We claim:

1. A system for extracting hydrogen from a conductive fluid comprising:

a hollow chamber defined by a cylindrical wall;

a cylindrical member disposed within the chamber parallel to the wall;

a mechanism for providing conductive feedstock to the chamber;

a second mechanism for re-circulating the conductive feedstock through the chamber;

a power supply having a positive terminal connected via a positive reactive circuit to the chamber wall to form an anode and a negative terminal connected via a negative reactive circuit to the cylindrical member to form a cathode, the power supply providing an input pulse DC voltage for an on portion of a duty cycle; and

an off cycle chamber return load circuit connected to the positive and negative reactive circuits wherein the reactive circuits and the off cycle chamber return load circuit:

process voltages returning from the chamber during an off portion of the duty cycle, the returning voltages resulting from an electro-chemical reaction in the chamber without surface reaction on the cylindrical member, and

return the processed voltage to the chamber, wherein the chamber releases hydrogen gas.

2. The system of claim **1** wherein the feedstock is seawater.

3. The system of claim **1**, wherein the cylindrical member is formed from Tungsten.

4. The system of claim **1**, wherein the walls are formed from Graphite.

5. The system of claim **1**, wherein a ratio of a radius of the chamber to a radius of the cylindrical member is 25:1.

6. The system of claim **1**, wherein a diameter of the chamber is 25 mm.

7. The system of claim **1**, wherein a diameter of the cylindrical member is 1 mm.

8. The system of claim **1**, wherein a height of the wall is 50 mm.

9. The system of claim **1**, wherein the chamber is formed from a block Graphite, the block including a plurality of chambers with each chamber having a respective cylindrical Tungsten rod.

10. The system of claim **1**, wherein only the inner surface of the anode is in communication with the feedstock.

11. The system of claim **1**, further comprising a plurality of sensors for monitoring activity within the system.

12. A method for extracting hydrogen from a conductive fluid comprising:

providing conductive feedstock to a hollow chamber formed by a cylindrical wall wherein the chamber includes a cylindrical member disposed within the chamber parallel to the wall;

connecting a positive terminal of a power supply via a positive reactive circuit to the chamber wall to form an anode;

connecting a negative terminal of the power supply via a negative reactive circuit to the cylindrical member to form a cathode;

connecting the reactive circuits to an off cycle chamber return load circuit;

applying an input pulse DC voltage to the anode and the cathode during an on portion of a duty cycle; and

extracting hydrogen gas from the conductive feedstock wherein the reactive circuits and the off cycle chamber return load circuit:

process voltages returning from the chamber during an off portion of the duty cycle, the returning voltages resulting from an electro-chemical reaction in the chamber without surface reaction on the cylindrical member, and

return the processed voltage to the chamber.

13. The method of claim **12**, wherein the feedstock is seawater.

14. The method of claim **12**, wherein the anode and cathode are cylindrical, the cylindrical cathode being disposed symmetrically within the cylindrical anode.

15. The method of claim **12**, wherein a ratio of a radius of the cathode to a radius of the anode is approximately 1:25.

16. The method of claim **12**, further comprising forming the anode from graphite and forming the cathode from tungsten.

17. The method of claim **12**, wherein the cylindrical anode has a cylindrical inner surface and a cylindrical outer surface, wherein only the inner cylindrical surface of the anode is in communication with the feedstock.

18. The method of claim **12**, wherein the on portion of the duty cycle is less than 13% of the duty cycle.

19. The method of claim **12**, further comprising recirculating the fluid through the chamber.