

Project: Iron Bridge SMPEI Process Plant Construction - Dry Plant		FMG Document No: 662NSC2002-2000-IT-QA-0010	Document No: C292-QU-ITP-0010	Revision: 3				
Project No: C292		Contract No: 662NSC2002-0000-CO-CP-0002	Prepared By: Fabien Fernandez	Approved By: W. Bradshaw				
Scope: Pump Installation				Workpack / Area:				
Control Point H = Hold Point (Work must not proceed to the next step until this activity is completed and a signature obtained); W = Witness Point (Notify to permit witness, work can proceed if witness does not attend at agreed time); S = Surveillance (Monitor operations / surveillance of activity); R = Review Documentation (Sign to record review);								
Resp. Person QC - Quality Inspector; PE - Project Engineer; CQR - Client Quality Representative; CI - Coating Inspector; PM - Project Manager; SS - Site Supervisor; DC - Dimension Checker; WE - Welding Engineer; PP - Pre-processing Personnel, SUBCON - Subcontractor								
ACT No.	DESCRIPTION OF ACTIVITY	PROCEDURE / SPECIFICATION REFERENCE	ACCEPTANCE CRITERIA	VERIFYING DOCUMENTATION	RESP. PERSON	CONTROL POINT		REMARKS
						CIVMEC	CLIENT	
1	Submission / Approval of Documentation							
1.1	Submission Pump Installation Inspection & Test Plan for FMG Approval	662NSC2002-2000-SW-CN-0002_4 100-SP-QA-0001_1	662NSC2002-2000-SW-CN-0002_4 Cl. 10.3 100-SP-QA-0001_1 Cl. 2.3	Approved ITP	QC / PE	H / R	R	
1.2	Ensure Manufacturer's Installation Instructions and manuals Have Been Provided with Equipment	100-SP-ME-0002 Manufacturer's Recommendation	100-SP-ME-0002 CL3.3	Manufacturer's Installation Instructions	SS / PE	H / R	R	
1.3	Submit lift studies as per FMG Lifting Procedure for FMG Review & Approval	100-PR-SA-1036_5	100-PR-SA-1036_5 Cl. 3.4	Approved Lift Study	SS / PE	H / R	H*/R	Hold for critical lifts only
2	Calibration							
2.1	Ensure All Inspection, Measuring and Testing Equipment is Calibrated Including: <ul style="list-style-type: none"> •Coupling Laser Alignment Tool; •Machine Level; •Dial Gauge Indicators; and •Torque / Tension Tooling & Equipment •Survey Equipment 	100-SP-ME-0002 Manufacturer's Recommendation	100-SP-ME-0002	Calibration Certificates Signed ITP	QC / PE	R	R	
3	Materials Receipt, Inspection, Storage & Preservation							
3.1	Inspect Supplied and Free-Issued Mechanical Components for the Following: <ul style="list-style-type: none"> •Equipment Identification & Nameplate; •Conformance to Specification and Drawings; •Damaged or Missing Components; and •Review Material Certification and Material Traceability Records. NOTE: Non-Conforming Material Shall be Segerated, Quarantined and an Dilapidation Report Completed.	100-SP-ME-0002 662NSP0015-0000-IM-QA-0001	100-SP-ME-0002 662NSP0015-0000-IM-QA-0001	Delivery Dockets Material Certificates Dilapidation Report	SS / QC / PE	S / R	S	

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4	Acceptance of Supporting Structure (Where Applicable)							
4.1	Inspect Structure for Conformance to the Following: • Anchor Bolts or Bolt Holes at Correct Location, Level and Alignment; • Curing Period Satisfied and Required Concrete / Grout Strength Achieved	IFC Vendor Drawings 662NSP0015-0000-IM-QA-0001	IFC Vendor Drawings 662NSP0015-0000-IM-QA-0001	Structural ITR's	SS / PE	S / R	H / R	
5	Pump Installation							
5.1	Dimension and Orientation Check	IFC Vendor Drawings 662NSP0015-0000-IM-QA-0001	IFC Vendor Drawings 662NSP0015-0000-IM-QA-0001	IFC Drawings Survey Records	SS / PE	R	S	
5.2	Pump (including supports / frame) Installation: Install Shims, Hold down bolt tightening	IFC Vendor Drawings 662NSP0015-0000-IM-QA-0001	IFC Vendor Drawings 662NSP0015-0000-IM-QA-0001	Pump Installation ITR	SS	R	S	
5.3	Equipment Baseplate/Skid Grouting (where applicable)	IFC Vendor Drawings 662NSP0015-0000-IM-QA-0001	IFC Vendor Drawings 662NSP0015-0000-IM-QA-0001	Pump Installation ITR (Where Applicable) Grout Installation ITR (Where Applicable)	SS	H	S	
5.4	Trial Fitup / Align Suction & Discharge Piping	IFC Vendor Drawings 662NSP0015-0000-IM-QA-0001	IFC Vendor Drawings 662NSP0015-0000-IM-QA-0001 100-SP-PI-0004 Nil Cold Spring	Pump Installation ITR	QC	S / R	R	
5.4	Mechanical Alignment Verification & Softfoot check Direct Coupled Drive = Laser Aligner Belt Drive = Straight Edge	IFC Vendor Drawings 662NSP0015-0000-IM-QA-0001	IFC Vendor Drawings 662NSP0015-0000-IM-QA-0001 Tolerance to be most stringent between Vendor & FMG Spec	Pump Installation ITR (Where Applicable) Coupling Installation ITR (Where Applicable) Laser Alignment Report	SS	H	W / R	
5.5	Check all bolts, fittings, seals and packings Remove any locks Gland water requirements & check (where applicable)	IFC Vendor Drawings 662NSP0015-0000-IM-QA-0001	IFC Vendor Drawings 662NSP0015-0000-IM-QA-0001	Pump Installation ITR	SS	S / R	S	
5.6	Carry out final Pipe flange torquing - dial gauge to pump shaft to ensure shaft minimal shaft movement (where applicable)	IFC Vendor Drawings 662NSP0015-0000-IM-QA-0001	IFC Vendor Drawings 662NSP0015-0000-IM-QA-0001 No Cold spring in piping	Pipe Flange Torque Checksheet Pump Installation ITR	SS	S / R	W / R	
5.7	Final Alignment Verification	IFC Vendor Drawings 662NSP0015-0000-IM-QA-0001	IFC Vendor Drawings 662NSP0015-0000-IM-QA-0001	Pump Installation ITR Signed ITP	SS	H	W / R	
5.8	Coupling and Guarding installation Verify coupling matches with the bolt set.	IFC Vendor Drawings 662NSP0015-0000-IM-QA-0001	IFC Vendor Drawings 662NSP0015-0000-IM-QA-0001	Coupling Installation ITR (Where Applicable)	SS/QC	S / R	W	

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6 Final Inspection								
6.1	Complete Final Inspection of Installed Equipment	IFC Vendor Drawings 662NSP0015-0000-IM-QA-0001 100-SP-ME-0002_0 100-SP-ME-0001_0	IFC Vendor Drawings 662NSP0015-0000-IM-QA-0001 100-SP-ME-0002_0 100-SP-ME-0001_0	Pump Installation ITR Punchlist	SS / PE	R	R	
7 Finalise Documentation								
7.1	Redline Drawings Verified for Relevant Equipment	662NSC2002-2000-SW-CN-0002_4 100-SP-QA-0001_0	662NSC2002-2000-SW-CN-0002_4 100-SP-QA-0001_0	Redline Drawings	QC / PE	R	R	
7.2	Complete Construction Verification & Punchlisting	662NSC2002-2000-SW-CN-0002_4 100-SP-QA-0001_0	662NSC2002-2000-SW-CN-0002_4 100-SP-QA-0001_0	Approved Construction Verification Documentation Signed-off Punchlist	QC / PE	R	R	

SIGNATURE IDENTIFICATION REGISTER

NO	NAME	SIGNATURE	POSITION TITLE	ORGANISATION
1				
2				
3				
4				
5				
6				