

**GENERAL NOTES:**

22. FOR 241-AZ-154 AND U301-B ONLY:  
 BUTTERFLY VALVE SHALL BE KEYSTONE K-LOK 362-154 WITH 316 SST BODY AND DISC AND 316 SST OR 17-4 PH SST STEM. STEM PACKING SHALL BE TEFLON. RESILIENT SEAT SHALL BE EPDM. STEM BUSHING SHALL BE RTFE/FIBERGLASS EPOXY. THE VALVE SHALL BE FURNISHED WITH MANUAL HANDLE. VALVE SHALL MEET REQUIREMENTS OF ASME B31.1 AND SHALL BE GIVEN A SHELL AND CLOSURE TEST IN ACCORDANCE WITH ASME 16.34. DOCUMENTATION OF TEST PROCEDURE(S) AND TEST RESULTS SHALL BE SUBMITTED. THE COMPLETED ASSEMBLY SHALL BE LEAK TESTED IN ACCORDANCE WITH ASME A0-1 SECTION SA-4533. THE TEST SHALL CONSIST OF A QUALITATIVE LEAK TEST AT 1 PSIG AND CHECK FOR LEAKS WITH A SOAP SOLUTIONS OR EQUIVALENT ON THE OUTSIDE OF THE ASSEMBLY. DOCUMENTATION OF A TEST PROCEDURE(S) AND TEST RESULTS SHALL BE SUBMITTED.  
 FLANGE BOLTS ARE BASED ON USE OF A LUGGED BODY BUTTERFLY VALVE. IF A WATER BODY BUTTERFLY VALVE IS USED THEN EIGHT EA. 5/8"-11UNC X 4-3/4" LG BOLTS AND NUTS ARE REQUIRED PER MANUFACTURERS RECOMMENDATIONS.

23. **BREATHER FILTER OPTIONS:**  
 THREE OPTIONS ARE AVAILABLE SUB ASSEMBLY # 110, 120, & 130. (SEE SHIT 4 OF THIS DRAWING). SUB ASSEMBLY #120 AND #130 ARE AVAILABLE FOR INSTALLATION ON A TRIAL BASIS AT TANKS 241-SX-112 AND 241-SX-114.

24. RADIAL BREATHER FILTERS SHALL BE FLANDERS MODEL 0-007-1-12-BF-NU-00-E3-204059\* (\* IS A VARIABLE LETTER DESIGNATOR REPRESENTING THE CURRENT VENDOR DRAWING REVISION AND SHALL BE PURCHASED IN ACCORDANCE WITH RPP-SPEC-28675 (CURRENT REVISION) "AG-1, SECTION FK SPECIAL HEPA FILTERS (RADIAL AND AXIAL) PROCUREMENT SPECIFICATIONS".

25. AXIAL BREATHER FILTERS SHALL BE FLANDERS MODEL 0-007-0-12-N2-NU-00-00-Z08061 AND SHALL BE PURCHASED IN ACCORDANCE WITH RPP-SPEC-28675 (CURRENT REVISION) "AG-1, SECTION FK SPECIAL HEPA FILTERS (RADIAL AND AXIAL) PROCUREMENT SPECIFICATIONS".

26. MCMMASTER CARR PARTS SUGGESTED OR ENGINEER APPROVED EQUIVALENT.

27. FOR NEW OR NON CONTAMINATED FLANGES, PRIOR TO TRANSPORTATION AND/OR STORAGE, THE OPEN FLANGE CONNECTION SHALL BE SEALED USING A PVC BLIND FLANGE, OR OTHER ENGINEERING APPROVED METHOD. ALL SEALING DEVICES MUST BE REMOVED PRIOR TO INSTALLATION.

28. BREATHER FILTER RISERS MAY BE THERMALLY PROTECTED WITH OPTIONAL JACKETED INSULATION BLANKETING. INSULATION TO BE INSTALLED FROM GRADE UP TO THE TOP OF THE FLANGED FILTER MOUNTING SUB ASSEMBLY. INSULATION JACKETS TO BE STANDARD TEMPAT CANVAS JACKET WITH 2" TEFLON COATED FIBERGLASS FILLER. PROVIDE WITH WEATHER FLAP, LACING ANCHORS, AND WIRE. RECOMMENDED VENDOR: ADVANCED THERMAL CORP. INSULATION TO HAVE A MINIMUM R-VALUE OF 0.24 BTU-IN/H FT<sup>2</sup> F. EQUIVALENT SUBSTITUTE ACCEPTABLE.

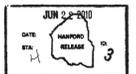
29. THE TERM "EXISTING RISER" IS INCLUSIVE OF ALL CURRENT RISER CONFIGURATIONS, I.E. TANK RISERS, SPOOL PIECES, AND ANY OTHER EXISTING RISER CONFIGURATION"

**TORQUE GUIDELINES USING GARLOCK BLU 3000 RING GASKET**

NOMINAL PIPE SIZE (IN)	NUMBER OF BOLTS (#)	BOLT SIZE (IN)	RECOMMENDED TORQUE WHEN USING ASTM A193 GR B7 OR B16 (CS) WITHIN ± 5FT-LBS	RECOMMENDED TORQUE WHEN USING ASTM A193 GR 6 (SS) WITHIN ± 5FT-LBS
4	8	5/8	120	85
6	8	3/4	200	100
8	8	3/4	200	100
10	12	7/8	320	160
12	12	7/8	320	160
14	12	1	490	245
20	20	1-1/8	710	355
24	20	1-1/4	1000	500

**PARTS LIST/MATERIAL LIST**

QTY REQD										PART/DASH NUMBER	NOMENCLATURE/DESCRIPTION	MATERIAL/REFERENCE	SHT	ITEM NO.											
-190	-180	-170	-160	-150	-140	-130	-120	-110	-100						-090	-080	-070	-060	-050	-040	-030	-020	-010		
																				1		18" SPLIT FLANGE ADAPTER (ALTERED)	ASTM A182 GR F 304L/304 WITH PART # S 30,32	5	45
																				1		20" FLANGE ADAPTER (ALTERED)	ASTM A182 GR F 304L/304 WITH PART # S 30,32	5	48
																				1		20" SPLIT FLANGE ADAPTER (ALTERED)	ASTM A182 GR F 304L/304 WITH PART # S 30,32	5	47
																				1		24" FLANGE ADAPTER (ALTERED)	ASTM A182 GR F 304L/304 WITH PART # S 31,33	5	48
																						FLANGE, 6" SO 150 # RF	ASTM A182 GR F 304L/304	7	49
																						FLANGE, 4" SO, 150# RF	ASTM A182 GR F 304L/304	7	50
																						PIPE, 6" SCH 40S	ASTM A312 304L/304	7	51
																						PIPE, 4" SCH 40S	ASTM A312 304L/304	7	52
																						6" 40CFM FILTER FLANGE ADAPTER ASSEMBLY	ASTM A403WP304-S/304	7	53
																						NOT USED	NOT USED		54
																						PIPE 4" SCH 40, x 2'-6" L	ASTM A312 TP 304/304L	10	55
																						BIRD SCREEN VINYL EDGING	STANPRO, PART #75001624	4	58
																						GASKET 8"x1/8" THK FOR 8" 150# FLANGE	GARLOCK "BLUE GARD" 3000 COM. FIBER NON ASBESTOS	7	57
																						FLANDERS 15 CFM ROUND AXIAL HEPA FILTER	SEE NOTE 25	4	58
																						2" 90° MALE/FEMALE ELBOW, ANY GRADE SST		4	59
																						2" MALE/MALE 90° ELBOW ANY GRADE SST		4	60
																						MCMMASTER-CARR #9806K341	2" SCH 80 WEATHER GUARD NYLON SUCTION STRAINER WITH #4 STAINLESS STEEL MESH 2" MALE NPT.	4	61
																						MCMMASTER-CARR #44365K14	AXIAL FILTER WEATHER CAP, ZINC PLATED STEEL SUCTION STRAINER 2" FEMALE NPT WITH TOP ROUND PERFORATIONS	4	62
																						NOT USED	NOT USED		63
																						241-U-302B MOUNTING DETAIL		10	64
																						241-AZ-154 MOUNTING DETAIL		10	65
																						SUB ASSEMBLY	RADIAL BREATHER FILTER WITH WEATHER COVER	4	110
																						SUB ASSEMBLY	AXIAL BREATHER FILTER WITH GOOSE NECK	4	120
																						SUB ASSEMBLY	AXIAL BREATHER FILTER WITH WEATHER CAP	4	130
																						ELBOW, 4" 45', SCH. 40 STD RADIUS	ASTM A403 WP304/304L	7	131



U.S. DEPARTMENT OF ENERGY  
 Office of River Protection

PIPING  
 ATMOSPHERIC BREATHING  
 AIR FILTER INSTALLATION

REV NO 1  
 SHEET 2 OF 1  
 DATE 11-14-02 1360

DWG NO	TITLE	REF NUMBER	TITLE
	DRAWING TRACEABILITY LIST		NEXT USED ON

REV	NO	DESCRIPTION	BY	CHK	DATE
5	1	INC EON-7268E4-RD, 727126-RD, 727248-RD	KMR	5/10	5/10

NAME	DATE	STATUS
		SEE REVISION 0

REV	NO	DESCRIPTION	DATE
F	1	241G 8900	H-14-021360