

Title (en)

FLOW BATTERY AND REGENERATION SYSTEM WITH IMPROVED SAFETY

Title (de)

FLUSSBATTERIE UND REGENERATIONSSYSTEM MIT VERBESSERTER SICHERHEIT

Title (fr)

BATTERIE À FLUX ET SYSTÈME DE RÉGÉNÉRATION À SÉCURITÉ AMÉLIORÉE

Publication

EP 3033790 A1 20160622 (EN)

Application

EP 14713633 A 20140227

Priority

- US 201313969597 A 20130818
- US 201414184702 A 20140219
- US 2014019170 W 20140227

Abstract (en)

[origin: WO2015026393A1] A method for producing electric power and regenerating an aqueous multi-electron oxidant (AMO) and a reducer in an energy storage cycle is provided. A discharge system includes a discharge unit, an acidification reactor, and a neutralization reactor. The acidification reactor converts an oxidant fluid including the AMO into an acidic oxidant fluid. The discharge unit generates electric power and a discharge fluid by transferring electrons from a positive electrode of an electrolyte-electrode assembly (EEA) to the AMO and from a reducer to a negative electrode of the EEA. The neutralization reactor neutralizes the discharge fluid to produce a neutral discharge fluid. The regeneration system splits an alkaline discharge fluid into a reducer and an intermediate oxidant in a splitting-disproportionation reactor and releases the reducer and a base, while producing the AMO by disproportionating the intermediate oxidant. The regenerated AMO and reducer are supplied to the discharge unit for power generation.

IPC 8 full level

H01M 8/06 (2006.01); **H01M 8/08** (2006.01); **H01M 8/18** (2006.01); **H01M 8/22** (2006.01)

CPC (source: EP RU)

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Citation (search report)

See references of WO 2015026393A1

Designated contracting state (EPC)

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BA ME

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US 2014019170 W 20140227; CA 2929694 A 20140227; EP 14713633 A 20140227; RU 2015151909 A 20140227