

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

(19) World Intellectual Property
Organization
International Bureau

(43) International Publication Date
04 October 2018 (04.10.2018)



(10) International Publication Number
WO 2018/182894 A1

- (51) International Patent Classification:
E21B 33/035 (2006.01) *E21B 33/043* (2006.01)
- (21) International Application Number:
PCT/US2018/019725
- (22) International Filing Date:
26 February 2018 (26.02.2018)
- (25) Filing Language: English
- (26) Publication Language: English
- (30) Priority Data:
15/476,197 31 March 2017 (31.03.2017) US
- (71) Applicant: VETCO GRAY INC. [US/US]; 4424 West Sam Houston Pkwy North, Suite 100, Houston, TX 77041 (US).
- (72) Inventors: BIRD, Derrell Wade; 4424 West Sam Houston Parkway North, Suite 100, Houston, TX 77041 (US).

YATES, Chad Eric; 4424 West Sam Houston Parkway North, Suite 100, Houston, TX 77041 (US).

(74) Agent: DOMBROWSKI, Joanna M. et al.; General Electric Company, Global Patent Operation, 901 Main Avenue, 3rd floor, Norwalk, CT 06851 (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, 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, SM, ST, SV, SY, TH, 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,

(54) Title: SYSTEMS AND METHODS FOR MONITORING SUBSEA WELLHEAD SYSTEMS

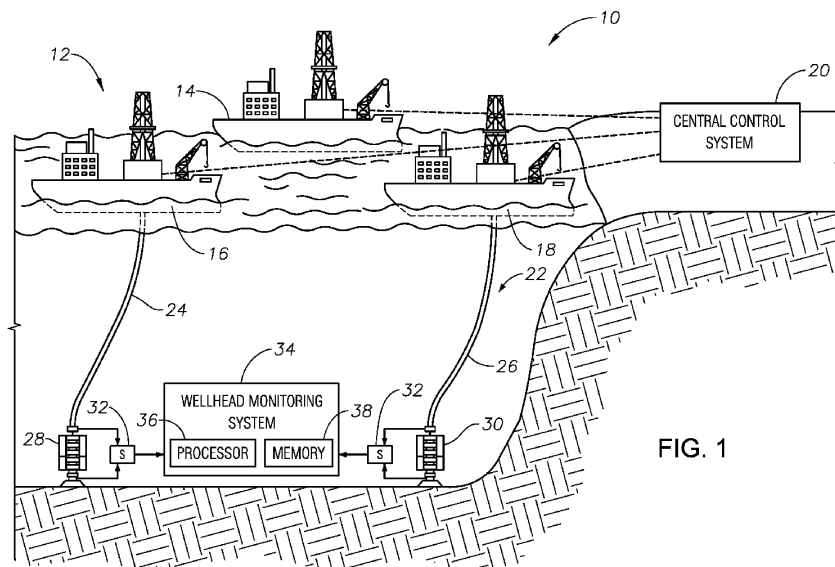


FIG. 1

(57) Abstract: A system includes a wellhead monitoring system. The wellhead monitoring system includes a processor configured to receive from a sensor a detection of one or more operating parameters associated with a wellhead disposed within a subsea environment. The sensor is coupled to the wellhead, and is configured to detect the one or more operating parameters within the subsea environment. The processor is configured to store the detection of the one or more operating parameters, and to generate an output based at least in part on the detection of the one or more operating parameters. The output includes an indication of an operational fatigue or an operational health of the wellhead.

[Continued on next page]

WO 2018/182894 A1

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).

Declarations under Rule 4.17:

- *as to applicant's entitlement to apply for and be granted a patent (Rule 4.17(ii))*
- *as to the applicant's entitlement to claim the priority of the earlier application (Rule 4.17(iii))*

Published:

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