WHAT IS CLAIMED IS:

1. Processing water regeneration equipment comprising:

a waste liquid treatment apparatus that treats waste liquid discharged from a processing apparatus, the waste liquid containing swarf obtained when processing water is supplied to the processing apparatus during processing of a workpiece by the processing apparatus; and

a fuel cell apparatus that causes a chemical reaction between hydrogen and oxygen to produce electricity and water,

wherein the waste liquid treatment apparatus includes

a swarf acquisition unit that takes out the swarf from the waste liquid to acquire wet swarf,

a hydrogen production unit comprising a positive electrode and a negative electrode disposed in a tank for reserving after-swarf-removal waste liquid deprived of the swarf, the hydrogen production unit supplies electric power to the positive electrode and the negative electrode to produce hydrogen, the produced hydrogen transported to the fuel cell apparatus,

a drying unit that dries the wet swarf to

generate hydrogen, the hydrogen generated supplied to the fuel cell apparatus, and

the fuel cell apparatus causes a chemical reaction between the hydrogen produced by the hydrogen production unit and the drying unit, and oxygen in air to produce electricity and water, and the electricity and water thus produced are utilized in the processing apparatus.

2. The processing water regeneration equipment according to claim 1,

wherein the workpiece is made of silicon, and the processing apparatus discharges the waste liquid containing silicon swarf obtained by grinding the silicon.

3. The processing water regeneration equipment according to any one of claim 1 or claim 2,

wherein the hydrogen production unit is installed underground of a plant in which the waste liquid treatment apparatus is installed.

4. The processing water regeneration equipment according to claim 3,

wherein the fuel cell apparatus is installed on a roof floor of the plant.

5. The processing water regeneration equipment

according to any one of the preceding claims,

wherein the water discharged from the fuel cell apparatus is sent to an ion exchange unit to be purified into ultrapure water, before being sent to the processing apparatus to be utilized as the processing water in the processing apparatus.