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| <b>(51) International Patent Classification <sup>7</sup> :</b><br><b>C10J 3/46, C01B 3/36</b>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    | <b>A1</b> | <b>(11) International Publication Number:</b> <b>WO 00/15737</b><br><b>(43) International Publication Date:</b> 23 March 2000 (23.03.00)                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             |
| <b>(21) International Application Number:</b> PCT/US99/20012<br><b>(22) International Filing Date:</b> 1 September 1999 (01.09.99)<br><b>(30) Priority Data:</b><br>09/154,772 17 September 1998 (17.09.98) US<br><b>(71) Applicant:</b> TEXACO DEVELOPMENT CORPORATION<br>[US/US]; 2000 Westchester Avenue, White Plains, NY<br>10650-0001 (US).<br><b>(72) Inventors:</b> TSE, Daniel, W.; 2403 Watts Street, Apartment<br>2, Houston, TX 77030-1837 (US). GULKO, George, M.;<br>10555 Turtlewood Court #305, Houston, TX 77072 (US).<br>WALLACE, Paul, S.; 1110 Cheyenne Meadows Drive,<br>Katy, TX 77450 (US).<br><b>(74) Agent:</b> REISTER, Andrea, G.; Howrey & Simon, 1299<br>Pennsylvania Avenue, N.W., Box 34, Washington, DC<br>20004-2402 (US).                                                                      |           | <b>(81) Designated States:</b> AE, AL, AM, AT, AU, AZ, BA, BB, BG,<br>BR, BY, CA, CH, CN, CR, CU, CZ, DE, DK, DM, EE,<br>ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP,<br>KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MD,<br>MG, MK, MN, MW, MX, NO, NZ, PL, PT, RO, RU, SD,<br>SE, SG, SI, SK, SL, TJ, TM, TR, TT, UA, UG, UZ, VN,<br>YU, ZA, ZW, ARIPO patent (GH, GM, KE, LS, MW, SD,<br>SL, SZ, UG, ZW), Eurasian patent (AM, AZ, BY, KG, KZ,<br>MD, RU, TJ, TM), European patent (AT, BE, CH, CY, DE,<br>DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE),<br>OAPI patent (BF, BJ, CF, CG, CI, CM, GA, GN, GW, ML,<br>MR, NE, SN, TD, TG).<br><br><b>Published</b><br><i>With international search report.</i> |
| <b>(54) Title:</b> SYSTEM AND METHOD FOR INTEGRATED GASIFICATION CONTROL                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |           |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      |
| <b>(57) Abstract</b><br><br>An integrated control system (ICS) for a gasification plant controls the operation of a gasifier and other critical components of the gasification plant. The ICS improves the performance of a gasification plant by controlling the operation of a gasifier and other critical components by an integrated controller, rather than by several independent controllers. The ICS is a sub-system of a larger distributed control system that controls the operation of the gasification plant. The ICS controls the following: (i) oxygen to carbon (O/C) ratio in a gasifier; (ii) syngas demand or the desired output of a gasifier; (iii) load constraints; (iv) moderator flow into a gasifier; (v) air separation unit (ASU); (vi) oxygen header vent valves; and (vii) syngas header pressure. |           |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      |

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