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

(19) World Intellectual Property Organization

International Bureau



(10) International Publication Number WO 2011/059760 A3

(43) International Publication Date 19 May 2011 (19.05.2011)

(51) International Patent Classification: F03D 3/04 (2006.01) F03D 11/00 (2006.01) F03D 3/02 (2006.01)

(21) International Application Number:

PCT/US2010/054543

(22) International Filing Date:

28 October 2010 (28.10.2010)

(25) Filing Language:

English

(26) Publication Language:

English

(30) Priority Data:

61/256,174 29 October 2009 (29.10.2009) US 61/256,474 30 October 2009 (30.10.2009) US 12/771,898 30 April 2010 (30.04.2010) US

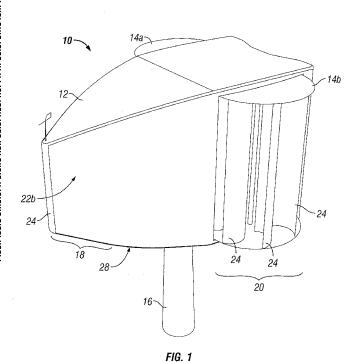
- (71) Applicant (for all designated States except US): THE GREEN ELECTRIC COMPANY, A MASSACHUSETTS CORPORATION [US/US]; 31677 Frontage Road, Bozeman, MT 59715 (US).
- (72) Inventors; and
- (75) Inventors/Applicants (for US only): LUCY, Dan [US/US]; 1300 West Rock Creek Road, Bozeman, MT 59715 (US). BLEVINS, Michael [US/US]; 4912 Itana

Circle, Bozeman, MT 59715 (US). **GREEN, Colin** [CA/CA]; #2-908 St. Charles Street, Victoria, BC V8S 3P6 (CA). **BLITTERSWYK, Nick** [CA/US]; 353 West 48th Street, Suite 302, New York, NY 10036 (US).

- (74) Agent: LANE, Eric, L.; Luce, Forward, Hamilton & Scripps LLP, 600 West Broadway, Suite 2600, San Diego, CA 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, BR, BW, BY, BZ, CA, CH, CL, 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, PE, PG, PH, PL, PT, RO, RS, RU, 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, GM, KE, LR, LS, MW, MZ, NA, SD, SL, SZ, TZ, UG, ZM, ZW), Eurasian (AM, AZ, BY, KG, KZ, MD, 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,

[Continued on next page]

(54) Title: WIND ENERGY SYSTEM



(57) Abstract: Wind energy systems comprise a wind accelerator having a support assembly and an outer structure surrounding the support assembly. The wind accelerator has a front region and a rear region. The rear region is substantially wider than the front region, and the outer structure tapers from the rear region to the front region. One or more turbines are mounted on the support assembly at or near the rear region of the wind accelerator or at or near the widest point of the wind accelerator.



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, ML, MR, NE, SN, TD, TG).

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))

Published:

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

(88) Date of publication of the international search report:

9 September 2011

International application No. PCT/US2010/054543

A. CLASSIFICATION OF SUBJECT MATTER

F03D 3/04(2006.01)i, F03D 3/02(2006.01)i, F03D 11/00(2006.01)i

According to International Patent Classification (IPC) or to both national classification and IPC

FIELDS SEARCHED

Minimum documentation searched (classification system followed by classification symbols)

F03D 3/04; F03D 3/02; F03D 7/06; F03D 11/04; F03D 3/06

Documentation searched other than minimum documentation to the extent that such documents are included in the fields searched Korean utility models and applications for utility models Japanese utility models and applications for utility models

Electronic data base consulted during the international search (name of data base and, where practicable, search terms used) eKOMPASS(KIPO internal) & Keywords: wind, energy, accelerator, front region, rear region, tapering

DOCUMENTS CONSIDERED TO BE RELEVANT

Category*	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
A	JP 2005-299621 A (KAMAKURA KAZUHIRO) 27 October 2005 See paragraphs 5-6 and figures 1-5	1-20
A	JP 2001-289148 A (OBARA YAICHI) 19 October 2001 See claims 1-5 and figures 1-4	1-20
A	JP 2003-193955 A (HIDAKA AKIHIRO) 09 July 2003 See paragraphs 18-46 and figures 1-11	1-20
A	JP 2009-085090 A (NAGAHABA KIYOSHI) 23 April 2009 See paragraphs 21-48 and figures 1-11	1-20

		Further documents are listed in the continuation of Box C.
--	--	--

See patent family annex.

- Special categories of cited documents:
- document defining the general state of the art which is not considered to be of particular relevance
- earlier application or patent but published on or after the international
- document which may throw doubts on priority claim(s) or which is cited to establish the publication date of citation or other special reason (as specified)
- document referring to an oral disclosure, use, exhibition or other
- document published prior to the international filing date but later than the priority date claimed
- later document published after the international filing date or priority date and not in conflict with the application but cited to understand the principle or theory underlying the invention
- "X" document of particular relevance; the claimed invention cannot be considered novel or cannot be considered to involve an inventive step when the document is taken alone
- document of particular relevance; the claimed invention cannot be considered to involve an inventive step when the document is combined with one or more other such documents, such combination being obvious to a person skilled in the art
- "&" document member of the same patent family

Date of mailing of the international search report

Date of the actual completion of the international search

29 MAY 2011 (29.05.2011)

01 JULY 2011 (01.07.2011)

Name and mailing address of the ISA/KR



Korean Intellectual Property Office Government Complex-Daejeon, 189 Cheongsa-ro, Seo-gu, Daejeon 302-701, Republic of Korea

Facsimile No. 82-42-472-7140

Authorized officer

KANG, TACK JUNG

Telephone No. 82-42-481-5487



INTERNATIONAL SEARCH REPORT

Information on patent family members

International application No.

PCT/US2010/054543

			101,002010,001010
Patent document cited in search report	Publication date	Patent family member(s)	Publication date
JP 2005-299621 A	27.10.2005	None	
JP 2001-289148 A	19.10.2001	None	
JP 2003-193955 A	09.07.2003	None	
JP 2009-085090 A	23.04.2009	None	