NGWSP Reach 26.1 & 2

Engineer Comments on Submittal M039 – Prefabricated Vault

**General comments:**

* Please submit a summary of power usage and battery life for all electrical components.
* Note that each of the items listed in the product description are labeled with an Item No. for reference to the comments below.
* Provide an explanation of why the inside length of the control vault was increased from 19-feet to 20-feet as shown in Sheet 3 of 7 of Drawing No. PE-17-0380-DWB.

**Please refer to the of the original submittal PDF for page number references for items 1 through 3:**

* Page 2 (Product Description page)
	+ Take out reference to 3.8” orifice plate bore. With Singer valves, the bore will be specified by manufacturer for a differential pressure of 5 psi at 690 GPM.
	+ Correct the quantity of Romac DJ 400 to correspond w/ the quantity shown on page 5 (General Arrangement drawing) of the submittal and DT-12 of SMA’s Final 26.1/2 plans
* Page 3 (Product Description cont’d)
	+ Correct the quantities of the following items to correspond w/ the quantities shown on page 5 (General Arrangement drawing) of the submittal and DT-13 of SMA’s Final 26.1/2 plans:
		- 2” ValMatic VB
		- 1” ValMatic ARV
		- 2” Apollo BV
		- ½” Apollo BV
		- 1” Apollo BV
		- ¾” Apollo hose connection (page 2 says 3, page 5 says 2 – which should it be?)
			* Change page 5 accordingly if needed.
		- ½” Ametek pressure transducer
		- ¼” pressure gauge
		- Pen Seal for 6" Carbon Steel Pipe (there are 7 wall penetrations in the vault – 1x inlet, 3x pipe outlet, 2x air line, 1x drainline on floor of vault)
	+ Section 2.9 A.1 of spec 33 12 17 specifies that the model # of the 2” ValMatic VB includes “XF” in it – should this be included in the description here on page 3?
	+ Section 2.3 P of spec 33 12 17 specify that the Pressure Gauges shall have ranges of 0-300psi and 0-200 psi. Should the range of the ¼” pressure gauge (currently shown as 0-30 psi) given on Page 3 of the submittal be changed accordingly?
	+ Section 2.20 B.2.j of spec 33 12 17 specify that the ½” Ametek pressure transducer shall have a range of 0-300psi. Should the range (currently shown as 0-30 psi) given on Page 3 of the submittal be changed accordingly?
* Page 5 (General Arrangement Drawing)
	+ **Remove** the orifice plate w/ 1.87” bore that is located downstream of the relief valve from the design – we no longer need it since Singer custom-drills their anti-cav cages (we put this in to limit flowrate back when we originally changed from Singer to ClaVal since ClaVal doesn’t custom-drill their AC cages).
		- **Take out references to this orifice plate from all design drawings.**
* Page 65 (SINGER MODEL 106/206-RF-PR-SC-NO)
	+ The PRV’s model # on page 2 does not include the "NO" notation that the model # on page 65 includes- should it?
* Page 70 (Material Specifications & Dimensions)
	+ Section 2.3 J of spec 33 12 17 specifies that the Main Valve internal and external fasteners shall be supplied as 304 Stainless Steel. Do Items #10, 12, 51, & 52 come in SS 304?
* Page 83 (ASCO Red-Hat solenoids)
	+ Section 2.3 U.3 of spec 33 12 17 specifies Solenoid shall draw no more than 2 watts of power. Resubmit solenoids that meet this spec.
	+ Section 2.3 U.4 of spec 33 12 17 specifies Power Requirements: 24 Volts DC. Please indicate on submittal that the submitted solenoid meets this specification.
* Page 91 (SPR-MV)
	+ Submit to SMA the length that the SPI-MV extends out of the valve. SMA to determine orientation of SPI-MV – same or different side of valve as pilot system?
* Page 99 (SPR-MV)
	+ Section 2.3 T.7 of spec 33 12 17 specifies the Insertion Flow Meter shall use 0.7 Watts to operate. Resubmit an Insertion Flow Meter that meet this spec.
	+ Section 2.3 T.6 of spec 33 12 17 specifies the Insertion Flow Meter Power Requirements: 24 Volts DC. Please indicate on submittal that the submitted flow meter meets this specification.
* Page 110 (SPI Converter Overview)
	+ Section 2.3 T.7 of spec 33 12 17 specifies the Insertion Flow Meter shall have local display. Please indicate on page 110 of the Submittal that the local configuration shall be used.
* Page 158 (Orifice Plate)
	+ Submit in writing that the orifice plate bore hole for the RF control on the PRVs will be manufacturer-specified for a differential pressure of 5 psi at 690 GPM. This is instead of the 3.8” borehole that SMA originally specified based on ClaVal’s orifice sizing charts.
* Page 163 (Material Specifications & Dimensions)
	+ Section 2.4 J of spec 33 12 17 specifies that the Main Valve internal and external fasteners shall be supplied as 304 Stainless Steel. Do Items #10 & 12 come in SS 304?
* Page 164 (Limit Switch / Position Indicator Assembly)
	+ Section 2.4 N.5 of spec 33 12 17 specifies to provide stainless steel cap on Limit Switch Indicator. Please indicate on page 164 that the submittal conforms to this.
	+ Confirm that this is going to be a fully closed position limit switch for the relief valve.
* Page 165 (AC Trim)
	+ Design anticav trim on Relief Valve for:
		- Min Flow: 371 GPM
		- Max Flow: 769 GPM
		- Min Inlet Pressure: 162 PSI
		- Max Inlet Pressure (DYNAMIC): 184 PSI
		- Max Inlet Pressure (STATIC): 245 PSI
		- Min Outlet Pressure: 0 PSI
		- Max Outlet Pressure: 0 PSI
* Page 180 (MARS Z Strainer)
	+ Resubmit with a ClaVal X43H strainer – this is the only one SMA will approve.
		- Remove all references to the MARS Z strainer on pages 3-5

**Make all changes per comments below for items 4 through 23:**

* Item #4
	+ Per Section 33 12 17 – 2.8.A.2, the ball valve is to be Leaked tested to 300 psi and Shell tested to 600 psi. Resubmit with technical documents indicating this information.
	+ Highlight/select that Class 250 Flanges are to be used in attached technical documents.
* Item #5
	+ Highlight and indicate that NBR Gaskets and 316 Stainless Steel fasteners are to be used, per Section 33 12 17 – 2.16.
* Item #8
	+ Per section 33 12 17 – 2.9, vacuum breaker valve shall be 2” ValMatic **1852VB.3XFSVH** Vacuum Breaker Valve. Submit technical documents indicating this model type.
	+ Attach Fusion Bonded Epoxy Coating specification documents with this item.
* Item #15
	+ Indicate that pressure range shall be from 0-300 psi.
* Item #22
	+ Incandescent lighting shall not be used. Resubmit with LED lighting, per Section 33 12 17 – 2.20.A.