

**Velan Inc.**

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U.S. Nuclear Regulatory Commission  
Document Control Desk

Washington, D.C. 20555-0001

Attention: Document Control Desk, via fax 301-816-5151

Subject: Notification  
Disc (part number 8205-012) in 4NPS Class 150 through 900 Swing Check Valve

Gentlemen,

Ameren, former Union Electric, informed us in November 2017 during a service inquiry that they are dealing with a swing check valve disc that was found stuck in the open position during their post refueling testing at Callaway Nuclear Power Plant. The disc in question was delivered in 1997 and installed in 1999; the valve is subject to leak surveillance by test once every 18 months. The valve failed its last test and was open for examination at which time the disc was found stuck open.

Our internal investigation determined the following:

- There was a design change in 1979 which increased the thickness of the disc in order to make it suitable for larger pressure classes, from 600 up to 900 and 1500;
- 3D modelling revealed that as a result of the disc configuration there is a chance that the disc edge will contact and bind with the wall of the valve before the stopper at the end of the hanger hits the wall of the valve and prevent this from happening
- The part number was left unchanged;
- The corresponding enlarging of the body cavity was done only in 1985;
- Our internal records go back to 1982; an examination of these records reveals that we shipped 157 discs of this part number, to the US utilities identified in Annex 1 and 2; these records come from two different systems, hence their slightly different appearance/content.

The following actions are being taken with respect to the disc:

- Cancel disc part number 8502-012
- Create a new disc part number to fit the body geometry of 1985 and before
- Create another disc part number to fit the current body geometry.

All utilities in the attachment will be notified within a week, for information and to determine a course of action. As a minimum, Velan will recall all discs of the aforementioned part number in inventory at these utilities.

For any additional information on this matter please contact me at 514-748-7748 x 2134 or at [victor.apostolescu@velan.com](mailto:victor.apostolescu@velan.com).

Sincerely yours,

Sincerely,

Victor Apostolescu, Eng.  
Vice-president, Quality Assurance



## ANNEX 1

DATE	CUSTOMER	VELAN ORDER	ITEM	DRAWING	QTY		
SHIPPED	CUSTOMER NAME	P.O. NO.	WRITE-UP NO.	NO.	VSC NUMBER	NO.	SHIPPED
2001-01-04	PECO ENERGY	90 179323	P-012-926670N	001	8205-012N002-S	P2-3486-N4/L	1
2001-11-13	EXELON NUCLEAR (PECO)	90 184729	P012-112890-N	5/001	8205-012N002-S	P2-3486-N4/L	2
2001-11-14	EXELON NUCLEAR (PECO)	90 184729	P012-112890-N	10/001A	8205-012N002-S	P2-3486-N4/L	2
2002-09-23	ENTERGY OPERATIONS	4500511836	P012-207290-K	5/002	8205-012N013-S	P2-81950-K01	1
2003-02-04	PUBLIC SERVICE ELECTRIC	4500170280	P012-247430-N	010	8205-012N002-S	P3-1028-N-11/A	1
2003-03-06	NINE MILE POINT NUCLEAR	02-39695-001	P012-239930-N	0001	8205-012N002-S	P3-3916-N11/G	1
2003-04-11	ENTERGY NUCLEAR OPER.	4500521141	P012-279390-D	3	8205-012D002-S	P010-279380-D01	1
2003-04-11	ENTERGY NUCLEAR OPER.	4500521141	P012-279390-D	3	8205-012D002-S	P010-279380-D01	1
2003-08-22	WOLF CREEK NUCLEAR	721573/0	P012-299170-N	1	8205-012N002-S	P2-6432-N13/H	1
2003-08-22	PECO ENERGY COMPANY	90 003911 1	P012-289010-N	1	8205-012N002-S	P2-3486-N4/L	3
2004-08-06	EXELON / PECO ENERGY CO.	#90009213	P012-386740-N	1	8205-012N002-S	P2-3486-NR REV. L	4
2004-10-06	NINE MILE POINT NUCLEAR	#04-50183	P012-416270-N	001	8205-012N002-S	P3-3916-N11 REV. G	1
2006-02-08	AMEREN UNION ELECTRIC CO.	#225817 SR	P012-517140-N	1	8205-012N013-S	P2-6432-N13/H	1
2005-05-12	TENNESSEE VALLEY AUTHORITY	#00044577	P012-469380-K	001	8205-012N013-J	P012-368010- K04/B	1
2006-12-05	FIRST ENERGY CORPORATION	#45201563	P012-568480-N	1	8205-012N013-S	P3-1012-N24	1
2006-12-19	EXELON BUSINESS SERVICES	#90019946	P012-595350-N	1	8205-012N002-W	P2-3241-N4/J	1
2006-12-20	EXELON BUSINESS SERVICES	#90019946	P012-595350-N	1A	8205-012N002-W	P2-3241-N4/J	2
2007-08-20	TENNESSEE VALLEY AUTHORITY	00061665	P012-628030-K	1	8205-012N013-K	P2-80533-K01/B	1
2007-09-12	DOMINION VIRGINIA POWER	45516610	M012-636710-D	1	8205-012N002-S	P2-74300-K3/B	1
2008-01-08	EXELON BUSINESS SERVICES	90 024366	P012-677610-N	1	8205-012N013-S	P2-82320-20- N01/C	1
2009-03-19	EXELON BUSINESS	90028488	P012-756000-N	2	8205-012N002-S	P2-3486-N-4 / REV. L	1
2009-10-21	DUKE ENERGY CAROLINAS, LLC	00119365	P012-789050-N	4	8205-012N002-S	P2-82186-N03 REV C	1
2009-10-21	EXELON BUSINESS SERVICES	90031445	P012-789080-N	2	8205-012N002-S	PS-3486-N4- REV L	2
2010-09-16	EXELON BUSINESS SERVICES	90 035823	P012-835112-N	1	8205-012N002-S	P2-3486-N-4 REV L	2



2010-10-26	EXELON BUSINESS SERVICES	90037735	P012-836033-N	1	8205-012N002-S	P2-3486-N-4 REV L	2
2014-12-01	EXELON BUSINESS SERVICES	90 062917 REV 1	P012-848672-N	01	8205-012N002-S	P2-3486-N-4 REV L	2
2014-12-15	NINE MILE POINT NUCLEAR STATION	7736258 REV 3	P012-880034-N	1A	8205-012N002-S	P3-3916-N11 REV G	1
2014-12-18	EXELON BUSINESS SERVICES	90 063963	P012-849453-N	01	8205-012N002-S	P2-3486-N-4 REV L	1

(After Y2k) TOTAL = 40

## Data prior to 2000

Order Date	Part Number	Velan Order	Customer and location	Customer Order Number	Item #	Qty
850812	8205-012-002	P223544KSP	BECHTEL-POTTSTOWN,PA	LS-221285-NB, REV.2	00013	4
860812	8205-012-002	P226289NSP	PAC.G&E-AVILA BCH,CA	736362	00001	1
861019	8205-012-013	P226913NSP	WESTINGHOUSE-PSBG,PA	MN-70582-D-KZ	00001	1
861019	8205-012-013	P226928NSP	WESTINGHOUSE-PSBG,PA	MN-70850-D	00001	1
861118	8205-012-002	P227299KSP	TVA -KNOXVILLE,TN	86PNR-801448	00001	1
870216	8205-012-002	P317975NSP	ENTERGY-ST FRNCVL,LA	83-1-B0232 REV.10	00025	1
870216	8205-012-002	P317975NSP	ENTERGY-ST FRNCVL,LA	83-1-B0232 REV.10	00033	1
870216	8205-012-002	P318032NSP	ENTERGY-ST FRNCVL,LA	83-1-B0232, REV.10	00002	1
870216	8205-012-002	P318046NSP	ENTERGY-ST FRNCVL,LA	83-1-B0232, REV.10	00015	1
870216	8205-012-002	P318055NSP	ENTERGY-ST FRNCVL,LA	83-1-B0232, REV.10	00032	1
870313	8205-012-002	P228168NSP	BECHTEL-POTTSTOWN,PA	08031-F-80493 R/3	00001	1
870407	8205-012-013	P228417KSP	AEP -COLUMBUS,OH	04043-041-6X	00001	1
870407	8205-012-002	P228458NSP	PAC.G&E-AVILA BCH,CA	06225	0001A	1
870407	8205-012-002	P228458NSP	PAC.G&E-AVILA BCH,CA	06225	0001B	1
870519	8205-012-013	P228817KSP	FLA P&L- MIAMI,FL	C 89934 77238	00006	1
870702	8205-012-002	P270006NSP	PACIFIC G&E-SAN F,CA	004964	00005	4
870807	8205-012-013	P270205KSP	VIRGINIA EP-SURRY,VA	SSY132586	00001	2
870819	8205-012-002	P270246NSP	PACIFIC G&E-SAN F,CA	010491	00001	1
870923	8205-012-002	P270439NSP	BECHTEL-POTTSTOWN,PA	18240-SP-00409	00004	1
870928	8205-012-002	P270456NSP	BECHTEL-POTTSTOWN,PA	18240-SP-00152	00017	2

Velan. Quality that lasts.



870928	8205-012-002	P270456NSP	BECHTEL-POTTSTOWN,PA	18240-SP-00152	00025	1
880527	8205-012-002	P271350KSP	PBLC SER EG-NEWRK,NJ	P2-265412	00001	2
880928	8205-012-013	P271799KSP	FLA P&L-FLRDA CTY,FL	C88658 90505	00001	1
881018	8205-012-013	P271893NSP	PORT GEN ELE-PORT,OR	NQ-50062	00001	2
890112	8205-012-002	P272177NSP	ENTERGY -JACKSON,MS	81-Q-72999	00029	4
890127	8205-012-209	P272325KSP	CONS ED -NY,NY	8692998	00016	4
890207	8205-012-002	P272360NSP	ARKNSA P&L-LTL RK,AR	189492	00001	2
890309	8205-012-013	P272598NSP	NIAGARA M- SYRCSE,NY	84135	00001	1
890322	8205-012-002	P272644KSP	TVA -CHATTANOOGA,TN	89NNT-80537B	00001	1
890411	8205-012-013	P272742KSP	PACIFIC G&E-SAN F,CA	024679	00001	1
890607	8205-012-440	P273064KSP	SMUD -SACRAMENTO,CA	RQ-89-32-32531	00005	1
890815	8205-012-440	P273264NSP	ARKNSA P&L-LTL RK,AR	203612	00002	2
890816	8205-012-440	P273002NSP	ARKNSA P&L-LTL RK,AR	198238	00005	1
891128	8205-012-209	P273764NSP	TLEDO EDSN-CLVLND,OH	C600583D89	00001	2
900123	8205-012-209	P273965NSP	PAC.G&E-AVILA BCH,CA	033877	00002	2
900410	8205-012-440	P274307NSP	ARKNSA P&L-LTL RK,AR	220038	00001	1
900420	8205-012-209	P374373KSP	ARKNSA P&L-LTL RK,AR	220329	00002	2
900530	8205-012-440	P274561KSP	PAC.G&E-AVILA BCH,CA	035759	00002	2
900618	8205-012-209	P274681NSP	TLEDO EDSN-CLVLND,OH	C603763D90	00001	2
900626	8205-012-209	P274700KSP	ARKNSA P&L-LTL RK,AR	223281	00002	2
910227	8205-012-209	P275936NSP	PHIL ELEC -PHILLY,PA	LS636376	00001	2
910514	8205-012-440	P276428KSP	BOSTON EDN -BOSTN,MA	STR117573	00001	2
920316	8205-012-440	P277637NSP	PORT GEN -RAINIER,OR	NQ95250	00001	2
920428	8205-012-209	P277757NSP	PHIL ELEC -PHILLY,PA	LS653088	00002	1
920513	8205-012-209	P277795NSP	PHIL ELEC -PHILLY,PA	LS657142	00001	1
920526	8205-012-209	P277813NSP	N ATL ERGY-SEABRK,NH	82658	00001	1
921005	8205-012-002-S	P278157NSP	PHIL ELEC -PHILLY,PA	LS661586	00001	1
921222	8205-012-002-S	P278391NSP	NIAGARA M- SYRCSE,NY	98881	00011	5
930105	8205-012-002-S	P278408NSP	NSP- MINNEAPOLIS,MN	PE2030SQ	00008	1



930106	8205-012-002-S	P278404KSP	FLA P+L-JUNO BEAC,FL	C92933 91157	00001	1
930513	8205-012-002-S	P278800NSP	PBLC SER EG-NEWRK,NJ	P2-428611	00001	7
940209	8205-012-002-S	P279424NSP	PBLC SER EG-NEWRK,NJ	P2-435780	00001	2
940526	8205-012-002-S	P279644NSP	NSP- MINNEAPOLIS,MN	PF9333SQ	00001	1
940815	8205-012-002-S	P279825NSP	PUBL SRV-HNCKS BR,NJ	P2 0733063 1850 0000	00002	4
940823	8205-012-013-J	P279844KSP	MAINE YNKE-BRSWCK,ME	94-02555	00005	1
940923	8205-012-002-S	P279903NSP	UNION EL-ST.LOUIS,MO	092933	00001	1
941222	8205-012-002-S	P280109NSP	PUBL SRV-HNCKS BR,NJ	P2 0760207 1850 0000	00003	1
950127	8205-012-002-S	P280182NSP	PHIL ELEC -PHILLY,PA	LS697175	00002	3
950420	8205-012-002-S	P280326NSP	PUBL SRV-HNCKS BR,NJ	P2 0785740 1850 0000	00001	1
950808	8205-012-002-S	P280539NSP	PUBL SRV-HNCKS BR,NJ	P2 0802840 1850 0000	00003	1
950929	8205-012-002-S	P280656NSP	PUBL SRV-HNCKS BR,NJ	P2 0817432 1850 0000	00005	1
960122	8205-012-002-S	P280849NSP	PHIL ELEC -PHILLY,PA	LS605846	00002	2
960122	8205-012-002-S	P280849NSP	PHIL ELEC -PHILLY,PA	LS605846	0002A	2
960122	8205-012-002-S	P280849NSP	PHIL ELEC -PHILLY,PA	LS605846	0002B	1
960528	8205-012-002-S	P281079NSP	PHIL ELEC -PHILLY,PA	LS608896	00001	1
960626	8205-012-013-S	P281118NSP	PUBL SRV-HNCKS BR,NJ	P2 0860713 1850 0000	00001	1
960822	8205-012-002-S	P281182NSP	PHIL ELEC -PHILLY,PA	LS155137	00001	2
970812	8205-012-002-S	P281661NSP	WOLF CREEK-BURGTN,KS	573540	00001	1
970821	8205-012-013-S	P281671NSP	UNION ELEC-ST LUS,MO	093615	00001	1
980611	8205-012-013-S	P282101NSP	PUBL SRV-HNCKS BR,NJ	P2 0956257 1850 0000	00001	1
981016	8205-012-002-S	P282253NSP	UNION ELEC-ST LUS,MO	095220	00001	1

Pre year 2000 Total =

117