



- (51) International Patent Classification:
G21C 7/14 (2006.01)
- (21) International Application Number:
PCT/US2013/036072
- (22) International Filing Date:
11 April 2013 (11.04.2013)
- (25) Filing Language: English
- (26) Publication Language: English
- (30) Priority Data:
13/405,405 27 February 2012 (27.02.2012) US
61/625,729 18 April 2012 (18.04.2012) US
13/860,058 10 April 2013 (10.04.2013) US
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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, PA, PE, PG, PH, PL, PT, QA, RO, RS, RU,
RW, 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, RW, SD, SL, 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,
ML, MR, NE, SN, TD, TG).

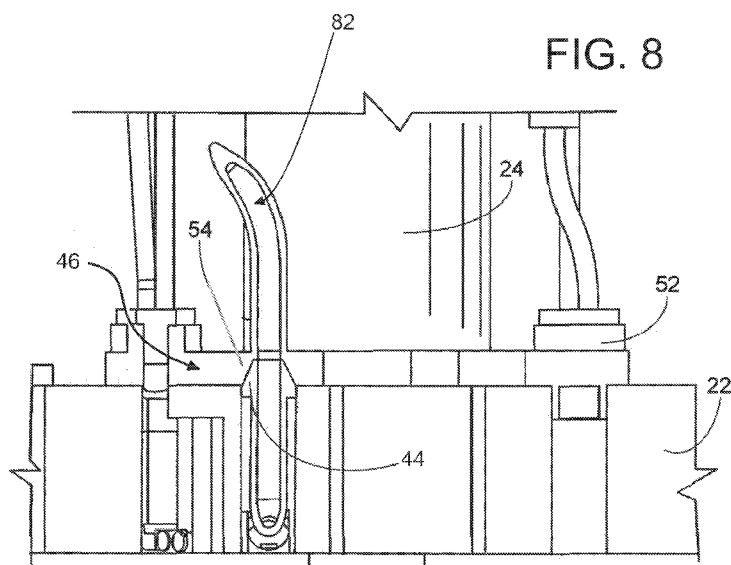
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- (81) Designated States (unless otherwise indicated, for every
kind of national protection available): AE, AG, AL, AM,
AO, AT, AU, AZ, BA, BB, BG, BH, BN, BR, BW, BY,

Published:

- with international search report (Art. 21(3))
- with information concerning request for restoration of the
right of priority in respect of one or more priority claims
(Rules 26bis.3 and 48.2(b)(vii))

- (88) Date of publication of the international search report:
30 January 2014

(54) Title: CRDM INTERNAL HYDRAULIC CONNECTOR



(57) Abstract: A nuclear reactor internal control rod drive mechanism (CRDM) including a motor and a hydraulically driven element connected by at least one hydraulic line with at least one hydraulic connector disposed on an internal CRDM mounting plate. A support element mounted in the nuclear reactor includes at least one hydraulic connector. The internal CRDM is supported on the support element by its mounting plate with each hydraulic connector of the internal CRDM mated with a corresponding hydraulic connector of the support element. The hydraulically driven element may be a piston controlling SCRAM, driven by coolant water, and the coolant water pressure in the at least one hydraulic line is higher than the coolant water pressure in the reactor. The mating of each hydraulic connector of the internal CRDM with a corresponding hydraulic connector of the support element may be a leaky mating that leaks coolant water into the pressure vessel.



INTERNATIONAL SEARCH REPORT

International application No.

PCT/US2013/036072

A. CLASSIFICATION OF SUBJECT MATTER

IPC(8) - G21C 7/14 (2013.01)

USPC - 376/219

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

B. FIELDS SEARCHED

Minimum documentation searched (classification system followed by classification symbols)

IPC(8) - G21C 7/00, 7/08, 7/12, 7/14, 9/00, 19/02 (2013.01)

USPC - 376/203, 219, 228, 235, 294, 353

Documentation searched other than minimum documentation to the extent that such documents are included in the fields searched
CPC - G21C 7/12; Y02E 30/39, 30/40 (2013.01)

Electronic data base consulted during the international search (name of data base and, where practicable, search terms used)

PatBase, Google Patents, Google Scholar

C. DOCUMENTS CONSIDERED TO BE RELEVANT

Category*	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
X	US 2010/0316177 A1 (STAMBAUGH et al) 16 December 2010 (16.12.2010) entire document	19
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Y		1-18,20-22
Y	US 5,378,064 A (SATO et al) 03 January 1995 (03.01.1995) entire document	1-18,20-22
Y	US 3,855,059 A (GROVES et al) 17 December 1974 (17.12.1974) entire document	5,9,11,12,20-22
Y	US 5,361,279 A (KOBASA et al) 01 November 1994 (01.11.1994) entire document	13
Y	US 3,788,943 A (MISENTI et al) 29 January 1974 (29.01.1974) entire document	15

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

* Special categories of cited documents:

"A" document defining the general state of the art which is not considered to be of particular relevance

"E" earlier application or patent but published on or after the international filing date

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"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

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"&" document member of the same patent family

Date of the actual completion of the international search

24 October 2013

Date of mailing of the international search report

12 NOV 2013

Name and mailing address of the ISA/US

Mail Stop PCT, Attn: ISA/US, Commissioner for Patents
P.O. Box 1450, Alexandria, Virginia 22313-1450

Facsimile No. 571-273-3201

Authorized officer:

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PCT OSP: 571-272-7774