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KYMEA ENERGY CENTER

DATA SHEET - OVER PRESSURE PROTECTION SKID

☐ ISSUE FOR REVIEW ☐ DRAFT ISSUE FOR COMMENTS ☒ ISSUE FOR BID ☐ ISSUE FOR CLIENT APPROVAL ☐ ISSUE FOR CONSTRUCTION – Rev 0 ☐ ISSUE AS REVISED DOCUMENT			APPROVALS			
			Mechanical Engineer Andrew Roach		Date 5/16/2025	
			Project Manager Byron Marlowe		Date 5/16/2025	
			Client - Project Manager		Date	
Approvals:						
	By:	Date:				
Initiator	CB	05/16/25				
Process						
Mechanical						
Civil						
Electrical						
Instrumentation	HO	05/16/25	Rev.:	Date:	By:	Approval:
Project Eng.	AR	05/16/25	A	03/03/25	JS	IFR
Project Mgr.	BM	05/16/25	B	05/16/25	JS	IFB
Client						

Reference Documents

8122_P&ID - PROCESS & INSTRUMENTATION DIAGRAM
 EC-DS-007 - DESIGN STANDARD: METER STATION
 OP-CC-GS-COAT-001 - General Coating Specifications

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KYMEA ENERGY CENTER DATA SHEET - OPP MONITOR VALVES		Date: 05/16/2025 By: Andrew Roach			
General			Basis of Selection		
1	Valve Numbers:	PCV-4121 & PCV-4122	5	Code: ASME B31.8	B16.34, API 6D, NACE MRO 175, API 6FA, MSS SP 44
2	Existing Serial Number:	N/A		Stamp Required: Yes/No	No
3	Description: (2 EA) - 4" OPP Monitor Valves			Other:	
			6	Comply with API 526: Yes/No	N/A
			7	Application:	OPP Monitor in a Worker/Monitor regulator pair. Slam shut.
			8	Rupture Disk: Yes/No	N/A
4	Procurement Point Rob Leesman, VP of Market Analytics leesman@kymea.org Kentucky Municipal Energy Agency (KYMEA) 1700 Eastpoint Parkway Ste. 220 Louisville, KY 40223				
5	Ship To KYMEA Energy Center I Attn: Stan Conn 1957 AC Slaton Rd. Madisonville, KY 42431				

Valve Design			Materials		
9	Design Type:	Ball	17	Body:	ASME B16.34, Forged
	Bellows:	N/A	18	Bonnet:	ASME B16.34, Forged
	Balanced Piston:	Vendor to Specify	19	Seat (Nozzle):	DUAL SEATS/DPE or SPE (DPE PREFERRED)
10	Nozzle Type: Full/Semi	N/A		Ball:	ASME B16.34, ENP
11	Bonnet Type: Open/Closed	Closed	20	VMO:	Not Required
12	Seat Type: Metal-Metal/Resilient	Vendor to Specify	21	Filter Dryer:	N/A
13	Seat Tightness: API 527/Other	N/A	22	Bellows:	N/A
	Connections		23	Balanced Piston:	Vendor to Specify
14	Inlet Size:	4 in		Preparation:	Sandblast Per SP6, BWPL OP-CC-GS-COAT-001
	Rating:	ANSI 600	24	Coating:	BWPL OP-CC-GS-COAT-001, General Coating Spec
	Face:	RF	25	Other:	
15	Outlet Size:	4 in	26	Heater:	Yes
	Rating:	ANSI 600	27	Start Voltage:	12VDC
	Face:	RF	28	Enclosure:	
Service Conditions			Actuator		
36	Fluid and State	NatGas	29	Action	Gas pressure regulation
	Reynolds Number:	-		Mount	Pilot-operated valve
37	Nominal Flow Rate:		30	Orientation	Horizontal, vertical stem
38	Flow Rate, Minimum:	75 SCFH		Hydraulic Oil Supply Pressure	N/A
39	Flow Rate, Maximum:	26949 lbm/hr		Actuator Sizing	Vendor to specify
40	Upstream MAOP:	965 psig	31	Sensor	
41	Downstream MAOP:	223 psig	32	Close/Open Signal	Local indicator and position switches.
42	Set Pressure:	223 psig	33	Power (Pilot)	Gas
43	Inlet Normal Pressure:	psig	34	Rating	
44	Latent Heat of Vaporization:		35	Beacon	
45	Design Temperature:	-20/110 F			
46	Relieving Temperature:	F	Ball Valve Options Checklist		
47	Built-up Back Pressure:	psig	62	Air Seat Test Required: Yes/No	Yes
48	Differential Pressure:	psig	63	Top Entry Design: Yes/No	No
	Upstream Max/Min Pressures	psig	64	Specify if not Round-Port Full-Bore Pattern:	
	Downstream Max/Min Pressures	psig	65	Floating Ball: Yes/No	No
			66	Bolted or Welded Body:	Bolted
49	Cold Differential Test Pressure:	N/A	67	Thermal Relief Valve: Yes/No	Yes, if DPE seats
50	Allowable Overpressure in Percent:	N/A	68	SS Plugs in Lieu of Sealant Fittings: Yes/No	No
51	Compressibility Factor, Z:	N/A	69	Lifting Lugs: Yes/No	No
52	Ratio of Specific Heats:				
53	Maximum Noise at 3ft:	85	dB, Are there any flow scenarios that would cause this need not be met? Insulation and flow conditioners are acceptable to minimize noise.		

KYMEA ENERGY CENTER DATA SHEET - OPP MONITOR VALVES				
		Date: 05/16/2025		
		By: Andrew Roach		
Pneumatic Actuator Data:				
70	Manufacturer		Model	
71	Size		Speed (RPM)	
72	Actuator Orientation		Type	
73	Area Classification	Class I, Division 1, Group D	Temperature Class	
74	Certification		Type of protection	
75	Ingress Protection	NEMA 4	Electrical protection	
76	Power Supply		Action on Power Fail	Fail Close
77	Fireproofing		Remote Operation	
78	Valve Limit Switches OPEN / CLOSED status, proximity type sensors.	DPDT, 24VDC		
79	Power Storage Tank		Stroking time	
80	Input Signal		ESD	
81	Additional Switches / Equipment			
82	Handwheel			
83				
NOTES:				
1. All instruments shall be provided with a permanently attached 316SS tag stamped with the following information: Tag number, Service, Model Number, Serial Number, Size, Connection Type & Rating.				
2. Valve dimensions to comply with API 6D, ASME B16.5 Class 600 and meet API 6FA.				
3. Valve, actuator and accessories shall be assembled, mounted and tested by vendor per API 6D requirements.				
4. Valves shall be hydrostatically shell and seat tested without leakage to at least the requirements of API 6D.				

KYMEA ENERGY CENTER DATA SHEET - OPP REGULATOR VALVES			
		Date: 05/16/2025	
		By: Andrew Roach	
General		Basis of Selection	
1 Valve Numbers:	PCV-4131 & PCV-4132	5 Code: ASME B31.8	B16.34, API 6D, NACE MRO 175, API 6FA, MSS SP 44
2 Existing serial Number:	N/A	Stamp Required: Yes/No	No
3 Description	(2 EA) - 4" OPP Regulator Valves	Other:	
		6 Comply with API 526: Yes/No	N/A
		7 Application:	OPP Worker in a Worker/Monitor regulator pair. Slam Shut.
		8 Rupture Disk: Yes/No	
4 Procurement Point	Rob Leesman, VP of Market Analytics leesman@kymea.org Kentucky Municipal Energy Agency (KYMEA) 1700 Eastpoint Parkway Ste. 220 Louisville, KY 40223		
5 Ship To	KYMEA Energy Center I Attn: Stan Conn 1957 AC Slaton Rd. Madisonville, KY 42431		

Valve Design			Materials	
9 Design Type:	Ball		17 Body:	ASME B16.34, Forged
BelloWS:	N/A		18 Bonnet:	ASME B16.34, Forged
Balanced Piston:	Vendor to Specify		19 Seat (Nozzle):	DUAL SEATS/DPE or SPE (DPE PREFERRED)
10 Nozzle Type: Full/Semi	N/A		Ball:	ASME B16.34, ENP
11 Bonnet Type: Open/Closed	N/A		20 VMO:	Required
12 Seat Type: Metal-Metal/Resilient	Vendor to Specify		21 Filter Dryer:	N/A
13 Seat Tightness: API 527/Other	N/A		22 Bellows:	N/A
Connections			23 Balanced Piston:	Vendor to Specify
14 Inlet Size:	4	in	Preparation:	Sandblast Per SP6, BWPL OP-CC-GS-COAT-001
Rating:	ANSI	600	24 Coating:	BWPL OP-CC-GS-COAT-001, General Coating Spec
Face:	RF		25 Other:	
15 Outlet Size:	4	in	26 Heater:	Yes
Rating:	ANSI	600	27 Start Voltage:	12VDC
Face:	RF		28 Enclosure:	
Service Conditions			Actuator	
36 Fluid and State	Gas		29 Action	Gas pressure regulation.
Reynolds Number:	-		Mount	Pilot-operated valve
37 Nominal Flow Rate:			30 Orientation	Horizontal, vertical stem
38 Flow Rate, Minimum:	75	SCFH	Hydraulic Oil Supply Pressure	N/A
39 Flow Rate, Maximum	26940	lbm/hr	Actuator Sizing	Vendor to Specify
40 Upstream MAOP:	965	psig	31 Sensor	
41 Downstream MAOP	223	psig	32 Close/Open Signal:	Local indicator and position switches.
42 Set Pressure:	218	psig	33 Power (pilot)	Natural gas
43 Inlet Normal Pressure:		psig	34 Rating	
44 Latent Heat of Vaporization:			35 Beacon	
45 Design Temperature:	-20/110	F		
46 Relieving Temperature:			Ball Valve Options Checklist	
47 Built-up Back Pressure:			62 Air Seat Test Required: Yes/No	Yes
48 Differential Pressure:		psig	63 Top Entry Design: Yes/No	No
Upstream Max/Min Pressures (psig)			64 Specify if not Round-Port Full-Bore Pattern:	
Downstream Max/Min Pressures (psig)			65 Floating Ball: Yes/No	No
			66 Bolted or Welded Body:	Bolted
49 Cold Differential Test Pressure:	N/A		67 Thermal Relief Valve: Yes/No	Yes, if DPE seats
50 Allowable Overpressure in Percent:	N/A		68 SS Plugs in Lieu of Sealant Fittings: Yes/No	No
51 Compressibility Factor, Z:	N/A		69 Lifting Lugs: Yes/No	No
52 Ratio of Specific Heats:				
53 Maximum Noise at 3ft:	85	dB		

KYMEA ENERGY CENTER DATA SHEET - OPP REGULATOR VALVES				
		Date: 05/16/2025		
		By: Andrew Roach		
		 		
Pneumatic Actuator Data (Reference: BWP Design Standard: Valve Actuator EC-DS-015)				
70	Manufacturer		Model	RV Series
71	Size		Speed (RPM)	
72	Actuator Orientation		Type	
73	Area Classification	Class I, Division 2, Group D	Temperature Class	
74	Certification		Type of protection	
75	Ingress Protection	NEMA 4	Electrical protection	
76	Power Supply		Action on Power Fail	Fail Last
77	Fireproofing		Remote Operation	
78	Valve Limit Switches OPEN / CLOSED status, proximity type sensors.	DPDT, 24VDC		
79	Power Storage Tank		Stroking time	
80	Input Signal		ESD	
81	Additional Switches / Equipment			
82	Handwheel			
83				
Addition Notes:				
NOTES:				
1.	All instruments shall be provided with a permanently attached 316SS tag stamped with the following information: Tag number, Service, Model Number, Serial Number, Size, Connection Type & Rating.			
2.	Valve dimensions to comply with API 6D, ASME B16.5 Class 600 and meet API 6FA.			
3.	Valve, actuator and accessories shall be assembled, mounted and tested by vendor per API 6D requirements.			
4.	Valves shall be hydrostatically shell and seat tested without leakage to at least the requirements of API 6D.			

KYMEA ENERGY CENTER DATA SHEET - OPP ISOLATION VALVES			Date: 05/16/2025		
			By: Andrew Roach		
General			Basis of Selection		
1	Valve Numbers:	GOV-4143, GOV-4144	5	Code: ASME B31.8	B16.34, API 6D, NACE MRO 175, API 6FA, MSS SP 44
2	Existing serial Number:	N/A		Stamp Required: Yes/No	No
3	Description	(2 EA) - 6" OPP Isolation Valves		Other:	
4	Procurement Point	Rob Leesman, VP of Market Analytics rleesman@kymea.org Kentucky Municipal Energy Agency (KYMEA) 1700 Eastpoint Parkway Ste. 220 Louisville, KY 40223	6	Comply with API 526: Yes/No	N/A
			7	Application:	OPP Isolation Valve. Slam Shut.
			8	Rupture Disk: Yes/No	
5	Ship To	KYMEA Energy Center I Attn: Stan Conn 1957 AC Slaton Rd. Madisonville, KY 42431			
Valve Design			Materials		
9	Design Type:	Ball	17	Body:	ASME B16.34, Forged
	Bellows:	N/A	18	Bonnet:	ASME B16.34, Forged
	Balanced Piston:	Vendor to Specify	19	Seat (Nozzle):	DUAL SEATS/DPE or SPE (DPE PREFERRED)
10	Nozzle Type: Full/Semi	N/A		Ball:	ASME B16.34, ENP
11	Bonnet Type: Open/Closed	N/A	20	VMO:	Required
12	Seat Type: Metal-Metal/Resilient	Vendor to Specify	21	Filter Dryer:	N/A
13	Seat Tightness: API 527/Other	N/A	22	Belows:	N/A
Connections			23	Balanced Piston:	Vendor to Specify
14	Inlet Size:	6 in		Preparation:	Sandblast Per SP6, BWPL OP-CC-GS-COAT-001
	Rating:	ANSI 600	24	Coating:	BWPL OP-CC-GS-COAT-001, General Coating Spec.
	Face:	RF	25	Other:	
15	Outlet Size:	6 in	26	Heater:	
	Rating:	ANSI 600	27	Start Voltage:	
	Face:	RF	28	Enclosure:	
Service Conditions			Actuator		
36	Fluid and State	Gas	29	Action	Natural gas powered
	Reynolds Number:	-		Mount	Top
37	Nominal Flow Rate:		30	Orientation	Horizontal valve, VerticalStem, Vertical Actuator
38	Flow Rate, Minimum:	75 SCFH		Hydraulic Oil Supply Pressure	N.A.
39	Flow Rate, Maximum	26949 lbm/hr		Actuator Sizing	
40	Upstream MAOP:	965 psig	31	Sensor	
41	Downstream MAOP	223 psig	32	Close/Open Signal:	Local and electric CI/Op.See Shafer Diagram 4944-S
42	Set Pressure:	psig	33	Power	N.A.
43	Inlet Normal Pressure:	psig	34	Rating	Class 1, Div 1, Explosion Proof
44	Latent Heat of Vaporization:		35	Beacon	Required
45	Design Temperature:	-20/110 F			
46	Relieving Temperature:				
47	Built-up Back Pressure:		Ball Valve Options Checklist		
48	Differential Pressure:	psig	62	Air Seat Test Required: Yes/No	Yes
	Upstream Max/Min Pressures (psig)		63	Top Entry Design: Yes/No	No
	Downstream Max/Min Pressures (psig)		64	Specify if not Round-Port Full-Bore Pattern:	
			65	Floating Ball: Yes/No	No
			66	Bolted or Welded Body:	Bolted
49	Cold Differential Test Pressure:	N/A	67	Thermal Relief Valve: Yes/No	Yes
50	Allowable Overpressure in Percent:	N/A	68	SS Plugs in Lieu of Sealant Fittings: Yes/No	No
51	Compressibility Factor, Z:	N/A	69	Lifting Lugs: Yes/No	No
52	Ratio of Specific Heats:				
53	Maximum Noise at 3ft:	85 dB			

KYMEA ENERGY CENTER DATA SHEET - OPP ISOLATION VALVES				
		Date: 05/16/2025		
		By: Andrew Roach		
Pneumatic Actuator Data (Reference: BWP Design Standard: Valve Actuator EC-DS-015)				
70	Manufacturer	Shafer	Model	N/A
71	Size	N/A	Speed (RPM)	N/A
72	Actuator Orientation	N/A	Type	N/A
73	Area Classification	N/A	Temperature Class	N/A
74	Certification	N/A	Type of protection	N/A
75	Ingress Protection	N/A	Electrical protection	N/A
76	Power Supply	N/A	Action on Power Fail	Fail Last
77	Fireproofing	N/A	Remote Operation	N/A
78	Valve Limit Switches OPEN / CLOSED status, proximity type sensors.	Yes, with (4) Form C contacts. Stonel QX-4H-E-02-N-RA, or approved equal.		N/A
79	Power Storage Tank	N/A	Stroking time	N/A
80	Input Signal	N/A	ESD	N/A
81	Additional Switches / Equipment	N/A		
82	Handwheel	YES		
83				
Addition Notes:				
NOTES:				
1.	Ball valves 6" and larger shall have double block and bleed and a secondary sealant system feature			
2.	All instruments shall be provided with a permanently attached 316SS tag stamped with the following information: Tag number, Service, Model Number, Serial Number, Size, Connection Type & Rating.			
3.				
4.				
5.				