



CHARLES CENTER • P.O. BOX 1475 • BALTIMORE, MARYLAND 21203

ELECTRIC ENGINEERING
DEPARTMENT

September 19, 1984

Director of Nuclear Reactor Regulation
Attention: Mr. J. R. Miller, Chief
Operating Reactors Branch #3
Division of Licensing
U.S. Nuclear Regulatory Commission
Washington, D.C. 20555

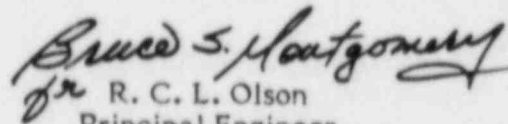
Subject: Calvert Cliffs Nuclear Power Plant
Units Nos. 1 & 2; Dockets Nos. 50-317 and 50-318
Containment Vent/Hydrogen Purge System Isolation Valves

Gentlemen:

The enclosed information concerning the containment vent/hydrogen purge system isolation valves (MOV 6900, MOV-6901) is provided in connection with our license amendment applications dated December 22, 1983 and March 26, 1984. We understand that this information is required by the Environmental Qualification Branch in the performance of their review of post-LOCA valve operability.

Please notify us if additional information is required to complete this aspect of your overall review.

Sincerely,


for R. C. L. Olson

Principal Engineer
Nuclear Licensing and Analysis Unit

BSM/RCLO/vf

- Enclosures:
1. Dwg. M-350, Area No. 22, Piping Plan Elevation 45'-0".
 2. Document No. 12542A-46, Piping Isometric, Hydrogen Purge System (inside containment)
 3. Piping Isometric, Hydrogen Purge System (outside containment).
 4. Valve index excerpt
 5. Valve data sheet 036710-082
 6. Dwg. P35327-10, valve detail
 7. Document No. 12831-01, Centrifix Moisture Separator
 8. Burgess-Manning EH-Separator, Bulletin 3350-1

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PDR ADDCK 05000317
P PDR

App 1
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Projects Baltimore Gas & Electric

ITEM	FIGURE NO.	DESCRIPTION	TAG NO.	DWG. NO.	OPERATION	REMARKS
16	W5-274B-2TS	1" 600# B.B. Globe Valve c/s	130	P-35327-6 Rev. C	Manual	VEL-HO-1
17	W8-274B-2TS	2" 600# B.B. Globe Valve c/s	130	P-35327-6 Rev. C	Manual	VEL-HO-1
18	W7-054B-2TY	1½" 600# B.B. Gate Valve c/s	19	P-35327-3 Rev. F	Manual	VEL-HO-1
19	W8-254B-2TS	2" 600# B.B. Gate Valve c/s	tba	P-35327-7 Rev. G	Limiterque SMB-000-5	VEL-MO-2
20	W5-254B-2TS	1" 600# B.B. Gate Valve c/s	tba	P-35327-7 Rev. G	Limiterque SMB-000-2	VEL-MO-2
21	B10-074B-2TS	3" 150# B.B. Globe Valve c/s	142	P-35327-11 Rev. A	Manual	VEL-HO-1
22	B12-0114B-2TS	4" 150# B.B. Swing Check c/s	238	P-35327-5 Rev. D	-	VEL-HO-1
[REDACTED]						
				P-35327-10 Rev. D	Limiterque SMB-00-5	VEL-HO-2
			1-MOV-8901			
			1-MOV-8903			
			2-MOV-8901			
			2-MOV-8903			
25	B14-054B-2TS	6" 150# B.B. Gate Valve c/s	29	P-35327-14 Rev. B	Manual	VEL-HO-1
26	B10-054B-2TS	3" 150# B.B. Gate Valve c/s	29	P-35327-13 Rev. B	Manual	VEL-HO-1
27	B12-054B-2TS	4" 150# B.B. Gate Valve c/s	29	P-35327-13 Rev. B	Manual	VEL-HO-1
28	B12-054B-2TS	4" 150# B.B. Gate Valve c/s	29	P-35327-13 Rev. B	Manual	VEL-HO-1

ENCLOSURE 4

SERVICE CONDITIONS	FLUID		AIR						
	INLET PSIG	MIN	OPER	MAX					
	OUTLET PSIG	MIN	OPER	MAX					
	TEMP. °F		OPER	MAX.		300			
	SPEC. GRAV.	GAS/VAPOR MOL. WT.							
	Tsh °F or % FLASH	OPER. VISC. C.P.							
	CRIT. PRESS. P _c	VAPOR PRESS. P _v							
	OPER. FLOW	SIZING FLOW							
	MIN. FLOW	MAX. FLOW							
	FLOW UNITS	ΔP SIZING				MIN			
	ΔP SHUT OFF	ΔP MIN.			60				
	Cv @ SIZING ΔP & FLOW	MIN. Cv							
	VALVE BODY	ENVIRONMENTAL TEMP/PRESS							276F 49PSIG
NUCLEAR CLASS		ERC-200 (Category)	II	I	A				
		SEISMIC	YES	YES					
SIZE		TYPE	4"	GATE					
PRESS. RATING		CONNECTIONS	150 th	BW					
MATERIAL		CLASS	A-105	GR. II					
BONNET TYPE		BOLTS							
TRIM	FACKING	TYPE	MAT'L						
	LUBRICATOR	PIPE SCH.		40.		40			
	MAINLINE SIZE (BOTH PIPES)	SPEC.	4"	HX-66		HB66			
	PORT SIZE	NO. OF PORTS	4	ONE					
ACTUATOR	CHARACTER.	PLUG TYPE		SOLID					
	GUIDE TYPE	TRIM SPEC.		STD.					
	SEAT TYPE		RENEWABLE						
	ACTUATOR TYPE	SIZE	MOTOR	HP 2-00-5					
	MOTIVE POWER	PHASE		3/60					
MISC.	PRESS. VOLTAGE	POS. ON POWER FAIL	460VAC	AS IS					
	FORCE OR TORQUE REQ.	SHUT OFF	OPER.						
	TORQUE SWITCH	LIMIT SWITCH	DOUBLE	2 TRAIN					
PURCH.	HPK/POWER	RPM							
	AMP-LOCKED	FULL LOAD							
GENERAL	HOUSING		NEATLY						
	TIME TO OPEN	TIME TO CLOSE	10 SEC	10 SEC.					
WHEEL MOUNT	REQ'D	REQ'D							
MAX. LEAK RATE		MSS-SP-61							
QUANTITY		2	2	2					
M.R./P.O. NUMBER	ITEM	23	23	23					
MANUFACTURER									
MODEL NO.		H. P. 2-00-5							
P. & I. D. NUMBER		M-652							
SERVICE									
		1-MOV-6901	2-MOV-6901	1-MOV-6900					
		1-MOV-6903	2-MOV-6903	2-MOV-6902					

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INSTRUMENT TAG NO.			
7	7/10/73	ISSUED TO SHOW ENVIRONMENT	FKV
9	4/10/73	ISSUED FOR CALIBRATION, NO INSP IN QTY	FKV
		REVISIONS	

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BURGESS-MANNING

A Burgess Industries Company

ENCLOSURE 7

EHI SEPARATORS

BULLETIN 350-F

BURGESS-MANNING DIVISION / 8101 CARPENTER FREEWAY / DALLAS, TEXAS 75247 / (214) 631-1410



APPLICATION

Separator for:

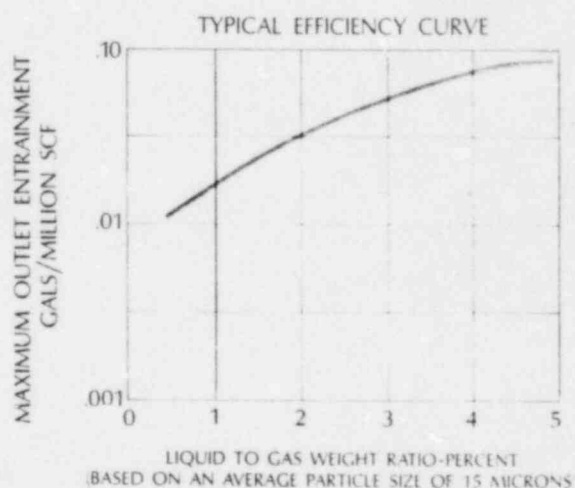
Removal of entrained liquid from gas, vapor and steam being vented to atmosphere.

DESIGN

The Centrifix exhaust head removes entrained liquid from a gas stream being vented to atmosphere. This is accomplished by the tuyere separation element that utilizes impingement and centrifugal force for efficient separation at a low pressure drop.

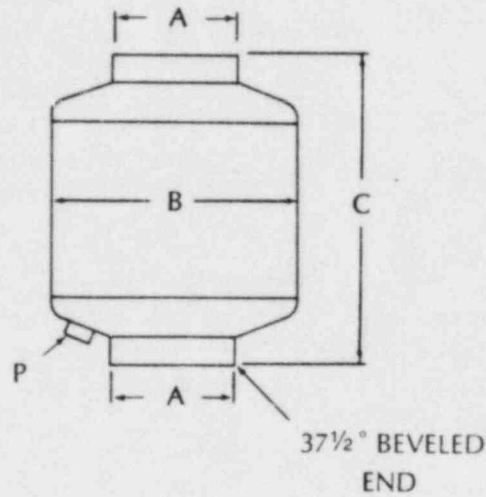
CONSTRUCTION

Separator is constructed of all-welded carbon steel. Exterior surfaces are prime coated. Other materials are available upon request.



The above curve indicates an overall separation efficiency of 95.0% (based on a maximum liquid load of 5% to the separation element). As the liquid to gas weight ratio decreases the overall separation efficiency increases.

DIMENSIONS FOR 3350 SERIES (EH) SEPARATORS



Catalog Number	Dimensions in Inches				Est. Wgt. Lbs.
	A	B	C	P	
EH-4	4	9	11	1	35
EH-5	5	10	13	1	45
EH-6	6	11	15	1	55
EH-8	8	15	17	1 1/2	75
EH-10	10	19	23	1 1/2	120
EH-12	12	22	26	2	170
EH-14	14	26	30	2	220
EH-16	16	28	37	2	245
EH-18	18	32	40	2 1/2	330
EH-20	20	36	43	2 1/2	415
EH-24	24	42	53	2 1/2	535

Larger units are available upon request. Specifications are subject to change without notice.