(12) INTERNATIONAL APPLICATION PUBLISHED UNDER THE PATENT COOPERATION TREATY (PCT)

(19) World Intellectual Property Organization
International Bureau

(43) International Publication Date
1 October 2009 (01.10.2009)

PCT

(10) International Publication Number
WO 2009/120384 A3

(51) International Patent Classification:
C02F 3/00 (2006.01) *C02F 9/00* (2006.01)

(21) International Application Number:
PCT/US2009/001949

(22) International Filing Date:
27 March 2009 (27.03.2009)

(25) Filing Language: English

(26) Publication Language: English

(30) Priority Data:

61/040,179	28 March 2008 (28.03.2008)	US
61/041,720	2 April 2008 (02.04.2008)	US
61/046,631	21 April 2008 (21.04.2008)	US

(71) Applicant *(for all designated States except US)*: **SIEMENS WATER TECHNOLOGIES CORP.** [US/US]; 181 Thorn Hill Rd., Warrendale, PA 15086 (US).

(72) Inventors; and

(75) Inventors/Applicants *(for US only)*: **LIU, Wenjun** [CN/US]; 280B Murray Drive, King of Prussia, PA 19406 (US). **JORDAN, Edward, J.** [US/US]; 19442 W 102 nd Street, Lenexa, KS 66220 (US). **ZUBACK, Joseph, E.** [US/US]; 172 Cottage Grove Avenue, Camarillo, CA 93012 (US). **SMITH, George, W.** [US/US]; 16n 30151w Timberbrook Court, Pewaukee, WI 53072 (US).

(74) Agents: **MUSACCHIO, Pasquale** et al.; Siemens Corporation- Intellectual Property Dept., 170 Wood Avenue South, Iselin, NJ 08830 (US).

(81) Designated States *(unless otherwise indicated, for every kind of national protection available)*: AE, AG, AL, AM, AO, AT, AU, AZ, BA, BB, BG, BH, BR, BW, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DO, DZ, EC, EE, EG, ES, FI, GB, GD, GE, GH, GM, GT, HN, HR, HU, ID, IL, IN, IS, JP, KE, KG, KM, KN, KP, KR, KZ, LA, LC, LK, LR, LS, LT, LU, LY, MA, MD, ME, MG, MK, MN, MW, MX, MY, MZ, NA, NG, NI, NO, NZ, OM, PG, PH, PL, PT, RO, RS, RU, SC, SD, SE, SG, SK, SL, SM, ST, SV, SY, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VC, VN, ZA, ZM, ZW.

(84) Designated States *(unless otherwise indicated, for every kind of regional protection available)*: ARIPO (BW, GH, GM, KE, LS, MW, MZ, NA, SD, SL, SZ, TZ, UG, ZM, ZW), Eurasian (AM, AZ, BY, KG, KZ, MD, RU, TJ, TM), European (AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HR, HU, IE, IS, IT, LT, LU, LV, MC, MK, MT, NL, NO, PL, PT, RO, SE, SI, SK, TR), OAPI (BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG).

Published:

— *with international search report (Art. 21(3))*

(88) Date of publication of the international search report:
30 December 2009

(54) Title: HYBRID AEROBIC AND ANAEROBIC WASTEWATER AND SLUDGE TREATMENT SYSTEMS AND METHODS

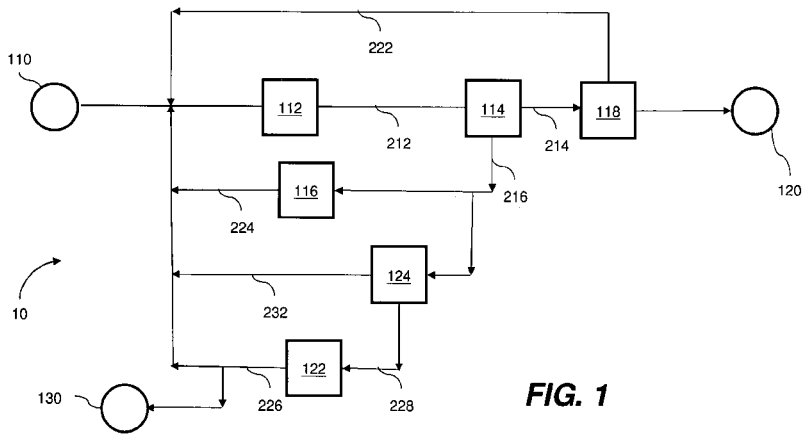

FIG. 1

(57) Abstract: A hybrid method and system of treating wastewater with reduced energy usage is disclosed. The treatment system has a sorption system, an anaerobic digester that digests or converts at least a portion of the solids or sludge from the sorption system, and an aerobic treatment tank that partially reduces oxygen demand of a portion of the sludge from the sorption tank.

WO 2009/120384 A3