



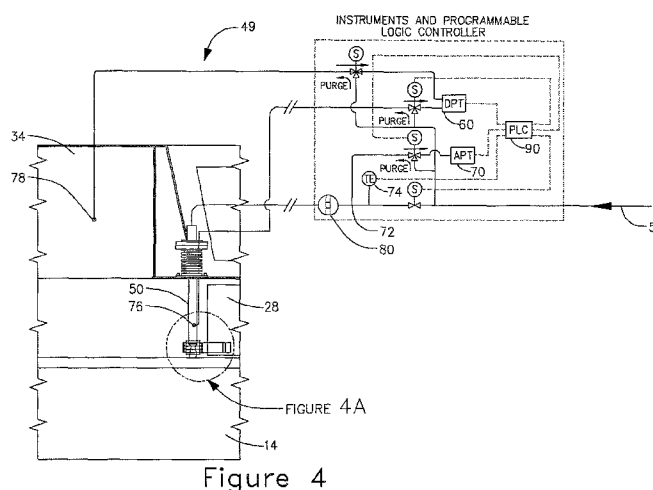
- | | | | |
|---|--|---|---|
| (51) International Patent Classification: | Not classified | (81) Designated States <i>(unless otherwise indicated, for every kind of national protection available):</i> | AE, AG, AL, AM, AO, AT, AU, AZ, BA, BB, BG, BH, BR, BW, BY, BZ, CA, CH, CL, CN, CO, CR, CU, CZ, DE, 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. |
| (21) International Application Number: | PCT/US2010/044260 | (84) Designated States <i>(unless otherwise indicated, for every kind of regional protection available):</i> | 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, LV, MC, MK, MT, NL, NO, PL, PT, RO, SE, SI, SK, SM, TR), OAPI (BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG). |
| (22) International Filing Date: | 3 August 2010 (03.08.2010) | (72) Inventor; and | |
| (25) Filing Language: | English | (75) Inventor/Applicant <i>(for US only):</i> | O'BOYLE, Kevin [US/US]; 163 Pump Station Road, Alma, New York 14708 (US). |
| (26) Publication Language: | English | (74) Agents: | ZALE, Lawrence, P. et al.; ALSTOM Power Inc., 200 Great Pond Drive, P.O. Box 500, Windsor, Connecticut 06095-0500 (US). |
| (30) Priority Data: | 12/557,751 11 September 2009 (11.09.2009) US | (72) Inventors: | COX, William, C.; 1786 County Route 18, Wellsville, New York 14895 (US). PROCTOR, John, D.; 3455 State Route 417, Wellsville, New York 14895 (US). |
| (71) Applicant <i>(for all designated States except US):</i> | ALSTOM TECHNOLOGY LTD [CH/CH]; Brown Boveri Strasse 7, CH-5400 Baden (CH). | (72) Inventor; and | |
| (72) Inventors: | COX, William, C.; 1786 County Route 18, Wellsville, New York 14895 (US). PROCTOR, John, D.; 3455 State Route 417, Wellsville, New York 14895 (US). | (75) Inventor/Applicant <i>(for US only):</i> | O'BOYLE, Kevin [US/US]; 163 Pump Station Road, Alma, New York 14708 (US). |
| (72) Inventor; and | | (74) Agents: | ZALE, Lawrence, P. et al.; ALSTOM Power Inc., 200 Great Pond Drive, P.O. Box 500, Windsor, Connecticut 06095-0500 (US). |
| (75) Inventor/Applicant <i>(for US only):</i> | O'BOYLE, Kevin [US/US]; 163 Pump Station Road, Alma, New York 14708 (US). | (74) Agents: | ZALE, Lawrence, P. et al.; ALSTOM Power Inc., 200 Great Pond Drive, P.O. Box 500, Windsor, Connecticut 06095-0500 (US). |
| (74) Agents: | ZALE, Lawrence, P. et al.; ALSTOM Power Inc., 200 Great Pond Drive, P.O. Box 500, Windsor, Connecticut 06095-0500 (US). | (72) Inventor; and | |

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))*

[Continued on next page]

- (54) Title:** SYSTEM AND METHOD FOR NON-CONTACT SENSING TO MINIMIZE LEAKAGE BETWEEN PROCESS STREAMS IN AN AIR PREHEATER



- (57) Abstract:** A rotary air preheater 10 includes a housing 12 having a rotor 14. The rotor 14 has opposing ends 20,24 and is divided into sections by diaphragms 48. Sector plates 28 include one sector plate 28 in sealing relation with one of opposing ends 20,24 of the rotor 14. The air preheater 10 includes a flange 56 and a sensing device 49 coupled to at least one of the sector plates 28. The sensing device 49 provides non-contact sensing of a distance between the sector plate 28 and the flange 56. The sensing device 49 includes a conduit 54 that directs a jet of compressed air onto the flange 56, a first pressure sensor 60 and a second pressure sensor 70. The first pressure sensor 60 senses pressure inside the sensing device 49, and the second pressure sensor 70 senses pressure outside the sensing device 49. The distance between the sector plate and the flange is a pressure difference measured by the first and the second pressure sensors 60,70. In one embodiment, the first pressure sensor 60 senses a backpressure within the sensing device 49.



Published:

- *without international search report and to be republished
upon receipt of that report (Rule 48.2(g))*