit, a leak portion display image in which indicators representing each fluid leak portion are displayed superimposed on a configuration diagram image of the plant at locations corresponding to the coordination values on the configuration diagram image; wherein

at least one of existence of a piping which is not described in a piping diagram of the plant, presence/absence of connection between piping described in the piping diagram, and presence/absence of fluid flow to piping described as unused piping on the piping diagram is deduced by referring to the piping diagram and the locations of the indicators in the leak portion display image.

8. A fluid leakage data management apparatus which manages data on fluid leak portions collected through a fluid leak diagnosis of a plant comprising:

a display unit on which the data and an area map image of each diagnosis area in the plant;

an input unit to which positional data which is a position of the fluid leak portions at which leakage occur on the area map image is input; and

a data processing unit, wherein

the data processing unit converts positional data indicating the positions, in the plant, of each fluid leak portion occurring in piping of the plant, of the fluid leak portions input to the input unit to coordinate values on the area map image; and wherein

the data processing unit deduces at least one of existence of a piping which is not described in a piping diagram of the plant, presence/absence of connection between piping described in the piping diagram, and presence/absence of fluid flow to piping described as unused piping on the piping diagram by referring to:

the coordination values of each fluid leak portion obtained by said conversion; and

positions of the piping in the piping diagram.