

 South African Nuclear Energy Corporation SOC Limited	PTFE Filter Destruction Plant System Valve List																				Doc. No.	ENS-FDP-LST-24002
																					Doc. No.	8
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3.2 Actuated Valves

1					2	3	4	5	6	7		8		9		10			11				12					13
Valve Tag No.					Valve Type	P&ID Number	Location (Line No. / Equipment No.)	Fluid (Note 1)	Fluid State	Design Conditions		Operating Conditions		SSC Safety Class		Actuator			Process Connection				Materials of Construction					VALVE CERTIFICATION
Fluid Code	System No.	Valve No.	Valve Code	Valve Size						Temp. [°C]	Press. [kPa(g)]	Temp. [°C]	Press. [kPa(g)]	Nuclear (N)	Chemical (C)	Tag No.	Failure Position	Pneumatic / Solenoid	Size	Type	Flange Spec.	Flange Rating	Body	Trim	Packing / Seal	Plug / Ball / Disc	Bonnet / Cap	
NH	810	09	SB	15	Ball Valve	ENS-FDP-PID-24001	15-810-NHVP-006	Nitrogen	Gas	50	1840	Amb	400	SC-3	SC-3	XV81002A	FO	Pneumatic	15	Weld neck flange RF	SS, ASTM A182 F304L/304L, ASME B16.5	Class 600	316 SS	316 SS	GRAPHITE	316 SS	SS	-
NH	810	11	SB	15	Ball Valve	ENS-FDP-PID-24001	15-833-NHVP-061	Nitrogen	Gas	50	1840	Amb	400	SC-3	SC-3	XV81005A	FC	Pneumatic	15	Weld neck flange RF	SS, ASTM A182 F304L/304L, ASME B16.5	Class 600	316 SS	316 SS	GRAPHITE	316 SS	SS	-
KO	831	39	SB	25	Ball Valve	ENS-FDP-PID-24003 Sheet 1	25-831-KOVP-031	Scrubbing Solution	Liquid	200	1380	45	249	SC-3	SC-2	XV83124A	FO	Pneumatic	25	Weld neck flange RF	SS, ASTM A182-F304/304L, ASME B16.5	Class 150	316 SS	316 SS	GRAPHITE	316 SS	SS	-
KO	831	40	SB	25	Ball Valve	ENS-FDP-PID-24003 Sheet 1	25-831-KOVP-031	Scrubbing Solution	Liquid	200	1380	45	249	SC-3	SC-2	XV83124B	FO	Pneumatic	25	Weld neck flange RF	SS, ASTM A182-F304/304L, ASME B16.5	Class 150	316 SS	316 SS	GRAPHITE	316 SS	SS	-
KO	831	41	SB	25	Ball Valve	ENS-FDP-PID-24003 Sheet 1	25-831-KOVP-032	Scrubbing Solution	Liquid	200	1380	45	249	SC-3	SC-2	XV83124C	FO	Pneumatic	25	Weld neck flange RF	SS, ASTM A182-F304/304L, ASME B16.5	Class 150	316 SS	316 SS	GRAPHITE	316 SS	SS	-
KO	831	42	SB	25	Ball Valve	ENS-FDP-PID-24003 Sheet 1	25-831-KOVP-032	Scrubbing Solution	Liquid	200	1380	45	249	SC-3	SC-2	XV83124D	FO	Pneumatic	25	Weld neck flange RF	SS, ASTM A182-F304/304L, ASME B16.5	Class 150	316 SS	316 SS	GRAPHITE	316 SS	SS	-
GS	833	146	SB	15	Ball Valve	ENS-FDP-PID-24005	15-833-GSVP-064	Oxygen	Gas	50	9620	Amb	400	SC-3	SC-2	XV83345C	FC	Solenoid	15	Socket weld RF	SS, ASTM A182-F304/304L, ASME B16.5	Class 1500	316 SS	316 SS	GRAPHITE	316 SS	SS	ATEX RATED (if applicable)
PG	833	147	SB	15	Ball Valve	ENS-FDP-PID-24005	15-833-PGVP-065	LPG	Gas	50	9620	Amb	100	SC-3	SC-2	XV83346C	FC	Solenoid	15	THRD	SS, TP 316 SS, compression ferrule tube fitting	Class 600	316 SS	316 SS	GRAPHITE	316 SS	SS	ATEX RATED (if applicable)
GA	820	149	SG	15	Globe Valve	ENS-FDP-PID-24002	15-833-GAVP-062	Argon	Gas	50	1840	Amb	400	Non-Classified	SC-3	XV82016A	FC	Pneumatic	15	Weld neck flange RF	SS, ASTM A182 F304L, ASME B16.5	Class 150	316 SS	316 SS	API 600	316 SS	316 SS	-
NH	820	150	SG	15	Globe Valve	ENS-FDP-PID-24002	15-833-NHVP-060	Nitrogen	Gas	50	1840	Amb	400	Non-Classified	SC-3	XV82016B	FC	Pneumatic	15	Weld neck flange RF	SS, ASTM A182 F304L, ASME B16.5	Class 150	316 SS	316 SS	API 600	316 SS	316 SS	-
MG	820	175	SG	15	Globe Valve	ENS-FDP-PID-24002	15-831-MGVP-063	Methane	Gas	93	1585	Amb	100	SC-3	SC-2	XV82014A	FC	Solenoid	15	Weld neck flange RF	SS, ASTM A182 F304L, ASME B16.6	Class 150	316 SS	316 SS	API 600	316 SS	316 SS	ATEX RATED (if applicable)
NH	820	186	SB	15	Ball Valve	ENS-FDP-PID-24002	15-810-NHVP-108	Nitrogen	Gas	50	1840	Amb	400	Non-Classified	Non-Classified	XV82015B	FO	Pneumatic	15	Weld neck flange RF	SS, ASTM A182 F304/304L, ASME B16.5	Class 600	316 SS	316 SS	GRAPHITE	316 SS	SS	-

Notes

1) SCRUBBING SOLUTION: The scrubbing process will commence with aqueous solution of 30% (w/w) KOH. However, the composition of the scrubbing solution will change over time due to the chemical reactions taking place in the scrubber. The scrubbing process is divided into three phases. During the first phase, KOH will start decreasing, while KF and K₂CO₃ will start forming. At the end of this phase, the composition (w/w) of the scrubbing solution will be 66.81% water, 11.012% KF, 22.165% K₂CO₃ and approximately 13 ppm UO₃. At the end of the next phase, the solution composition will be 68.04% water, 16.62% KF, 15.27% KHCO₃ and approximately 19 ppm UO₃. At the end of the final phase, the composition will be 68.95% water, 18.30% KF, 12.729% KHCO₃ and approximately 21 ppm UO₃. At this point, the solution will be considered to be spent and will be replaced with a fresh batch of aqueous 30% KOH solution.

2) When providing emergency power to the control system, it is important that the power supply to the solenoid actuated valves, XV82014A, XV83345C, and XV83346C, is not restored.