Claims

[Claim 1] A flare stack applied to a facility that stores ammonia and/or to a facility that uses ammonia, the flare stack comprising:

a main burner to which ammonia is supplied;

a pilot burner to which ammonia is supplied;

a first catalyst that is provided upstream of the pilot burner in a flow of ammonia and that decomposes the ammonia supplied to the pilot burner into reformed fuel including hydrogen; and

a heater that heats the first catalyst.

[Claim 2] A flare stack comprising:

a main burner to which ammonia is supplied;

a pilot burner to which ammonia is supplied;

a first catalyst that is provided upstream of the pilot burner in a flow of ammonia and that decomposes the ammonia supplied to the pilot burner into reformed fuel including hydrogen; and

a heater that heats the first catalyst,

wherein the pilot burner is arranged such that a flame of the pilot burner heats the first catalyst.

[Claim 3] The flare stack according to claim 2, comprising:

a sensor that measures the temperature of the first catalyst; and

a controller that is communicatively connected to the heater and the sensor,

wherein the controller is configured to turn off the heater when the temperature of the first catalyst received from the sensor is equal to or above a predetermined temperature.

[Claim 4] The flare stack according to any one of claims 1 to 3, comprising a second catalyst that is provided upstream of the main burner in a flow of ammonia and that decomposes the ammonia supplied to the main burner into reformed fuel including hydrogen.

[Claim 5] The flare stack according to claim 4, wherein the second catalyst is arranged at a position heated by radiation from a flame of the main burner.

[Claim 6] A system using ammonia, comprising a flare stack according to any one of claims 1 to 3.

[Claim 7] A system using ammonia, comprising a flare stack according to claim 4.

[Claim 8] A system using ammonia, comprising a flare stack according to claim 5.