WHAT IS CLAIMED IS:

1. A fluid supply system of a docking station for a moving apparatus, the fluid supply system comprising:

the docking station into which the moving apparatus is selectively docked, the docking station including a second storage tank configured to receive the fluid therein and a pump configured to discharge the fluid received in the second storage tank; and

a processor electrically connected to the pump and configured to determine whether the moving apparatus is successfully docked to the docking station, and configured to control the pump to operate with an operation load when the processor concludes that the moving apparatus has been successfully docked into the docking station so that the fluid is supplied from the second storage tank to a first storage tank, wherein the moving apparatus includes the first storage tank configured to receive the fluid therein, wherein the processor is configured to control the pump to operate with a test operation load lower than the operation load to determine whether the moving apparatus has been successfully docked into the docking station.

2. The fluid supply system of claim 1, wherein while the pump operates with the test operation load, the processor is configured to determine whether the moving apparatus has been successfully docked into the docking station, according to an amount of the fluid discharged from the second storage tank and an amount of the fluid introduced into the first storage tank.

3. The fluid supply system of claim 2,

wherein when a difference between the amount of the fluid discharged from the second storage tank and the amount of the fluid introduced into the first storage tank is smaller than a predetermined amount, the processor is configured to conclude that the moving apparatus has been successfully docked into the docking station, and to control the pump to operate with the operation load, and

wherein when the difference between the amount of the fluid discharged from the second storage tank and the amount of the fluid introduced into the first storage tank is greater than the predetermined amount, the processor is configured to determine that the moving apparatus has not been successfully docked into the docking station and to transfer

a signal to the moving apparatus to reattempt a docking thereof.

4. The fluid supply system of any one of claims 1 to 3, wherein while the pump operates with the operation load, the processor is configured to check a docking state of the moving apparatus, based on a flow rate of the first storage tank and a flow rate of the second storage tank.

5. The fluid supply system of claim 4,

wherein the moving apparatus includes a first detector electrically connected to the processor and configured to detect an amount of the fluid received in the first storage tank and to periodically transfer a signal of the detected amount of the fluid received in the first storage tank to the processor,

wherein the docking station includes a second detector electrically connected to the processor and configured to detect an amount of the fluid received in the second storage tank and to periodically transfer a signal of the detected amount of the fluid received in the second storage tank to the processor, and

wherein the processor is configured to periodically determine a flow rate of the first storage tank and a flow rate of the second storage tank, according to the signals received from the first detector and the second detector.

6. The fluid supply system of claim 5, wherein the processor is configured to determine that the docking state of the moving apparatus is an abnormal state when [equation 1] below is satisfied, and to stop the operation of the pump when the abnormal state persists for a predetermined time period or longer than the predetermined time period, or when a configured number of times is exceeded,

[equation 1]

$$\sum_{k=1}^{n}(|B_k - B_{k-1}| - |A_k - A_{k-1}|) > \delta$$

wherein A_0 is an initial amount of a fluid received in the first storage tank,

A_n is a value of an n-th signal received from the first detector,

B_0 is an initial amount of a fluid received in the second storage tank,

B_n is a value of an n-th signal received from the second detector, and

δ is a reference value.

7. The fluid supply system of any one of claims 1 to 6, wherein when an amount of the fluid received in the first storage tank is equal to or greater than a first threshold value, or when an amount of the fluid received in the second storage tank is equal to or smaller than a second threshold value, the processor is configured to stop the operation of the pump.

8. The fluid supply system of any one of claims 1 to 7, further including a leakage detector configured to detect a leakage of the fluid between the moving apparatus and the docking station.

9. The fluid supply system of claim 8,

wherein the leakage detector includes a first circuit portion disposed on the moving apparatus and a second circuit portion disposed into the docking station,

wherein when the moving apparatus has been docked into the docking station, the first circuit portion and the second circuit portion are disposed at a point at which the first circuit portion and the second circuit portion face each other, and

wherein when a part of the fluid flows into a gap between the moving apparatus and the docking station, the first circuit portion and the second circuit portion are electrically connected to each other to detect the leakage of the fluid.

10. The fluid supply system of any one of claims 1 to 9,

wherein the moving apparatus is an autonomous moving apparatus which drives autonomously, and

wherein the moving apparatus is configured to autonomously dock, when a docking thereof is started, into the docking station, and to reattempt the docking into the docking station when the operation of the pump is stopped when the processor concludes that a docking state of the moving device into the docking station is abnormal.

11. The fluid supply system of any one of claims 1 to 10,

wherein the moving apparatus further includes a third storage tank configured to

receive wastewater therein,

wherein the wastewater is discharged from the third storage tank when the moving apparatus is docked into the docking station, and

wherein the processor is configured to detect a time required for discharging the wastewater in the third storage tank and record an abnormal log when the required time is equal to or greater than a predetermined time period.

12. A method for controlling a fluid supply system of a docking station for a moving apparatus, the method comprising:

starting, by the moving apparatus, a docking of the moving apparatus into the docking station;

when the moving apparatus has been docked, determining, by a processor, whether the moving apparatus has been successfully docked into the docking station; and

controlling, by the processor, a pump of the fluid supply system to operate with an operation load, when the processor concludes that the moving apparatus has been successfully docked so that a fluid is supplied from a second storage tank of the docking station to a first storage tank of the moving apparatus, wherein, in the determining of whether the moving apparatus has been successfully docked, the pump is controlled by the processor to operate with a test operation load lower than the operation load to determine whether the moving apparatus has been successfully docked.

13. The method of claim 12, further including checking, based on a flow rate of the first storage tank and a flow rate of the second storage tank, a docking state of the moving apparatus while the pump operates with the operation load.

14. The method of claim 12, wherein while the pump operates with the test operation load, the processor is configured to determine whether the moving apparatus has been successfully docked into the docking station, according to an amount of the fluid discharged from the second storage tank and an amount of the fluid introduced into the first storage tank.

15. The method of claim 14,

wherein when a difference between the amount of the fluid discharged from the

second storage tank and the amount of the fluid introduced into the first storage tank is smaller than a predetermined amount, the processor is configured to determine that the moving apparatus has been successfully docked into the docking station, and to control the pump to operate with the operation load, and

wherein when the difference between the amount of the fluid discharged from the second storage tank and the amount of the fluid introduced into the first storage tank is greater than the predetermined amount, the processor is configured to determine that the moving apparatus has not been successfully docked into the docking station and to transfer a signal to the moving apparatus to reattempt a docking thereof.

16. The method of any one of claims 12 to 15, wherein when an amount of the fluid received in the first storage tank is equal to or greater than a first threshold value, or when an amount of the fluid received in the second storage tank is equal to or smaller than a second threshold value, the processor is configured to stop the operation of the pump.

17. A non-transitory computer readable storage medium on which a program for performing the method of any one of claims 12 to 16 is recorded.