INTERFACE CONTROL				
TP-#	DESCRIPTION	CONNECTION TYPE	MATERIAL	REFERENCE
TP-1	TREATED LAW (LINE # WP-FMJ-E-43) (TO AP-106)	2" CHEMJOINT SPUD, 2-1/2" - 8 NPSM	316/316L S.S.	DRW. H-14-111270 SHT. 1
TP-2	FILTER FEED RECIRCULATION (LINE # WP-FMJ-B-2) (TO AP-107)	2" CHEMJOINT SPUD, 2-1/2" - 8 NPSM	316/316L S.S.	DRW. H-14-111270 SHT. 3
TP-3	FILTER FEED INLET (LINE # WP-FMJ-A-1) (FROM AP-107)	2" CHEMJOINT SPUD, 2-1/2" - 8 NPSM	316/316L S.S.	DRW. H-14-111270 SHT. 2
TP-4	VENT LINE (LINE # WP-FMJ-D-5-6) (TO AP-108)	2" CHEMJOINT SPUD, 2-1/2" - 8 NPSM	316/316L S.S.	DRW. H-14-111270 SHT. 4
TP-5	DRAIN LINE (LINE # WP-FMJ-C-3-4) (TO AP-108)	2" CHEMJOINT SPUD, 2-1/2" - 8 NPSM	316/316L S.S.	DRW. H-14-111270 SHT. 3
TP-6	REAGENT INLET (FROM ANCILLARY ENCLOSURE)	3/4" FLANGE, CLASS 150, RF	316/316L S.S.	DRW. H-14-111270 SHT. 17
TP-7	SERVICE AIR INLET (FROM ANCILLARY ENCLOSURE)	3/4" FLANGE, CLASS 150, RF	316/316L S.S.	DRW. H-14-111270 SHT. 17
TP-8	POTABLE WATER (FROM ANCILLARY ENCLOSURE)	1" QUICK DISCONNECT	304/304L S.S.	DRW. H-14-111270 SHT. 30
TP-9	TO HVAC BLOWER INLET	8" FLANGE, CLASS 150, RF	316/316L S.S.	DRW. H-14-111280 SHT. 25
TP-10	INSTRUMENT AIR (FROM ANCILLARY ENCLOSURE)	1/2" FLANGE, CLASS 150, RF	316/316L S.S.	DRW. H-14-111270 SHT. 17
TP-11	AIRLOCK FIRE SUPPRESSION (FROM ANCILLARY ENCLOSURE)	1/2" FLANGE, CLASS 300, RF	304/304L S.S.	DRW. H-14-111275 SHT. 1
TP-12	PROCESS AREA FIRE SUPPRESSION (FROM ANCILLARY ENCLOSURE)	3/4" FLANGE, CLASS 300, RF	304/304L S.S.	DRW. H-14-111275 SHT. 1
TP-13	POR655-WP-DP-002, CB-13 (FROM POR656-WP-DP-001)	250 KCMIL - 6AWG TERMINAL LUG	AL	DRW. H-14-030057
TP-14	POR655-WP-DP-002 (TO POR655-WP-ENCL-002 & POR657-VT-DS-920)	250 KCMIL - 6AWG TERMINAL LUG	AL	DRW. H-14-030057
TP-15	POR655-WP-TBX-032 (FROM POR668-WP-TBX-031 & POR656-WP-TBX-033)	RJ45 COUPLING	AL	DRW. H-14-111295
TP-16	POR655-WP-TBX-032 (TO POR655-WP-ENCL-002)	RJ45 COUPLING	AL	DRW. H-14-111295
TP-17	POR655-WP-DS-002, CB-2 (FROM POR668-WP-DP-003)	2/0AWG - 8AWG DISTRIBUTION TERMINAL BLOCK	AL	DRW. H-14-111295
TP-18	POR655-WP-DS-002 (TO POR655-WP-DP-005)	2/0AWG - 8AWG DISTRIBUTION TERMINAL BLOCK	AL	DRW. H-14-111295
TP-19	FIRE PROTECTION PULL BOX (WP-FB-022) (FROM ANCILLARY ENCLOSURE TO AIRLOCK/PROCESS AREA ALARM SYSTEMS)	CONDUIT/CABLE PULL THROUGH	AL	BY OTHERS
TP-20	AIRLOCK HVAC SAMPLE PORT	1/4" TUBE FITTING	316 S.S.	DRW. H-14-111270 SHT. 36

NOTES:
1. ALL TAG NUMBERS BEGIN WITH "POR655-".
2. ESTIMATED LIFTING WEIGHT: 70,000 LBS
   ESTIMATED EMPTY WEIGHT: 162,000 LBS
   ESTIMATED OPERATING WEIGHT: 173,000 LBS
3. LIFTING WEIGHT DOES NOT INCLUDE IXC-150 AND FILTER VESSELS. PROCESS ENCLOSURE NOT TO BE LIFTED WITH IXC-150 AND FILTERS INSTALLED. EMPTY WEIGHT INCLUDES IXC-150 & FILTERS INSTALLED.
4. LIFTING COG: X - 207-1/4"
   Y - 58-3/8"
   Z - 66-1/2"
   EMPTY COG: X - 184"
   Y - 39-1/8"
   Z - 69-1/4"
   OPERATING COG: X - 186-1/2"
   Y - 38-3/8"
   Z - 69-3/8"
5. MAIN PROCESS AREA VOLUME: 20,647 GALLONS
6. ITEMS 1, 5, 6, 13, 14, & 48 ARE DESIGNED AS SAFETY SIGNIFICANT OR WITH SAFETY SIGNIFICANT COMPONENTS. ALL SAFETY SIGNIFICANT ITEMS SHALL BE PURCHASED FROM AN EVALUATED SUPPLIER OR COMMERCIAL GRADE DEDICATED PRIOR TO INSTALLATION.
7. DIMENSIONS AND TOLERANCES PER ASME Y14.5 (LATEST EDITION). ALL DIMENSIONS ARE IN INCHES.
8. ABBREVIATIONS ARE IN ACCORDANCE WITH ASME Y14.38 (LATEST EDITION).
9. ALL NON SAFETY SIGNIFICANT ITEMS CAN USE EQUIVALENT PARTS.
10. CONDUIT AND RACEWAYS TO BE FIELD RUN AND INSTALLED.

PARTS/MATERIAL LIST

QTY REQD -090	-080	-070	-060	-050	-040	-030	-020	-010	PART/DASH NUMBER	NOMENCLATURE/DESCRIPTION	MATERIAL/REFERENCE	SHEET	ITEM NO.
								X	-010	ION-EXCHANGE COLUMN	SEE DRW. H-14-111250	2	1
							X		-020	FILTER	SEE DRW. H-14-111251	2	2
						X			-030	DELAY TANK	SEE DRW. H-14-111252	2	3
					X				-040	MEDIA TRAP	SEE DRW. H-14-111253	2	4
				X					-050	PROCESS ENCLOSURE FRAME WELDMENT	SEE DRW. H-14-111280	2	5
			X						-060	PROCESS ENCLOSURE PIPING ISOMETRICS	SEE DRW. H-14-111270	2	6
		X							-070	PROCESS ENCLOSURE OUTER PLATFORM WELDMENT	SEE DRW. H-14-111288	4	7
	X								-080	PROCESS ENCLOSURE ASSEMBLY EQUIPMENT	-	2	8
	8								SHARK4-36NW/DIO/E2	LINEAR LED LIGHTINGS, 4 FT LG., 36 W, 4000 KELVIN, NEMA 4X	RAB LIGHTING	2	9
	1								AWFA6005C24SW	WALL HEATER, 6000W, 480V, 20476 BTU/HR	STELPRO	3	10
	1								RAF-1233265 RAF-1233261 RAF-74005 RAF-1233292	RADIATION MONITOR, MULTI-PURPOSE SURVEY METER, AA BATTERIES, W/ POWER CRADLE, CABLES, AND ADAPTER	MIRION TECHNOLOGIES	4	11
	2								SAM201K	SPECTRUM ANALYSIS MONITOR, 463 LBS, 120 VAC- 60 HZ, GAMMA DETECTOR, LEAD SHIELDING, W/ PROCESSING UNIT	MIRION TECHNOLOGIES	3	12
	1								A62H6012SSLP3PT	TWO-DOOR W/ 3 POINT LATCHES, NEMA 4X ENCLOSURE, 62" X 60" X 12", 304 S.S.	HOFFMAN	3	13
	1								A48H4812WFSSLP3PT APWK2919NFSS-CUSTOM	TWO-DOOR NEMA 4X PANEL, 48" X 48" X 12", 304 S.S., W/ WINDOW IN EACH PANEL, 26-1/2" H X 18" W, S.S./POLYCARBONATE	HOFFMAN	3	14
	1								40MAQB18B-3 KSACN010IAAA	DUCTLESS WALL MOUNTED AIR HANDLER, 18,000 BTU, 20 SEER, 1/4" LIQUID LINE, 1/2" SUCTION LINE, 208/230 V, 1 PHASE 60 HZ, W/ WIRED REMOTED CONTROL WITH TIMER FUNCTION, W/ HIGH WALL MOUNTING BRACKET	CARRIER	3	15
	1								40MAQB09B-3	DUCTLESS WALL MOUNTED AIR HANDLER, 9,000 BTU, 24 SEER, 1/4" LIQUID LINE, 1/2" SUCTION LINE, 208/230 V, 1 PHASE, 60 HZ, W/ HIGH WALL MOUNTING BRACKET	CARRIER	3	16
	1								38MGRQ24C-3	DUCTLESS MINI-SPLIT HEAT PUMP, 24,000 BTU, 23 SEER, 1/4" LIQUID LINE, 1/2" SUCTION LINE, 208/230 V, 1 PHASE 60 HZ	CARRIER	4	17
	2								TST434-K1B3D0+TZI R1A46-A1C1B+B1C1Z1	FIELD METER, DIRECT WALL MOUNTING, 1/2" NPT, ANODISED ALUMINUM & S.S.	ENDRESS & HAUSER	4	18
	1								EME220DD	WIND-DRIVEN RAIN RESISTANT STATIONARY LOUVER, 24" LG. X 24" TALL NOMINAL OPENING, EXTRUDED ALUMINUM	RUSKIN	4	19
	8								-	PLATE, 4" X 4" X 1/8" THK., PLACARD WITH FILTER OR IXC TAG FOR FRONT AND BACK OF EACH VESSEL BAY	ASTM A36	3,4	20
	2								WP-40K120-S3	LED WALL PACK WITH PHOTOCELL, 120W, 14,400 LUMENS, 5000 KELVIN	SUPER BRIGHT LEDS	2	21
	4								HR-1200 1067764	UNC SIDE PULL HOIST RINGS, 29000 LB WLL, 2 - 4.5 X 6.5, 2.98 EFFECTIVE PROJECTION LENGTH, 25 LBS, ALLOY C.S.	CROSBY	4,8	22
	1								KP250 M-1 #01201C201	SUMP PUMP, 1-1/4" NPT, 115V, 40 GPM OPERATING, IP68, 304 S.S.	GRUNDFOS	9	23
	1								F03-16PS	LIQUID LEAKAGE POINT SENSOR, POLYETHYLENE/304 S.S.	OMRON CORP.	9	24
	1								C465I-1331O	LEVEL SWITCH, FLOAT TYPE 1, 8-5/8" SENSING LENGTH, 1-1/4" BOTTOM DEADBAND, 11-7/16" OVERALL LENGTH, 1-1/2" NPT CONNECTION, M12 X 1 ELECTRICAL, 316 S.S.	MADISON	9	25
	1								AWFA2005C24SW	WALL HEATER, 2000W, 480V, W/ WALL SURFACE MOUNTING KIT	STELPRO	3	26
	1								CD50-CE LOW PROFILE	DAMPER, 12" X 12" X 5" WIDE, 2 BLADES, LOW LEAKAGE CONTROL, EXTRUDED ALUMINUM / S.S.	RUSKIN	4	27
	4								LNZ44P12B	PAN, TILT, ZOOM HI-DEF IP DOME CAMERA, 12X OPTICAL ZOOM, 4MP @ 30 FPS, IP66	LOREX	2	28
	4								G-209 1018614	SCREW PIN ANCHOR SHACKLES, 34000 LB WLL, 1-1/2" PIN DIA., 17 LBS, ALLOY C.S.	CROSBY	4,8	29
	1								A14086CHNF	NETWORK CONNECTION PANEL, CONTINUOUS HINGE W/ CLAMPS, 14"H X 8"W X 64"D, TYPE 4 AND 12, W/ MOUNT-BRACKET KIT	HOFFMAN	5	30
	1								MH44WP	480 POWER DISTRIBUTION PANEL, NFMB PANELBOARD, 44" H X 20" W X 6-1/2" D, NEMA 3R, SCCR: 65KA	SCHNEIDER ELECTRIC	5	31
	1								HU363NRB	120VAC NON-FUSIBLE DISCONNECT SWITCH, SINGLE THROW SAFETY SWITCH, 100A, NEMA 4X, SURFACE MOUNTING, 304 S.S.	SCHNEIDER ELECTRIC	5	32
	1								S18-0294-200 66749-001-V1-001	SUPPLY AIR FILTER ASSEMBLY, W/ PRE-FILTER HOUSING, INLINE HEATER, TEST SECTION, 24" X 24" INLET LOUVER, 8" OUTLET, CLASS 150 FLANGE	RADIATION PROTECTION SERVICES	8	33
	1								S18-0294-300 66749-001-V1-001	EXHAUST AIR FILTER ASSEMBLY, W/ PRE-FILTER HOUSING, HEATER, TEST SECTIONS, & HEPA HOUSING, 8" INLET & OUTLET, CLASS 150 FLANGES	RADIATION PROTECTION SERVICES	4	34
	4								-	ELECTRICAL OUTLET, 2 RECEPTACLES, SURFACE MOUNTED, 120 VAC	GRAYBAR	3	35
	1								DALB-5-CG	LB PULL BOX, CONDUIT/CABLE PULL THROUGH, 1-1/2" NPT, CAST SERIES A TYPE LB, THREADED, ALUMINUM	GRAYBAR	5	36
	12								-	3/8" - 16 UNC HEAVY HEX BOLTS W/ HEAVY HEX NUTS AND FLAT WASHERS, 1-1/2" LG., ZINC PLATED C.S.	ASTM A307 ASTM A194 GR. 2H	2,3	37
	14								-	1/2" - 13 UNC HEAVY HEX BOLTS W/ HEAVY HEX NUTS AND FLAT WASHERS, 1-1/2" LG., ZINC PLATED C.S.	ASTM A325 ASTM A194 GR. 2H	6,7	38
	2								-	14" X 4" SUPPLY FLOOR REGISTER	RADIATION PROTECTION SERVICES	2	39
	2								P2RL	FIRE ALARM STROBE AND HORN, 2W RED WALL	NOTIFIER (BY HONEYWELL)	3	40
	2								NGB-12LX	ADDRESSABLE PULL STATION, WITH FLASHSCAN	NOTIFIER (BY HONEYWELL)	3	41
	4								FSP-951 B300-6	SMOKE DETECTOR, W/ MOUNTING BASE, INTELLIGENT PHOTO DETECTOR, W/ FLASHSCAN, WHITE	REDHAWK FIRE & SECURITY (BY HONEYWELL)	8	42
X									-090	FIRE SUPPRESSION PIPING ISOMETRICS	SEE DRW. H-14-111275	2	43
	2								-	5/8" - 11 UNC HEAVY HEX BOLTS W/ HEAVY HEX NUTS, 1-1/2" LG., ZINC PLATED C.S.	ASTM A325 ASTM A194 GR. 2H	4	44
	4								94708A516	BONDED SEALING WASHER, .434" ID X 1" OD, GALVANIZED C.S. & NEOPRENE	MCMASTER CARR	4	45
	8 FT								7188382I	RUBBER STRIP, 2" X 1/8" THK., L.A.R., 70 DUR., NEOPRENE	MSC DIRECT	3,4, 6,7	46
	18								94708A517	BONDED SEALING WASHER, .532" ID X 1" OD, GALVANIZED C.S. & NEOPRENE	MCMASTER CARR	6,7	47
	6								-	3/8" - 16 UNC HEAVY HEX BOLTS W/ HEAVY HEX NUTS AND FLAT WASHERS, 1-1/4" LG., 316 S.S.	ASTM A193 GR.B8M ASTM A194 GR. 8M	3	48

JEREMIAH JOSEPH ROGERS
STATE OF WASHINGTON
48968
REGISTERED
PROFESSIONAL ENGINEER
8/29/19

	.X	.XX	.XXX
LINEAR TOLERANCE	±1/8	±	±
ANGULAR TOLERANCE	±0°	±	±
MATERIAL	AS SPEC'D		
SURFACE FINISH	N/A		
SURFACE TREAT	N/A		

AVANTech INCORPORATED
AVANTECH PROJECT NO.: 18-13

DWG NUMBER	TITLE
H-14-111243	GENERAL ARRANGEMENT TSCR EQUIPMENT LAYOUT

DRAWING TRACEABILITY LIST

REF NUMBER	TITLE
RPP-SPEC-61910	SPECIFICATION FOR THE TSCR DEMONSTRATION PROJECT

REFERENCES
NEXT USED ON

REV NO.	DESCRIPTION	ORIG	CHK	APVD	IDV	DATE
3	INCORPORATED CUSTOMER COMMENTS & UPDATED BOM	CS	CH	JR	N/A	8/29/19

REVISIONS

BLDG. NO. POR655
INDEX NO. 1000

CAUTION
NOT COMPLETE WITHOUT CURRENT CHANGE DOCUMENTS FROM DATABASE

ATTENTION
DESTROY THIS DOCUMENT BY SHREDDING
MAY CONTAIN SENSITIVE INFORMATION

NAME	DATE/ COMPANY
DRAWN BY	N/A AVT
DRAFTING APPROVAL	N/A AVT
DISCIPLINE ENGINEER	N/A AVT
DESIGN AUTHORITY	N/A AVT

U.S. DEPARTMENT OF ENERGY
OFFICE OF RIVER PROTECTION

GENERAL ARRANGEMENT
PROCESS ENCLOSURE
EQUIPMENT LAYOUT

SIZE D | DRAWING NUMBER H-14-111244 | SHEET 1 | REV 3

SCALE: NONE

PLOTID