ABSTRACT

PULSED POWER SUPPLY FOR SUSTAINABLE REDOX AGENT SUPPLY FOR HYDROGEN ABATEMENT DURING ELECTROCHEMICAL HYPOCHLORITE GENERATION

A method of operating an electrochemical cell including introducing an aqueous solution into the electrochemical cell, applying a current across an anode and a cathode to produce a product, monitoring the voltage, dissolved hydrogen, or a condition of the aqueous solution, and applying the current in a pulsed waveform responsive to one of the measured parameters is disclosed. An electrochemical system including an electrochemical cell including an anode and a cathode, a source of an aqueous solution having an outlet fluidly connectable to the electrochemical cell, a sensor for measuring a parameter, and a controller configured to cause the anode and the cathode to apply the current in a pulsed waveform responsive to the parameter measurement is disclosed. Methods of suppressing accumulation of hydrogen gas within the electrochemical cell are also disclosed. Methods of facilitating operation of an electrochemical cell are also disclosed.

[Figure 10A]