

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

(19) World Intellectual Property
Organization
International Bureau

(43) International Publication Date
13 October 2022 (13.10.2022)



(10) International Publication Number
WO 2022/216860 A1

(51) International Patent Classification:

B63B 35/44 (2006.01) *H02S 20/30* (2014.01)
H02S 10/40 (2014.01) *H02S 40/32* (2014.01)

(21) International Application Number:

PCT/US2022/023719

(22) International Filing Date:

06 April 2022 (06.04.2022)

(25) Filing Language:

English

(26) Publication Language:

English

(30) Priority Data:

63/171,981 07 April 2021 (07.04.2021) US
63/179,925 26 April 2021 (26.04.2021) US

(71) Applicant: **NORIA ENERGY** [US/US]; 80 Liberty Ship
Way, Suite 5, Sausalito, CA 94965 (US).

(72) Inventors: **MAYER, Alex**; 552 Montford Avenue, Mill
Valley, California 94941 (US). **RAIFORD, James**; 2445
Polk Street, Apt. 2, San Francisco, California 94109 (US).

(74) Agent: **HECKADON, David R.** et al.; GORDON REES
SCULLY MANSUKHANI LLP, 101 West Broadway,
Suite 1600, San Diego, California 92101 (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, BN, BR, BW, BY, BZ,
CA, CH, CL, CN, CO, CR, CU, CZ, DE, DJ, DK, DM, DO,
DZ, EC, EE, EG, ES, FI, GB, GD, GE, GH, GM, GT, HN,
HR, HU, ID, IL, IN, IR, IS, IT, JM, JO, JP, KE, KG, KH,
KN, KP, KR, KW, KZ, LA, LC, LK, LR, LS, LU, LY, MA,
MD, ME, MG, MK, MN, MW, MX, MY, MZ, NA, NG, NI,
NO, NZ, OM, PA, PE, PG, PH, PL, PT, QA, RO, RS, RU,
RW, SA, SC, SD, SE, SG, SK, SL, ST, SV, SY, TH, TJ, TM,

(54) Title: FLOATING SOLAR PHOTOVOLTAIC ARRAY WITH ON-BOARD ENERGY MANAGEMENT SYSTEM FOR CONTROLLING AND POWERING INFLATABLE SUPPORT PONTOONS.

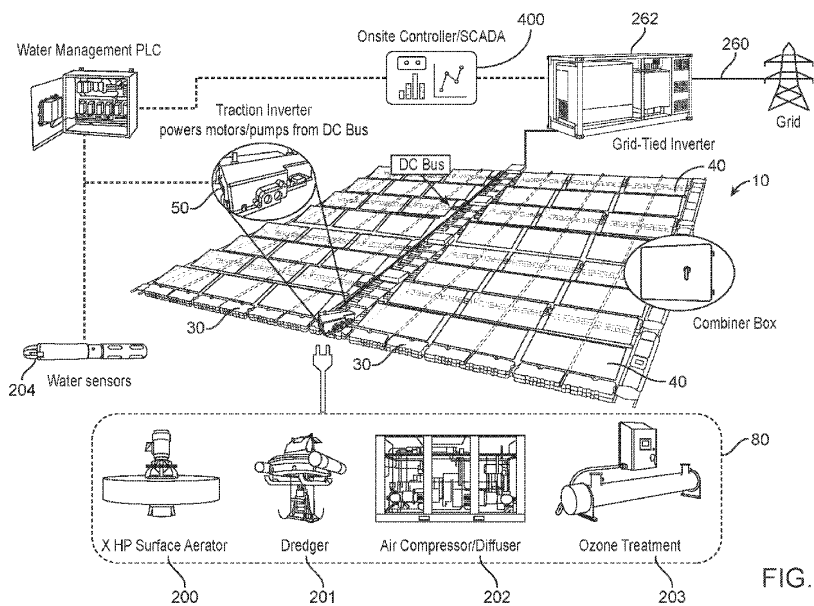


FIG. 1

(57) Abstract: A floating solar photovoltaic array having an energy management power control system configured to send power clipped by an inverter to the at least one powered accessory device which can be an aerator, a diffuser, a sub-surface agitator, a sub-surface water circulator, a sub-surface positioning/mooring system, a water quality sensor, a panel washer, or a bird removal system. The array has inflatable pontoons and an air manifold system which is powered by the solar photovoltaic modules can be used to adjust the angle of inclination of the solar photovoltaic modules to the sun. The powered accessories can also be powered by unclipped power or on-shore power or combinations thereof which can be controllably adjusted by the energy management control system over time.

[Continued on next page]

TN, TR, TT, TZ, UA, UG, US, UZ, VC, VN, WS, ZA, ZM, ZW.

(84) Designated States (*unless otherwise indicated, for every kind of regional protection available*): ARIPO (BW, GH, GM, KE, LR, LS, MW, MZ, NA, RW, SD, SL, ST, SZ, TZ, UG, ZM, ZW), Eurasian (AM, AZ, BY, KG, KZ, RU, TJ, TM), European (AL, 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, RS, SE, SI, SK, SM, TR), OAPI (BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, KM, ML, MR, NE, SN, TD, TG).

Published:

- *with international search report (Art. 21(3))*
- *before the expiration of the time limit for amending the claims and to be republished in the event of receipt of amendments (Rule 48.2(h))*