

 	PROJECT	Standby SRU & Additional Tanks IOCL Paradip Refinery		
	CLIENT	INDIAN OIL CORPORATION LIMITED		
QCP-PIPING ERECTION (ABOVE & UNDERGROUND)	Project No. 080557C001	Document No. 080557C-000-QCP-1320-001	Rev. No. A	Page 1 of 6
<b>QUALITY CONTROL PLAN</b>  <b>PIPING ERECTION (ABOVE &amp; UNDERGROUND)</b>				

TYPE OF QUALITY CONTROL REPORT	CERTIFICATION EXTENT
W 12/A	SINGLE REPORT PER EACH MATERIAL
W 10 - W 16 - W 51AG – W 51UG – V 01 - VE 01	SINGLE REPORT PER EACH ISOMETRIC
W 13 – MC 01 - W 14B - IC 01 - W 51T – LU 01 – PL 10	SINGLE REPORT PER EACH TESTING CIRCUIT
W 31B - W 31C - W 18 – RT 01 – BT 01 – BCS 01 – SS 01	SUMMARY
W 01 – W02 - W03 – W04 – W 24 – QC 21 – BTC 01	SINGLE REPORT PER EACH EXAMINATION



**REFERENCE DOCUMENTS:**

- 080557C-000-PP-805 Site Coordination & Communication Procedure.
- 080557C-000-PP-807 Material Receiving, Handling & Storage procedure
- 080557C-000-PP-804 Specification for Positive Material Identification at
- Construcion site
- QCP 1399.02 Piping Welding Activities Management (NDE / PWHT / HT / PMI Included)
- 080557C-000-JSC-1300-001 Standard Specification for Fabrication and Erection of Piping
- 080557C-000-JSD-2300-001 Specification for Surface Preparation and Protective Coating
- 080557C-000-JSD-2200-001 Job Specification for Hot Insulation of Vessels, Piping and Equipment
- 080557C-000-JSD-2200-002 Job Specification for Cold Insulation of Vessels, Piping and Equipment
- 0805579C-000-PP-820 Standard specification for inspection, flushing and testing of piping systems.
- DRAWINGS

A	19/10/2019	ISSUED FOR INFROMATION	SMP	PKP	LA/ANJ	JMC
REV.	DATE	DESCRIPTION	PREPARED	CHECKED	APPROVED	AUTHORIZED



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 <b>TechnipFMC</b>  IndianOil	<b>PROJECT</b>		<b>Standby SRU &amp; Additional Tanks</b>	
	<b>CLIENT</b>		<b>IOCL Paradip Refinery</b>	
<b>QCP-PIPING ERECTION (ABOVE &amp; UNDERGROUND)</b>	<b>Project No.</b> 080557C001	<b>Document No.</b> 080557C-000-QCP-1320-001	<b>Rev. No.</b> A	Page 2 of 6

#### LEGENDA

H	=	HOLD (RFI required - Work stop for inspection)
W	=	WITNESS (RFI required)
WC	=	100 % SUPERVISION AND EXAMINATION BY CONTRACTOR.
S	=	SURVEILLANCE (No RFI)
P	=	PREPARATION
R	=	REVIEW OF REPORTS
N.A.	=	NOT APPLICABLE
A	=	AUTHORIZATION / APPROVAL
IFA	=	ISSUED FOR AUTHORIZATION/APPROVAL
INFO	=	FOR INFORMATION
RFI	=	REQUEST FOR INSPECTION
!	=	WARNING (control of document revision status)

 	PROJECT	Standby SRU & Additional Tanks IOCL Paradip Refinery		
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QCP-PIPING ERECTION (ABOVE & UNDERGROUND)	Project No. 080557C001	Document No. 080557C-000-QCP-1320-001	Rev. No. A	Page 3 of 6

S.NO	CHECK AND INSPECTION ITEM	QUALITY CONTROL REPORT	ACTION		NOTES
			CONTR.	TECHNIP	
A)	PRELIMINARY ACTIVITIES				
A.1	CONTRACTOR DRAWINGS CHECK REVISION STATUS	N.A.	!	!	
A.2	CONTRACTOR TECHNICAL SPECIFICATION AND PROCEDURE	N.A.	!	!	
A.3	CONTRACTOR METHOD STATEMENTS (IF REQUIRED)	N.A.	P	R	
B)	BEFORE ERECTION				
B.1	WELDERS MANAGEMENT	Use QCP 1399.01			(2)
B.2	WELDING, NDE/PMI/PWHT/HT MANAGEMENT	Use QCP 1399.02			(2)
B.3	MATERIALS APPROVAL	W 12/A	WC	R	(1) (3)
C)	EXCAVATION & BACKFILLING (FOR UNDERGROUND PIPING)	QCP 1440.01 (Civil Work)			(2)
D)	ERECTION (PER ISO)				
D.1	PREASSEMBLY	W 10 / W 51 xy	WC	R/S	(4) (5)
D.2	DELIVERED MATERIAL READY AT SITE (MATERIALS & SPOOLS IDENTIFICATION AND CONSERVATION STATUS)	W 51 xy	WC	R/S	(5)
D.3	PIPE / SPOOL INTERNAL CLEANING	IC 01 / W 51 xy	WC	W/R	(5)
D.4	PIPE / SPOOL ERECTION AND ALIGNMENT (inclusive pipe identification transfer if required)	W 51 xy	WC	R/S	(5)
D.5	PIPE / SPOOL TACK WELDS (if any)- FIT UP	W 51 xy	WC	S	(5)
D.6	GAP CONTROL FOR SOCKET WELDS (if any)	W24 / W51 AG	WC	S	
D.7	WELDING	W 10 / W 51 xy	WC	S	(5)
D.8	ORIFICE FLANGES AND VENTURI INSTALLATION	W 31C / W 51 xy	WC	S	(5)
D.9	PNEUMATIC TEST FOR REINFORCING PADS	W 31B / W 51 xy	WC	W/R	(5)
D.10	MATERIAL FULL TRACEABILITY (AS APPLICABLE)	W 10 / W 51 xy	WC	S	(5)
D.11	RT JOINT SELECTION REQUEST	RT 01 / W 51xy	WC	R	(5)
D.12	NDE / PMI / PWHT / HT EXECUTION & TRACEABILITY				
D.12.1	WELDING DAILY PROGRESS & VISUAL EXAMINATION	W24 / W51 xy	WC	R	(5)
D.12.2	PMI EXECUTION (where required)	QC21/ W51 xy	WC	W/R	(5)
D.12.3	PWHT CHART RECORDS (where required)	W51 xy	WC	R	(5)
D.12.4	HARDNESS TEST EXECUT. (where required)	W51 xy	WC	W/R	(5)
D.12.5	LIQUID PENETRANT EXAM. (where required)	W03 / W51 xy	WC	W/R	(5)
D.12.6	MAGNETIC PARTIC. EXAM. (where required)	W04 / W51 xy	WC	W/R	(5)

 <b>TechnipFMC</b>		 <b>IndianOil</b>	<b>PROJECT</b>	<b>Standby SRU &amp; Additional Tanks</b> <b>IOCL Paradip Refinery</b>	
			<b>CLIENT</b>	<b>INDIAN OIL CORPORATION LIMITED</b>	
<b>QCP-PIPING ERECTION (ABOVE &amp; UNDERGROUND)</b>	<b>Project No.</b> 080557C001	<b>Document No.</b> 080557C-000-QCP-1320-001		<b>Rev. No.</b> A	Page 4 of 6

S.NO	CHECK AND INSPECTION ITEM	QUALITY CONTROL REPORT	ACTION		NOTES
			CONTR.	TECHNIP	
D.12.7	RAD. EXAM. FILM REVIEW (where required)	W01 / W51 xy	WC	R	(5)
D.12.8	ULTRASONIC EXAMINATION (where required)	W02 / W51 xy	WC	W/R	(5)
D.12.9	NDE / PMI / PWHT / HT TRACEABILITY	W 10 / W 51 xy	WC	R	(5)
D.13	JOINT REPAIR EXECUTION (if any)	W 10 / W 51 xy	WC	S	(5)
D.14	REPAIRS RAD. FILM REVIEW (if any)	W 01 or equivalent	WC	R	(5)
D.15	JOINT CUT OUT FOR MODIFICATION (if any)	W 10 / W 51 xy	WC	W/R	(5) (6)
D.16	PIPING SUPPORT INSTALLATION	W 51 xy	WC	R/S	(5)
D.17	VALVE INSTALLATION	V 01 / W 51 xy	WC	R/S	(5) (7)
D.18	FLANGE FACES INSPECTION	W 51 xy	WC	R/S	(5)
D.19	FLANGES PARALLELISM / ALIGNMENT & GASKET INSTALLATION	BT 01 / W 51 xy	WC	R/S	(5)
D.20	TORQUE WRENCHES CALIBRATION	W 51 xy	WC	R	(5)
D.21	JOINT BOLTS TIGHTENING EXECUTION	BTC 01 / W 51 xy	WC	W/R	(5)
D.22	SLOPE CHECK	SS 01 / W 51 xy	WC	W/R	(5)
D.23	PRESSURE TEST (ONLY FOR UNDERGROUND PIPING)	W 51T / W 51 UG	WC	W	(8)
D.24	HOLIDAY TEST AFTER PRESSURE TEST (ONLY FOR UNDERGROUND PIPING)	W 18 / W 51 UG	WC	W/R	
D.25	FINAL DOCUMENTATION REVIEW	W 51 xy			(5)
<b>E)</b>	<b>PRESSURE TEST PREPARATION / EXECUTION (PER TESTING CIRCUIT)</b>				
E.1	TEST PACK CREATION	W 51 T	P	R	
E.2	MECHANICAL CLEARANCE	MC 01 / W 51T	WC	W/R	
E.3	PUNCH LIST BEFORE PRESSURE TEST	PL 10 / W51T	WC	W	
E.4	NDE VERIFICATION (Check of relative QCF W10 issued for ISO's)	W10 / W 51T	WC	R	
E.5	PUNCH "A" CLEARANCE AND RELEASE FOR TEST	PL 10 / W 51T	WC	W/R	
E.6	INTERNAL CLEANLINESS VERIFICATION (Check of relative QCF IC01 issued for spools/ISO)	W 51T	WC	W/R	
E.7	BLIND FLANGES INSTALLATION	BCS 01 / W 51T	WC	W/R	
E.8	BOLT TORQUING REPORT	BTC 01 / W 51T	WC	R	
E.9	PRESSURE TEST EXECUTION	W13 / W 51T	WC	W	
E.10	WATER DRY-OUT EXECUTION	LU 01 / W 51T	WC	W	
E.11	BLIND FLANGES REMOVAL	BCS 01 / W 51T	W	W/R	
E.12	WORK ACCEPTANCE OF "PUNCH LIST AFTER PRESSURE TEST" (LINE REINSTATEMENT)	PL 10 / W 51T	WC	W/R	
<b>F)</b>	<b>MODIFICATION AFTER HYDROTEST (IF ANY)</b>	W 16	WC	W/R	
<b>G)</b>	<b>CONTROL &amp; SAFETY VALVE AND IN-LINE</b>				

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S.NO	CHECK AND INSPECTION ITEM	QUALITY CONTROL REPORT	ACTION		NOTES
			CONTR.	TECHNIP	
	INSTRUMENTS ERECTION				
G.1	MATERIAL AVAILABLE AT SITE	VE 01	WC	W/R	
G.2	CHECK REPORT OF VISUAL INSPECTION / CALIBRATION	VE 01	WC	W/R	
G.3	VALVE/INSTRUMENT INSTALLATION	VE 01	WC	W/R	
G.4	VALVE/INSTRUMENT DISMANTLING (AS APPLICABLE)	VE 01	WC	W/R	
G.5	FINAL DOCUMENTATION REVIEW	VE 01			

- NOTES:
- (1) A COPY OF THE DOCUMENT WILL BE DELIVERED TO OWNER FOR INFORMATION.
  - (2) FORMS, INSPECTION AND ATTENDANCE SHALL BE IN ACCORDANCE WITH REFERRED QCP.
  - (3) MATERIAL APPROVAL WILL BE EXECUTED ONLY FOR MATERIAL SUPPLIED BY CONTRACTOR.
  - (4) VALID ONLY FOR PIPERACK ISOs.
  - (5) THE W51 XY FORM REFERS TO W51 AG & W51 UG AND MUST BE APPLIED AS:  
W51 AG: FOR ABOVE GROUND PIPING ERECTION  
W51 UG: FOR UNDERGROUND PIPING ERECTION.
  - (6) RFI SHALL BE ISSUED FOR INFORMATION/TRACKING PURPOSE ONLY.
  - (7) FOR CHECK VALVE ONLY.
  - (8) STEP VALID ONLY FOR UG PIPING, BECAUSE A DEDICATED SUB-WORK CLASS EXISTS FOR AG PIPING.

#### GENERAL NOTES

- 1 THE ENCLOSED ITP'S ARE INDICATIVE AND SHALL BE FOLLOWED FOR DEVELOPING THE JOB SPECIFIC ITP'S FOR THE WORKS TO BE PERFORMED BY THE CONTRACTOR. THE PROVISIONS INDICATED FOR STAGE WISE INSPECTION BY TECHNIP AND OWNER (FOR SPECIFIC ACTIVITIES) ARE THE MINIMUM AND THE ENGINEER-IN- CHARGE MAY DECIDE TO INCREASE HOLD POINTS/ WITNESS POINTS, WHILE APPROVING THE JOB SPECIFIC ITP'S. ACTIVITIES FOR WHICH ITP'S ARE NOT PROVIDED IN THIS SPECIFICATION. CONTRACTOR TO DEVELOP AND GET THE SAME APPROVED BY TECHNIP/OWNER BEFORE START OF THE WORK. IN GENERAL ROLE OF TECHNIP HAS BEEN SPECIFIED IN THE DOCUMENT THE ROLE OF OWNER TO BE SPECIFIED DURING PREPARATION OF SITE SPECIFIC ITP'S.
- 2 CONTRACTOR TO SUBMIT JOB SPECIFIC REPORTING FORMATS AND JOB PROCEDURES FOR THE JOBS FOR EACH ACTIVITY LISTED IN THE ITP'S AND SUBMIT TO TECHNIP/OWNER FOR APPROVAL. BEFORE COMMENCEMENT OF THE ACTIVITY. IF THE CONTRACTOR HAS TO DEVIATE FROM THE GIVEN ITP FOR A VALID REASON, HE SHALL OBTAIN PRIOR WRITTEN APPROVAL OF TECHNIP/OWNER. CONTRACTOR TO CARRY OUT 100% EXAMINATION OF ALL ACTIVITIES.

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### PRESSURE TEST PACKAGE

For each piping pressure test circuit CONTRACTOR shall prepare one “test package” collecting at least the following documents:

QCF W 13	: Piping Pressure Test Report - when test circuits shall be splitted in two or more subtest circuits a progressive letter (a, b, c...) shall be added to subtest circuit numbering.
Pressure test gages calibration	: Copy of applicable test gage calibration
QCF PL 10	: Punch list before and after pressure test. All outstanding activities shall be cleared and countersigned by PMC before test.
QCF MC 01	: Mechanical clearance for hydrotest
QCF W 10	: NDE / PWHT / HT / PMI and material Traceability Summary per each isometric
QCF BTC 01	Bolt torqueing check report
Isometrics	: As built isometrics with identified welds, as per W 10, and blind flanges positioning & Numbering
P&ID	: With identified & marked up circuit and blind flanges positioning & Numbering

Each pressure test package shall have a Front-Page with the following information:

- Test Pressure Circuit N°;
- Progressive Test Package N°;
- List of Lines / ISOs;
- List of collected documents

### GENERAL NOTES

- 1) All the other reports (shop prefabrication reports included) will be filed per ISO in different files.
- 2) The test packages will be filed per “System”.
- 3) If any welding activity is necessary to apply at one or more circuit's isometrics after pressure test, these will be authorized by PMC and recorded with W 16 Form.  
W 16 Form filled and countersigned by PMC will be included into the test package.



PROJECT:

COMPANY:

QUALITY CONTROL FORM

BCS 01

PROJ. No.:

QCF REV. A

SH. \_\_\_\_ OF \_\_\_\_

## BLIND CONTROL SHEET

CONTRACTOR:

BCS 01 N° \_\_\_\_\_

No.	Drawing / Line No.	Blind No.	Size	Rating	Blind Thickness		Gasket	Inserted			Removed			Remarks
					Required	Actual		Contr.	Technip QC team	OWNER	Contr.	Technip QC team	OWNER	
								Name / Date	Name / Date	Name / Date	Name / Date	Name / Date	Name / Date	

NOTES:

INSPECTORS

CONTRACTOR

TECHNIP

OWNER

NAME

SIGNATURE

DATE



PROJECT:

COMPANY:

QUALITY CONTROL FORM

BT 01

PROJ. No.:

QCF REV. A

SH. 1 OF 2

**FLANGES PARALLELISM / ALIGNMENT & STUD BOLTS TIGHTENING**

CONTRACTOR:

BT 01 N° \_\_\_\_

EQUIPMENT ID NUMBER:

EQUIPMENT DESCRIPTION:

EQPT CODE

SYSTEM ID.



LAYOUT DRAWING NUMBER:

REV N° :

PURCHASE ORDER NUMBER:

ITEM N°	ACCEPTANCE CRITERIA	REFERENCE	N.A.	V.ED
<b>A</b>	<b>General Information:</b> <b>Line Class:</b> _____ <b>Pipe Wall Thickness/Pipe Sch.:</b> _____ <b>Fluid Service:</b> _____ <b>Service Temperature:</b> _____			
A1	Pressure rating of mating flanges conforms with the line specification noted in piping.		<input type="checkbox"/>	<input type="checkbox"/>
A2	The flange facing, particularly the seating area, is clean and no damage (such as scratches) in excess.		<input type="checkbox"/>	<input type="checkbox"/>
A3	The gasket contact areas of the flanges are not coated (to ensure proper contact surface for sealing purpose).		<input type="checkbox"/>	<input type="checkbox"/>
<b>B</b>	<b>Flange alignment (pipe to pipe) tolerances</b>			
B1	Rotation of flanges, measured as the offset between elevations of bolt holes on opposite sides of a flange centerline, shall not exceed $\pm 2.4$ mm		<input type="checkbox"/>	<input type="checkbox"/>
B2	The tilt of a flange measured at the periphery across any diameter shall not exceed 1.6 mm from the square position.		<input type="checkbox"/>	<input type="checkbox"/>
<b>C</b>	<b>Alignment for flanges over 3-inch NPS connected to machinery/equipment is within the following tolerances</b>			
C1	Vertical bolt hole offset: $\pm 2.4$ mm		<input type="checkbox"/>	<input type="checkbox"/>
C2	Horizontal bolt hole offset: $\pm 2.4$ mm		<input type="checkbox"/>	<input type="checkbox"/>
C3	Rotational offset: $\pm 2.4$ mm		<input type="checkbox"/>	<input type="checkbox"/>
C4	Flange face tilt across diameter: 0.025mm per 25 mm (0.001 inch per inch) of flange outside diameter up to a maximum of 0.672 mm (0.030 inch), and 0.254mm (0.010 inch) for all flanges with an outside diameter less than 10 inches.		<input type="checkbox"/>	<input type="checkbox"/>
C5	Flange face separation: gasket thickness $\pm 1.6$ mm		<input type="checkbox"/>	<input type="checkbox"/>
C6	Combination of vertical, horizontal and rotational offset: $\pm 3.2$ mm		<input type="checkbox"/>	<input type="checkbox"/>
<b>D</b>	<b>Alignment of Flange Joints with spectacle plate is within the following tolerances</b>			
D1	Vertical bolt hole offset: $\pm (2.4 \text{ mm} + 30\%) = \pm 3.12\text{mm}$		<input type="checkbox"/>	<input type="checkbox"/>
D2	Horizontal bolt hole offset: $\pm (2.4 \text{ mm} + 30\%) = \pm 3.12\text{mm}$		<input type="checkbox"/>	<input type="checkbox"/>
D3	Rotational offset: $\pm (2.4 \text{ mm} + 30\%) = \pm 3.12\text{mm}$		<input type="checkbox"/>	<input type="checkbox"/>
D4	Combination of vertical, horizontal and rotational offset: $\pm 3.2$ mm		<input type="checkbox"/>	<input type="checkbox"/>
<b>E</b>	<b>Gasket Verification</b>			
E1	Gasket type was verified to be compatible with the flange facing		<input type="checkbox"/>	<input type="checkbox"/>
E2	Gaskets are free from any damage particularly in the seating element. (NOTE: Ensure that spiral wound gaskets are stored flat especially for large sizes, 24 inches and larger.)		<input type="checkbox"/>	<input type="checkbox"/>



 		PROJECT:		
		COMPANY:		
QUALITY CONTROL FORM <b>BT 01</b>		PROJ. No.:	QCF REV. A	SH. 2 OF 2
<b>FLANGES PARALLELISM / ALIGNMENT &amp; STUD BOLTS TIGHTENING</b>		CONTRACTOR:		BT 01 N° _____
ITEM N°	ACCEPTANCE CRITERIA	REFERENCE	N.A.	V.ED
E3	PIKOTEK gaskets, or approved equal, with isolating sleeves and washers are used for isolating dissimilar metal flanged joints (i.e. electrical isolation), and insulating joints for cathodic protection.		<input type="checkbox"/>	<input type="checkbox"/>
E4	Not more than one gasket is used between mating surfaces of flanges.		<input type="checkbox"/>	<input type="checkbox"/>
E5	The ring gaskets have the following identification: a. manufacturer's name or identification trademark. b. gasket number prefixed by the letters R,RX,or BX followed by the gasket material identification. c. The gasket is marked with an ASME B 16.20 designation.		<input type="checkbox"/>	<input type="checkbox"/>
E6	The dimension of the ring-joint gasket indicated by letter designation (R, RX, or BX) stamped on the ring gasket was verified to conform with the flange size and flange standard where it will be used.		<input type="checkbox"/>	<input type="checkbox"/>
E7	The identification markings on the spiral wound gaskets (flange size (NPS), pressure class and the appropriate flange standard (ASME B16.5 or ASME B16.47) were verified to conform with the flange size and flange standard and as specified in the IFC Drawing.		<input type="checkbox"/>	<input type="checkbox"/>
E8	The spiral wound gasket has the filler flush with the metal windings, not below the metal windings. (ASME B16.20, Para. 3.2.2)		<input type="checkbox"/>	<input type="checkbox"/>
E9	All spiral-wound gaskets are furnished with a centering ring.		<input type="checkbox"/>	<input type="checkbox"/>
E10	Inner rings are provided on all spiral-wound gaskets having PTFE (polytetra-fluoroethylene)filler material.		<input type="checkbox"/>	<input type="checkbox"/>
E11	Spiral Wound gasket for use in operating temperatures below minus 45°C has guide rings made of type 304 stainless steel material.		<input type="checkbox"/>	<input type="checkbox"/>
E12	Components of spiral wound gasket (filler, inner and outer rings) are verified to conform with the gasket material		<input type="checkbox"/>	<input type="checkbox"/>
E13	Spiral-wound gaskets are marked with a color code.		<input type="checkbox"/>	<input type="checkbox"/>
<b>F</b>	<b>Bolting</b>			
F1	Bolts and nuts have no physical damage to shanks or threads.		<input type="checkbox"/>	<input type="checkbox"/>
F2	Stud bolts and nuts have identification markings and verified to be suitable to the service temperature		<input type="checkbox"/>	<input type="checkbox"/>
F3	Bolt and nut materials are verified to conform with the approved material.		<input type="checkbox"/>	<input type="checkbox"/>
F4	Bolt Length: Bolts extend completely through their nuts (full thread engagement.). (NOTE: Thread engagement is adequate if the lack of complete engagement is not more than one thread. ) (ASME B31.3, Para. 335.2.3)		<input type="checkbox"/>	<input type="checkbox"/>
F5	Method of bolt tightening was reviewed and approved by COMPANY		<input type="checkbox"/>	<input type="checkbox"/>
REMARKS:				
<b>INSPECTORS</b>		<b>CONTRACTOR</b>	<b>TECHNIP</b>	<b>OWNER</b>
NAME				
SIGNATURE				
DATE				

<b>TechnipFMC</b> <b>IndianOil</b>				PROJECT:					
QUALITY CONTROL FORM <b>BTC 01</b>				COMPANY:					
<b>BOLT TORQUING CHECK REPORT</b>				PROJ. N°:		QCF REV. A		SH. 1 OF 1	
				CONTRACTOR:				BTC 01 N° _____	
<u>SUB-SYSTEM NUMBER</u>				<u>FLANGED JOINT NUMBER</u>					
<u>AREA - LINE</u>				<u>TARGET TORQUE VALUE (Nm)</u>					
Torque Tool Type:				Pump/Gauge Serial Number:					
Torque Tool Serial No's:				Pump Pressure Target (bar)					
<u>Flange Material:</u>			YES	NO	<u>Joint Size (inch):</u>			YES	NO
<u>Bolt Material:</u>			YES	NO	<u>Joint Rating:</u>			YES	NO
<u>Bolt Dia (inch):</u>			YES	NO	<u>Gasket Type:</u> Spiral wound			YES	NO
<u>Bolt Qty:</u>			YES	NO	<u>Lubricated Bolt</u>			YES	NO
<u>Is the gasket outer ring visual check acceptable?</u>			YES	NO					
<b>Torquing Values (Nm)</b>									
<u><b>Torque 30%</b></u>	<i>Pump Pressure applied (bar)</i>	<i>Done</i>	<u><b>Torque 60 %</b></u>	<i>Pump Pressure applied (bar)</i>	<i>Done</i>	<u><b>Torque 100%</b></u>	<i>Pump Pressure applied (bar)</i>	<i>Done</i>	
		<input type="checkbox"/>			<input type="checkbox"/>			<input type="checkbox"/>	
Remarks: ID N° Performer _____  The underline values shall be prefilled by contractor									
<b>INSPECTORS</b>		<b>CONTRACTOR</b>		<b>TECHNIP</b>		<b>OWNER</b>			
NAME									
SIGNATURE									
DATE									



TechnipFMC



PROJECT:

COMPANY:

QUALITY CONTROL FORM

IC 01

PROJ. No.:

QCF REV. A

SH. \_\_\_ OF \_\_\_

**PIPING / EQUIPMENT INTERNAL CLEANING  
INSPECTION**

CONTRACTOR:

IC 01 N° \_\_\_\_\_

EQUIPMENT ID N° \_\_\_\_\_

EQUIPMENT DESCRIPTION

P&ID / LINE / ISO N° \_\_\_\_\_

SH. N°

TEST SYSTEM No. \_\_\_\_\_

LOCATION \_\_\_\_\_

**SYSTEM DESCRIPTION:**

Service Fluid: \_\_\_\_\_

**Internal Cleanliness Report for On-plot Piping & Equipment**

<b>Method of Internal Cleaning</b>	
<b>Limits of Internal Cleaning</b> (state partial or full and terminating ends)	
<b>Type of Debris</b> (sand, mill scale, electrodes, animals, etc.)	

**REMARKS:**

**INSPECTORS**

**CONTRACTOR**

**TECHNIP**

**OWNER**

NAME

SIGNATURE

DATE



PROJECT:

COMPANY:

QUALITY CONTROL FORM

LU 01

PROJ. No.:

QCF REV. A

SH. 1 OF 2

**LAY-UP INSPECTION**

CONTRACTOR:

LU 01 N° \_\_\_\_\_

EQUIPMENT ID NUMBER:

EQUIPMENT DESCRIPTION:

EQPT CODE

SYSTEM ID.

LAYOUT DRAWING NUMBER:

REV N° :

PURCHASE ORDER NUMBER:

ITEM N°	ACCEPTANCE CRITERIA	REFERENCE	N.A.	V.ED
<b>A</b>	<b>Wet Lay-Up</b>			
A1	A minimum residual oxygen scavenger concentration of 20 ppm in the water and a maximum oxygen concentration of 10 ppb throughout the system including the dead legs (Note: Analyze water sample(s) for residual levels of oxygen scavenger at the location most remote from the oxygen scavenger inlet).		<input type="checkbox"/>	<input type="checkbox"/>
A2	Once minimum residuals are verified, the system is kept tightly closed to prevent air entry.		<input type="checkbox"/>	<input type="checkbox"/>
A3	The system is maintained under positive pressure between 210 to 350 kPa (30 to 50 psig) using nitrogen, a sweet hydrocarbon gas, or hydraulic pressure of the treated water.		<input type="checkbox"/>	<input type="checkbox"/>
A4	Thermal relief is installed for systems that are to be laid up with hydraulic pressure.		<input type="checkbox"/>	<input type="checkbox"/>
A5	If the design pressure is lower than 350 kPa (50 psig), the pressure shall be adjusted accordingly.		<input type="checkbox"/>	<input type="checkbox"/>
A6	Gauges with a scale range not exceeding three times the target pressure are used to monitor the positive pressure in the system during lay-up.		<input type="checkbox"/>	<input type="checkbox"/>
A7	If a leak occurs or air enters the system, lay-up process is repeated after completing repairs.		<input type="checkbox"/>	<input type="checkbox"/>
<b>B</b>	<b>Dry Lay-Up</b>			
B1	Water from the system is drained and complete removal of water is performed either by sweeping, mopping or scraping.		<input type="checkbox"/>	<input type="checkbox"/>
B2	If sea water was used for testing pipeline, remove salt deposits by scraping with slugs of water containing less than 4500 ppm total dissolved solids.		<input type="checkbox"/>	<input type="checkbox"/>
B3	The system is dried immediately to a dew point of -1 °C or less at all exit points, by blowing dry air or nitrogen through the system.		<input type="checkbox"/>	<input type="checkbox"/>
B4	After blowing, the system is shut in with a positive pressure for not less than 12 hours to allow any remaining moisture to come to equilibrium with the dry air.		<input type="checkbox"/>	<input type="checkbox"/>
B5	After the shut-in period of 12 hours, the exit dew points measured are at below -1 °C.		<input type="checkbox"/>	<input type="checkbox"/>
B6	When the required dew point is reached at -1 °C after shut-in period, pressurize the system to the final lay-up pressure with dry air or nitrogen having a dew point lower than -1 °C. Shut in the system, maintain and monitor the positive pressure of at least 30 psig, but not exceeding the design pressure during the lay-up period using pressure gauges.		<input type="checkbox"/>	<input type="checkbox"/>
<b>C</b>	<b>Inert gas Lay-Up</b>			
C1	Upon completion of a successful final hydrostatic test, the test water is displaced with nitrogen or sweet gas until no water drains out of the system.		<input type="checkbox"/>	<input type="checkbox"/>
C2	After water is drained, shut in the system under positive pressure using nitrogen or sweet hydrocarbon gas until commissioning and start-up.		<input type="checkbox"/>	<input type="checkbox"/>



PROJECT:

COMPANY:

QUALITY CONTROL FORM

LU 01

PROJ. No.:

QCF REV. A

SH. 2 OF 2

## LAY-UP INSPECTION



CONTRACTOR:



LU 01 N° \_\_\_\_\_



ITEM N°	ACCEPTANCE CRITERIA	REFERENCE	N.A.	V.ED
D	<b>Ambient Lay-Up</b>			
D1	Ambient Lay-up is used only if the following conditions exists: 1) drains are available at all low points to ensure complete removal of water; 2) the corrosion allowable has been provided; 3) the pitting can be tolerated; 4) particulate rust can be tolerated.		<input type="checkbox"/>	<input type="checkbox"/>
D2	After removal of all visible water by sweeping, mopping and/or scraping, close the system to prevent the entry of sand or rainwater.		<input type="checkbox"/>	<input type="checkbox"/>
D3	Install a vacuum breaker unless it is demonstrated that the system will not collapse under vacuum.		<input type="checkbox"/>	<input type="checkbox"/>
E	<b>Vapor – Phase Corrosion Inhibitors (VCI) &amp; Other Lay-Up Methode</b>			
E1	Use of vapour phase corrosion inhibit or other Lay-up are accepted with prior approval by Company.		<input type="checkbox"/>	<input type="checkbox"/>
F	<b>Stainless Steel Equipment</b>			
F1	At the end of the Lay-up, commissioning and start-up the stainless steel equipment within 14 days.		<input type="checkbox"/>	<input type="checkbox"/>

Remarks:

INSPECTORS	CONTRACTOR	TECHNIP	OWNER
NAME			
SIGNATURE			
DATE			

 		PROJECT:					
		COMPANY:					
QUALITY CONTROL FORM MC 01		PROJ. No.:		QCF REV. A		SH. 1 OF 3	
MECHANICAL CLEARANCE FOR PRESSURE TESTING		CONTRACTOR:			MC 01		
ISOMETRIC / DRAWING N° _____ SH. ___ OF _____ REV. ____ _____ AREA _____ SYSTEM N° _____							
INSPECTIONS (REF. TO QCP 1320.01)		N.A.	ACC.	REMARKS/ REFERENCES	INSPECTORS SIGNATURE & DATE		
					CONT.	TECHNIP.	OWNER
<b>1 Installation checked as per Isometric</b>							
a	Configuration : Route, elevation, clearance for thermal expansion /insulation	<input type="checkbox"/>	<input type="checkbox"/>				
b	Branch : Location , angle , orientation , type , RF Pad etc.	<input type="checkbox"/>	<input type="checkbox"/>				
c	Steam Trap : Direction	<input type="checkbox"/>	<input type="checkbox"/>				
<b>2 Installation checked as per GAD</b>							
a	Configuration : Route, clearance for thermal expansion / insulation	<input type="checkbox"/>	<input type="checkbox"/>				
<b>3 Installation checked as per P &amp; ID</b>		<input type="checkbox"/>	<input type="checkbox"/>				
<b>4 Completed Isometric for</b>							
a	Joint Numbering ( Shop & Field Welds )	<input type="checkbox"/>	<input type="checkbox"/>				
b	Spool Numbering	<input type="checkbox"/>	<input type="checkbox"/>				
c	As built routing & dimensions	<input type="checkbox"/>	<input type="checkbox"/>				
<b>5 Valves ( Check Rating , Gaskets, Flow Direction, Sheet No , Tag No, Spindle Direction , Locks, Damage etc. )</b>							
a	Gate Valves	<input type="checkbox"/>	<input type="checkbox"/>				
b	Globe Valves	<input type="checkbox"/>	<input type="checkbox"/>				
c	Check Valves	<input type="checkbox"/>	<input type="checkbox"/>				
d	Control Valves Tag Nos	<input type="checkbox"/>	<input type="checkbox"/>				
e	Safety Valves Tag Nos	<input type="checkbox"/>	<input type="checkbox"/>				
f	Any other Valves ( Ball & Plug )	<input type="checkbox"/>	<input type="checkbox"/>				
<b>6 Strainers : Check for flow direction &amp; element</b>		<input type="checkbox"/>	<input type="checkbox"/>				
<b>7 Flanged Joint Details</b>							
a	Total Nos	<input type="checkbox"/>	<input type="checkbox"/>				
b	Check for Size	<input type="checkbox"/>	<input type="checkbox"/>				
c	Check for Rating	<input type="checkbox"/>	<input type="checkbox"/>				
d	Check for Alignment	<input type="checkbox"/>	<input type="checkbox"/>				
e	Check for correct studs & nuts dia , Length Material, uniform protrusion of Studs , Anti corrosive compound :	<input type="checkbox"/>	<input type="checkbox"/>				
f	Check for correct gasket ( type, size, specification, thickness etc )	<input type="checkbox"/>	<input type="checkbox"/>				
g	Torque values used for tightening ( If require )	<input type="checkbox"/>	<input type="checkbox"/>				

 		PROJECT:					
		COMPANY:					
QUALITY CONTROL FORM MC 01		PROJ. No.:		QCF REV. A		SH. 2 OF 3	
MECHANICAL CLEARANCE FOR PRESSURE TESTING		CONTRACTOR:				MC 01	
INSPECTIONS (REF. TO QCP 1320.01)		N.A.	ACC.	REMARKS/ REFERENCES	INSPECTORS SIGNATURE & DATE		
					CONT.	TECHNIP	OWNER
8 Seal welding of screwed connection ( If require )		<input type="checkbox"/>	<input type="checkbox"/>				
9 Orifice Flanges							
a	Check for Tag No tapping orientation , tap valve, Jack screw, straight run length of upstream & downstream	<input type="checkbox"/>	<input type="checkbox"/>				
1 Reinforcement pad as per Piping Class		<input type="checkbox"/>	<input type="checkbox"/>				
1 Location of gauges : Check for accessibility		<input type="checkbox"/>	<input type="checkbox"/>				
1 Check slope ( when applicable )		<input type="checkbox"/>	<input type="checkbox"/>				
1 Supports Details							
i) Guides, Cross guide , Trunion etc							
a	Check for correct type, material & dimensions	<input type="checkbox"/>	<input type="checkbox"/>				
b	Check welding	<input type="checkbox"/>	<input type="checkbox"/>				
c	Check for vent hole on pads	<input type="checkbox"/>	<input type="checkbox"/>				
d	Check offset for thermal expansion	<input type="checkbox"/>	<input type="checkbox"/>				
e	Check clearance for guide	<input type="checkbox"/>	<input type="checkbox"/>				
f	Check U bolt for slide supports	<input type="checkbox"/>	<input type="checkbox"/>				
ii) Spring Supports							
a	Verify Tag No and check details as per Data Sheet / Spring Set	<input type="checkbox"/>	<input type="checkbox"/>				
b	Check for locking arrangement and any damage during transits etc.	<input type="checkbox"/>	<input type="checkbox"/>				
c	Check for completeness of installation as per Drg including welding of mounting cleat / bracket	<input type="checkbox"/>	<input type="checkbox"/>				
d	Check for locking during installation	<input type="checkbox"/>	<input type="checkbox"/>				
Bracket Supports & Inserts with Anchor Fasteners							
a	Check members dimensions and materials	<input type="checkbox"/>	<input type="checkbox"/>				
b	Check welding	<input type="checkbox"/>	<input type="checkbox"/>				
c	Check bolting	<input type="checkbox"/>	<input type="checkbox"/>				
d	Check for appearance / damage	<input type="checkbox"/>	<input type="checkbox"/>				
1 Vents / Drains Details							
a	Vents / Drains as per Drg and provision of additional high point vents and / or low point drains ( If require )	<input type="checkbox"/>	<input type="checkbox"/>				
b	Check as per Drawings	<input type="checkbox"/>	<input type="checkbox"/>				
c	Orientation of valve handles	<input type="checkbox"/>	<input type="checkbox"/>				
d	Clearance for hose	<input type="checkbox"/>	<input type="checkbox"/>				
15 Earthing's							
a	Check for location	<input type="checkbox"/>	<input type="checkbox"/>				
b	Check for dimension of lug welding	<input type="checkbox"/>	<input type="checkbox"/>				

 		PROJECT:					
		COMPANY:					
QUALITY CONTROL FORM MC 01		PROJ. No.:		QCF REV. A		SH. 3 OF 3	
MECHANICAL CLEARANCE FOR PRESSURE TESTING		CONTRACTOR:				MC 01	
16	<b>Check for Removal / Blinding off</b>						
a	Control , safety and check valves	<input type="checkbox"/>	<input type="checkbox"/>				
b	In line instruments	<input type="checkbox"/>	<input type="checkbox"/>				
c	Rupture Discs	<input type="checkbox"/>	<input type="checkbox"/>				
d	Equipment Nozzles	<input type="checkbox"/>	<input type="checkbox"/>				
e	Others	<input type="checkbox"/>	<input type="checkbox"/>				
17	<b>Supports and weld / flanged / screwed connections free from insulation of other coverage</b>						
		<input type="checkbox"/>	<input type="checkbox"/>				
18	<b>Expansion Bellows Details</b>						
i)	<b>Check for prior to installations</b>						
a	Physical damages	<input type="checkbox"/>	<input type="checkbox"/>				
b	Transits locks are interact	<input type="checkbox"/>	<input type="checkbox"/>				
c	Dimensions as per drawings	<input type="checkbox"/>	<input type="checkbox"/>				
ii)	<b>Check during installation</b>						
a	Parallelity of mating flanges	<input type="checkbox"/>	<input type="checkbox"/>				
b	Face to face dimension of mating flanges	<input type="checkbox"/>	<input type="checkbox"/>				
c	Concentricity of mating flanges	<input type="checkbox"/>	<input type="checkbox"/>				
d	No stress on expansion bellows	<input type="checkbox"/>	<input type="checkbox"/>				
e	Record	<input type="checkbox"/>	<input type="checkbox"/>				
iii)	<b>Isolation during pressure test</b>						
a	Bellows manufacturer recommendations on isolation bellows during pressure test to be followed	<input type="checkbox"/>	<input type="checkbox"/>				
b	If recommended expansion bellow to be dropped during pressure test	<input type="checkbox"/>	<input type="checkbox"/>				
19	<b>System completion</b>						
a	Tie in Joints	<input type="checkbox"/>	<input type="checkbox"/>				
b	Scrutiny of test packs for system testing	<input type="checkbox"/>	<input type="checkbox"/>				
c	System testing	<input type="checkbox"/>	<input type="checkbox"/>				
d	Review Test and Inspection documents	<input type="checkbox"/>	<input type="checkbox"/>				
20	<b>Other general checks</b>						
a	Physical walks through carried out	<input type="checkbox"/>	<input type="checkbox"/>				
b	Removal of unwanted construction supports	<input type="checkbox"/>	<input type="checkbox"/>				
c	Check that all pressure connections are installed correctly	<input type="checkbox"/>	<input type="checkbox"/>				
<b>INSPECTORS</b>		<b>CONTRACTOR</b>		<b>TECHNIP</b>		<b>OWNER</b>	
NAME							
SIGNATURE							
DATE							





PROJECT:

COMPANY:

QUALITY CONTROL FORM

PL 10

PROJ. No.:

QCF REV. A

SH. \_\_\_\_ OF \_\_\_\_

PUNCH LIST

CONTRACTOR:

PL 10 N° \_\_\_\_\_

TEST PACK N° \_\_\_\_\_

SYSTEM N° \_\_\_\_\_

ITEMS TO BE CHECKED	N.A.	YES	ITEMS TO BE CHECKED	N.A.	YES	ITEMS TO BE CHECKED	N.A.	YES
WELDING COMPLETE	<input type="checkbox"/>	<input type="checkbox"/>	RADIOGRAPHY / ULTRASONIC (W10)	<input type="checkbox"/>	<input type="checkbox"/>	PMI (W10)	<input type="checkbox"/>	<input type="checkbox"/>
PT / MT (W10)	<input type="checkbox"/>	<input type="checkbox"/>	PWHT / HT (W10)	<input type="checkbox"/>	<input type="checkbox"/>	MATERIALS TRACEABILITY (W10)	<input type="checkbox"/>	<input type="checkbox"/>
THK CHECK BY UT	<input type="checkbox"/>	<input type="checkbox"/>		<input type="checkbox"/>	<input type="checkbox"/>		<input type="checkbox"/>	<input type="checkbox"/>

Item N°	Drawing / Line N°	Description	Category (1)	Discipline (2)	Issued by	Cleare d by	Verified (CONTRACTOR)		Verified (TECHNIP)		Verified (OWNER)	
							Name	Date	Name	Date	Name	Date

## NOTES:

1) Category A: To be resolved before hydrotest B: To be resolved after hydrotest

2) Discipline P: Piping M: Mechanical I: Instrument PA: Painting C: Civil O: Other

INSPECTORS	CONTRACTOR	TECHNIP	OWNER
NAME			
SIGNATURE			
DATE			



PROJECT:

COMPANY:

QUALITY CONTROL FORM

QC 21

PROJ. No.:

QCF REV. A

SH. 1 OF\_\_

## POSITIVE MATERIAL IDENTIFICATION REPORT

CONTRACTOR:

QC 21 N° \_\_\_\_\_

PMI CARRIED OUT:

SHOP

☐

FIELD

☐

BEFORE INSTALLATION

☐

AFTER INSTALLATION

☐

EQUIPMENT:

ITEM DESCRIPTION

PIPING COMPONENT:

SUPPLIER:

MR/PO:

REV:

LINE/DRAWING Nr:

PIPING SUPPORT:

FILLER METAL:

Ø

AWS:

ALLOY ELEMENTS TO BE CHECKED:

PMI EQUIPMENT:

ANALYTICAL LABORATORY METHODS:

CALIBRATION:

YES

☐

NO

☐

SAMPLING:

10%

☐

100%

☐

\_\_\_%

☐

ITEM TO BE TESTED	IDENT CODE	ALLOY ELEMENTS													DATE & INITIALS
		Cr	Ni	Mo	Cb/ Nb	Ti	V	Cu	Al	C	Co	W	FE		

TEST RESULT:

ACCEPTABLE

☐

NOT ACCEPTABLE

☐

REMARKS:

INSPECTORS

CONTRACTOR

TECHNIP

OWNER

NAME

SIGNATURE

DATE

[illegible]



PROJECT:

COMPANY:

QUALITY CONTROL FORM

RT 01

PROJ. No.:

QCF REV. A

SH. \_\_\_\_ OF \_\_\_\_

## RADIOGRAPHY (RT) JOINT SELECTION REQUEST

CONTRACTOR:

RT 01 N° \_\_\_\_\_

AREA \_\_\_\_\_

UNIT \_\_\_\_\_

No.	Drawing / ISO No.	Piping class	Material	Joint No.	Joint Type	Size	Sch.	Thick	Welder	Welding Process	Request Date	Prod. Joint No.	Reshot remarks	Penalty	Request / Remarks

NOTES:

INSPECTORS

CONTRACTOR

TECHNIP

OWNER

NAME

SIGNATURE

DATE



PROJECT:

COMPANY:

QUALITY CONTROL FORM

SS 01

PROJ. No.:

QCF REV. A

SH. \_\_\_\_ OF \_\_\_\_

**SLOPE SURVEY  
REPORT**

CONTRACTOR:

SS 01 N° \_\_\_\_

AREA \_\_\_\_\_

UNIT \_\_\_\_\_

SYSTEM \_\_\_\_\_

No.	Drawing / Line No.	Check Point	Elevation / Coordinates		Remarks
			Drawing	Actual	

NOTES:

**INSPECTORS****CONTRACTOR****TECHNIP****OWNER**

NAME

SIGNATURE

DATE



PROJECT:

COMPANY:

QUALITY CONTROL FORM

V 01

PROJ. No.:

QCF REV. A

SH. 1 OF 3

**VALVE INSTALLATION INSPECTION**

CONTRACTOR:

V 01 N° \_\_\_\_\_

EQUIPMENT ID NUMBER:

EQUIPMENT DESCRIPTION:

EQPT CODE



SYSTEM ID.

LAYOUT DRAWING NUMBER:

REV N° :

PURCHASE ORDER NUMBER:

ITEM N°	ACCEPTANCE CRITERIA	REFERENCE	N.A.	V.ED
<b>A</b>	<b>Gate Valve</b>			
A1	Inside-screw-rising-stem (ISRS) and non-rising-stem (NRS) valves NPS 2 inch and smaller shall not be used in hydrocarbon services.		<input type="checkbox"/>	<input type="checkbox"/>
A2	A gate valve used as isolation valves in flare system piping shall be installed with the stem in or below the horizontal position.		<input type="checkbox"/>	<input type="checkbox"/>
<b>B</b>	<b>Butterfly Valves</b>			
B1	Concentric butterfly valves, such as the API STD 609 Category A type (typically with internal rubber linings), are permitted only in nonhydrocarbon applications.		<input type="checkbox"/>	<input type="checkbox"/>
B2	The use of high performance butterfly valves in hydrocarbon service shall be limited to a maximum rating of Class 900.		<input type="checkbox"/>	<input type="checkbox"/>
B3	Butterfly Valves in hydrocarbon services are designed in accordance with API STD 609 Category B valves with offset-seat type construction.		<input type="checkbox"/>	<input type="checkbox"/>
B4	Butterfly Valves in hydrocarbon services are qualified fire-safe to either API SPEC 6FA, API STD 607, or BS EN ISO 10947		<input type="checkbox"/>	<input type="checkbox"/>
B5	The body of butterfly valve are of the lug-type design with tapped bolt holes, unless the (double) flanged type has been specified. Use of the wafer-type body is not permitted.		<input type="checkbox"/>	<input type="checkbox"/>
B6	Butterfly Valves are installed in the "preferred" direction indicated on the valve.		<input type="checkbox"/>	<input type="checkbox"/>
<b>C</b>	<b>Globe Valve</b>			
C1	Globe valve installed in the preferred direction of flow as indicated on the valve body	Best Practice	<input type="checkbox"/>	<input type="checkbox"/>
<b>D</b>	<b>Plug Valve</b>			
D1	Flanged plug valves in hydrocarbon service are of the inverted lubricated pressure balanced design.		<input type="checkbox"/>	<input type="checkbox"/>
D2	A plug position indicator is installed on the plug valves		<input type="checkbox"/>	<input type="checkbox"/>
D3	Manual bleed to atmosphere with automatic thermal relief to upstream piping are installed.		<input type="checkbox"/>	<input type="checkbox"/>
D4	Manual bleed to atmosphere with automatic thermal relief to upstream piping are installed.		<input type="checkbox"/>	<input type="checkbox"/>

 		PROJECT:		
		COMPANY:		
QUALITY CONTROL FORM <b>V 01</b>		PROJ. No.:	QCF REV. A	SH. 2 OF 3
<b>VALVE INSTALLATION INSPECTION</b>		CONTRACTOR:		<b>V 01 N°</b> _____
ITEM N°	ACCEPTANCE CRITERIA	REFERENCE	N.A.	V.ED
<b>E</b>	<b>CHECK VALVE</b>			
E1	Straight-thru union body check valves shall be used only in portions of piping systems where pipe unions are permissible.		<input type="checkbox"/>	<input type="checkbox"/>
E2	Dual and single plate wafer check and swing check valves are not used in reciprocating pump and compressor suction and discharge services or similar pulsating services.		<input type="checkbox"/>	<input type="checkbox"/>
<b>E3</b>	A non-slam internal-spring-assisted type check valve are installed at the discharge of pumps and compressors, where un-acceptable level of slamming is anticipated.		<input type="checkbox"/>	<input type="checkbox"/>
E4	For all sizes NPS 4 inch and above, a turbulence-free minimum distance of 5 pipe diameters upstream and 2 pipe diameters downstream of every check valve shall be maintained. No pipe fittings such as elbows, reducers, tees, etc., or flow restricting devices such as orifices, control valves, etc., shall be installed in these zones. (NOTE: Exempted are check valves in intermittent service and valves in skid-mounted systems are exempt from these requirements .)		<input type="checkbox"/>	<input type="checkbox"/>
E5	Check valves in sizes NPS 3 inch and above are not installed in vertical lines, unless specifically approved by PMC / Owner. (NOTE: Valves in skid-mounted systems are exempt from this requirement.)		<input type="checkbox"/>	<input type="checkbox"/>
E6	Wafer-type check valves are not permitted in any hydrocarbon service.		<input type="checkbox"/>	<input type="checkbox"/>
<b>F</b>	<b>CONTROL VALVE</b>			
F1	Control valves shall not be used as emergency shutdown (ESD) valves (ZVs), nor as emergency isolation valves (EIVs)		<input type="checkbox"/>	<input type="checkbox"/>
F2	Handwheel is provided on control valves when local manual control is required by the Proponent. Handwheel installations shall meet the following requirements: a) Neutral position shall be clearly indicated. b) Handwheel mechanism shall not add friction to the actuator. c) Handwheel shall not be used as travel stops. d) Handwheel shall be fully accessible for operation.		<input type="checkbox"/>	<input type="checkbox"/>
F3	Volume tank is provided for the pneumatic actuator and conforms with the following: a. designed to a maximum pressure of 930 kPag (135 psig) at 82°C. b. manufactured in accordance with ASME VIII D1 (stamped UM) requirements, or equivalent. c. Volume tanks shall have a minimum capacity for one complete stroke operation of the control valve at the minimum available instrument air pressure of 415 kPag (60 psig).		<input type="checkbox"/>	<input type="checkbox"/>
F4	The Control valve is installed in the direction of flow casted or steelstamped on the valve body.		<input type="checkbox"/>	<input type="checkbox"/>
F5	Control valves are installed in horizontal lines.		<input type="checkbox"/>	<input type="checkbox"/>
F6	Control valves and their actuating systems are mounted such that all adjustments are accessible (and all indicators/gauges are readable) from grade, permanent platform, walkway or fixed ladder.		<input type="checkbox"/>	<input type="checkbox"/>
F7	Access space for lifting equipment shall be provided for valve and actuator assemblies weighing over 50 kg.		<input type="checkbox"/>	<input type="checkbox"/>

 		PROJECT:		
		COMPANY:		
QUALITY CONTROL FORM <b>V 01</b>		PROJ. No.:	QCF REV. A	SH. 3 OF 3
<b>VALVE INSTALLATION INSPECTION</b>		CONTRACTOR:		<b>V 01 N°</b> _____
ITEM N°	ACCEPTANCE CRITERIA	REFERENCE	N.A.	V.ED
F8	<p>Block and bypass valves shall be provided as standard for each control valve installation, except for the following conditions :</p> <ul style="list-style-type: none"> <li>• identical pieces of equipment installed in parallel enabling on-line maintenance of any one control valve at any one time.</li> <li>• identical process systems installed in parallel with one process system used for spare or redundant capacity.</li> <li>• process or equipment which is only intermittently operated in association with a continuous process (e.g., during start-up, regeneration, etc.)</li> <li>• non-critical equipment which may be shut down without affecting the operation of the main process</li> <li>• applications where, for safety reasons, a block and bypass valves arrangement is not desirable (e.g., to reduce leakage sources of hazardous fluids, such as hydrogen, phenol, hydrofluoric acid, etc.)</li> <li>• applications where, for safety reasons, manual operation by means of the bypass valve is not desirable (e.g., anti-surge control, turbine speed control, fuel control to boilers and process heaters, etc.)</li> <li>• applications, for which the proponent specifically does not require block and bypass valves to be installed</li> </ul>		<input type="checkbox"/>	<input type="checkbox"/>
F9	The piping around control valves are self-supporting or shall be permanently supported so that when the control valve is removed, the lines will remain in place without the need for temporary supports.		<input type="checkbox"/>	<input type="checkbox"/>
F10	The bypass valve are manually operable and have a correct trim and control characteristic and have a capacity at least equal to the required Cv of the control valve, but not greater than twice the selected Cv of the control valve.		<input type="checkbox"/>	<input type="checkbox"/>
F11	Block valves shall generally be the same size as the line size and shall be full capacity type valves.		<input type="checkbox"/>	<input type="checkbox"/>
F12	Drain valves are installed, (unless otherwise specified by the porponent) on the bottom of each spool piece or reducer between the control valve and the block valves.		<input type="checkbox"/>	<input type="checkbox"/>
F13	Control valve installations without block and bypass valves are provided with a drain valve on each side of the control valve		<input type="checkbox"/>	<input type="checkbox"/>
F14	The size of drain valve are not less than ¾" .		<input type="checkbox"/>	<input type="checkbox"/>
F15	Protective shields, to prevent injury to personnel, shall be installed on valves handling dangerous or flammable liquids		<input type="checkbox"/>	<input type="checkbox"/>
<b>G</b>	<b>FLARE SYSTEM</b>			
G1	Isolation valves in flare system piping are gate, ball, high performance butterfly or plug valves.		<input type="checkbox"/>	<input type="checkbox"/>
G2	A gate valve in this service are installed with the stem in or below the horizontal position.		<input type="checkbox"/>	<input type="checkbox"/>
<b>H</b>	<b>VALVE STROKING</b>			
H1	Prior to installation ensure valve is easily opening and closing full stroke.	Best Practice	<input type="checkbox"/>	<input type="checkbox"/>
<b>INSPECTORS</b>		<b>CONTRACTOR</b>	<b>TECHNIP</b>	<b>OWNER</b>
NAME				
SIGNATURE				
DATE				



		PROJECT:		
		COMPANY:		
<b>QUALITY CONTROL FORM      VE 01</b>		PROJ. No.:	QCF REV. A	SH. ____ OF ____
<b>CONTROL &amp; SAFETY VALVE AND IN-LINE INSTRUMENTS ERECTION SUMMARY REPORT</b>		CONTRACTOR:		VE 01 N° ____
ISOMETRIC / DRAWING N° _____ SH. _____ OF _____ REV. _____ AREA _____ EQUIPMENT ID N° _____ EQUIPMENT DESCRIPTION _____ EQUIPMENT CODE _____				
<b>INSPECTIONS (REF. TO QCP 1320.01)</b>		N.A.	ACC.	REMARKS/ REFERENCES
		<b>INSPECTORS SIGNATURE &amp; DATE</b>		
		CONTR.      TECHNIP      OWNER		
G.1	MATERIAL AVAILABLE AT SITE	<input type="checkbox"/>	<input type="checkbox"/>	
G.2	CHECK REPORT OF VISUAL INSPECTION / CALIBRATION	<input type="checkbox"/>	<input type="checkbox"/>	
G.3	VALVE/INSTRUMENT INSTALLATION	<input type="checkbox"/>	<input type="checkbox"/>	
G.4	VALVE/INSTRUMENT DISMANTLING	<input type="checkbox"/>	<input type="checkbox"/>	
NOTES:				
<b>G.5) FINAL DOC. REVIEW</b>	<b>INSPECTORS</b>	<b>CONTRACTOR</b>		<b>TECHNIP</b>
	NAME			
	SIGNATURE			
	DATE			
		<b>OWNER</b>		

QCF STANDARD REV.0



TechnipFMC



PROJECT:

COMPANY:

QUALITY CONTROL FORM (NDE-01) **W 01**

PROJ. No

QCF REV. A

SH. 1 OF 2

**RADIOGRAPHIC TEST REPORT  
(REQUIREMENTS)**

CONTRACTOR:

**W 01 N°** \_\_\_\_\_

APPLICABLE CODES/SPEC'S

• ASME V ART 2 ☐• ☐

ACCEPTANCE CRITERIA

• ☐• ☐

## FIELD OF APPLICATION

- PIPING ☐
- TANKS/  
SILOS ☐
- EQUIPMENT ☐

- WELDING ☐
- RAW MATERIAL ☐
- ☐

## MATERIAL

- C.S/LOW ALLOY ☐
- S.S/NI ALLOY ☐
- TI ☐

## SURFACE FINISH

- BEFORE PWHT ☐
- AFTER PWHT ☐
- AFTER HYDR.  
TEST ☐

## SOURCE

- X-RAY ☐
- $\gamma$ -RAY: ☐
- Ir 192 ☐
- Co. 60 ☐

- TYPE \_\_\_\_\_
- BRAND \_\_\_\_\_
- SINGLE SPOT ☐
- 360° EMISSION ☐
- KV \_\_\_\_\_

## FILMS

- TYPE \_\_\_\_\_
- BRAND \_\_\_\_\_
- 10 X 48 ☐ 10 X 24 ☐
- SINGLE ☐
- DOUBLE ☐

## PENETRIMETERS

- DIN ☐
- ASME ☐
- TYPE \_\_\_\_\_
- QUANTITY \_\_\_\_\_
- SOURCE SIDE ☐
- FILM SIDE ☐

## SENSITIVITY

- DIN \_\_\_\_\_%
- ASME \_\_\_\_\_
- SINGLE WALL ☐
- DOUBLE WALL ☐

## DENSITY

- REQUIRED \_\_\_\_\_
- RANGE \_\_\_\_\_
- SINGLE FILM ☐
- DOUBLE FILM ☐

## UNSHARPNESS

- GEOM UNSHARP \_\_\_\_\_
- MAX
- FOCAL SPOT \_\_\_\_\_
- MINIMUM FOCUS/  
FILM DIST.

## PARAMETERS

- VOLTAGE \_\_\_\_\_KV
- MIN.EXPOSURE \_\_\_\_\_
- MAX
- MIN
- DEVELOP TIME \_\_\_\_\_MIN
- DEVELOP TEMP \_\_\_\_\_°C

## EXPOSURE ARRANGMENT

- SOURCE
  - INSIDE ☐
  - OUTSIDE ☐
- FILM
  - INSIDE ☐
  - OUTSIDE ☐

## TECHNIQUE

- WALL
  - SINGLE ☐
  - DOUBLE ☐
- IMAGE
  - SINGLE ☐
  - DOUBLE ☐

REMARKS:

**INSPECTORS****CONTRACTOR****TECHNIP****OWNER**

NAME

SIGNATURE

DATE

TECHNIP INDIA LTD



COMPANY:

SH. 2 OF 2

## W 01 N° \_\_\_\_\_

CM = CUT TO MODIFY

[illegible]



PROJECT:

COMPANY:

QUALITY CONTROL FORM (NDE-02)

W 02

PROJ. No.:

QCF REV. A

SH. \_\_\_\_ OF \_\_\_\_

**ULTRASONIC  
TEST REPORT**

CONTRACTOR:

W 02 N° \_\_\_\_

APPLICABLE CODES/SPEC'S

• ASME V ART 4

☐

•

☐

ACCEPTANCE CRITERIA

•

☐

•

☐

## FIELD OF APPLICATION

- PIPING ☐
- TANKS/  
SILOS ☐
- EQUIPMENT ☐

- BEVEL ☐
- 1<sup>ST</sup> PASS ☐
- BACK GOUGING ☐

- FINAL PASS ☐
- OVERLAY ☐
- RAW MATERIAL ☐

- ☐
- ☐
- ☐

## MATERIAL

- C.S. ☐
- TI ☐
- S.S. ☐

- LOW ALLOY ☐
- HASTELLOY ☐
- ☐

- BEFORE PWHT ☐
- AFTER PWHT ☐
- AFTER HYD. TEST ☐

- ☐
- ☐
- ☐

## SURFACE CONDITION

- AS WELDED ☐
- AS GROUND ☐
- AS ROLLED ☐
- AS CAST ☐

- BRUSHED ☐
- AS FORGED ☐
- AS MACHINED ☐
- AS BENT ☐

- ☐
- ☐
- ☐
- ☐

TEMPERATURE \_\_\_\_\_

STEP \_\_\_\_\_

## INSPECTION METHOD

- STRAIGHT BEAM ☐
- ANGLE BEAM SEARCH UNIT ☐
- SINGLE TRANSDUCER ☐
- LONGITUDINAL WAVES ☐

- TRANSVERSE WAVES ☐
- TANDEM METHOD ☐
- SEARCH UNIT (TR) DUAL  
TRANSDUCER ☐
- ☐

- BACK REFLECTION mm \_\_\_\_\_ ☐
- SIDE DRILLED HOLE mm \_\_\_\_\_  
Ø mm \_\_\_\_\_ ☐
- FLAT BOTTOM HOLE mm \_\_\_\_\_  
Ø mm \_\_\_\_\_ ☐
- ☐

## COUPLANT

- OIL ☐

- TYLOSE PASTE ☐

- WATER ☐

REF. CALIBRATION EQUIPMENT BLOCKS METHOD

SCANNING DIRECTION &amp; RESULTS

**INSPECTORS****CONTRACTOR****TECHNIP****OWNER**

NAME

SIGNATURE

DATE

TECHNIP INDIA LTD



PROJECT:

COMPANY:

QUALITY CONTROL FORM (NDE-03) **W 03**

PROJ. No.:

QCF REV. A

SH. 1 OF 2

**LIQUID PENETRANT TEST REPORT  
(REQUIREMENTS)**

CONTRACTOR:

W 03 N° \_\_\_\_\_

APPLICABLE CODES/SPEC'S

• ASME V ART 6 ☐

• ☐

ACCEPTANCE CRITERIA

• ☐

• ☐

**FIELD OF APPLICATION**

• PIPING <input type="checkbox"/>	• BEVEL <input type="checkbox"/>	• FINAL PASS <input type="checkbox"/>	• <input type="checkbox"/>
• TANKS/ SILOS <input type="checkbox"/>	• 1 <sup>ST</sup> PASS <input type="checkbox"/>	• OVERLAY <input type="checkbox"/>	• <input type="checkbox"/>
• EQUIPMENT <input type="checkbox"/>	• BACK GOUGING <input type="checkbox"/>	• RAW MATERIAL <input type="checkbox"/>	• <input type="checkbox"/>

**MATERIAL**

**INSPECTION STAGE**

• C.S. <input type="checkbox"/>	• LOW ALLOY <input type="checkbox"/>	• BEFORE PWHT <input type="checkbox"/>	• <input type="checkbox"/>
• TI <input type="checkbox"/>	• HASTELLOY <input type="checkbox"/>	• AFTER PWHT <input type="checkbox"/>	• <input type="checkbox"/>
• S.S. <input type="checkbox"/>	• <input type="checkbox"/>	• AFTER HYD. TEST <input type="checkbox"/>	• <input type="checkbox"/>

**INSPECTION METHOD**

TYPE	PENETRANT	DEVELOPPER	LIGHTING
• COLOUR CONTRAST <input type="checkbox"/>	• WATER WASHABLE <input type="checkbox"/>	• DRY <input type="checkbox"/>	NATURAL <input type="checkbox"/>
• FLUORESCENT <input type="checkbox"/>	• POST EMUL. <input type="checkbox"/>	• WET <input type="checkbox"/>	ARTIFICIAL <input type="checkbox"/>
	• SOLVENT <input type="checkbox"/>	• BRAND _____	ULTRAVIOLET <input type="checkbox"/>
	• TYPE <input type="checkbox"/>		
	• BRAND _____		

PRECLEANING	REMOVABLE	CLEANER	TIME
• GRINDING <input type="checkbox"/>	• BRUSH <input type="checkbox"/>	• TYPE <input type="checkbox"/>	PENETRATION _____
• MACHINING <input type="checkbox"/>	• SPRAY. <input type="checkbox"/>	• CLOTHS <input type="checkbox"/>	DEVELOPPING _____
• SOLVENT <input type="checkbox"/>		• BRUSHY <input type="checkbox"/>	MAX READING _____
PRECLEANING	REMOVABLE		
• WATER <input type="checkbox"/>	• DIPPING <input type="checkbox"/>	• SPRAY <input type="checkbox"/>	
• ALCOHOL <input type="checkbox"/>	• SPRAY. <input type="checkbox"/>	• BRAND _____	

**INSPECTORS**

**CONTRACTOR**

**TECHNIP**

**OWNER**

NAME

SIGNATURE

DATE

QCF STANDARD REV.0



COMPANY:

SH. 2 OF 2

CONTRACTOR:

W 03 N°

- ☐ WATER WASHABLE ☐ POST EMULSIFYING
- ☐ SOLVENT REMOVABLE ☐ .....

[illegible]



PROJECT:

COMPANY:

QUALITY CONTROL FORM (NDE-04)

W 04

PROJ. No.:

QCF REV. A

SH. 1 OF 2

**MAGNETIC PARTICLE  
TEST REPORT**

CONTRACTOR:

W 04 N° \_\_\_\_\_

## APPLICABLE CODES/SPEC'S

- ASME V ART 7 ☐
- OTHER ☐

## ACCEPTANCE CRITERIA

- ☐
- ☐

## FIELD OF APPLICATION

- |  |   |   |                            |
|--|---|---|----------------------------|
| • PIPING <input type="checkbox"/>      | • BEVEL <input type="checkbox"/>        | • FINAL PASS <input type="checkbox"/>   | • <input type="checkbox"/> |
| • TANKS/SILOS <input type="checkbox"/> | • 1ST PASS <input type="checkbox"/>     | • OVERLAY <input type="checkbox"/>      | • <input type="checkbox"/> |
| • EQUIPMENT <input type="checkbox"/>   | • BACK GOUGING <input type="checkbox"/> | • RAW MATERIAL <input type="checkbox"/> | • <input type="checkbox"/> |

## MATERIAL

- |                                 |                                      |
|---------------------------------|--------------------------------------|
| • C.S. <input type="checkbox"/> | • LOW ALLOY <input type="checkbox"/> |
| • <input type="checkbox"/>      | • <input type="checkbox"/>           |
| • <input type="checkbox"/>      | • <input type="checkbox"/>           |

## INSPECTION STAGE

- |  |                            |
|--|----------------------------|
| • BEFORE PWHT <input type="checkbox"/>     | • <input type="checkbox"/> |
| • AFTER PWHT <input type="checkbox"/>      | • <input type="checkbox"/> |
| • AFTER HYD. TEST <input type="checkbox"/> | • <input type="checkbox"/> |

## INSPECTION METHOD

MAGNETIZATION	PARTICLE	COLOUR	SUSPENSION
• PRODS	• DRY <input type="checkbox"/>	• GRAY <input type="checkbox"/>	• OIL <input type="checkbox"/>
CONTACTS	• WET <input type="checkbox"/>	• FLUORESCENT <input type="checkbox"/>	• WATER <input type="checkbox"/>
Cu <input type="checkbox"/> Sb <input type="checkbox"/>	• BRAND _____	• <input type="checkbox"/>	
MAX DIST. _____	CURRENT TYPE	LIGHTING	METHOD
• YOKE	• HALF WAVE RECTIFIED <input type="checkbox"/>	• NATURAL <input type="checkbox"/>	• CONTINUOUS <input type="checkbox"/>
FIXED LEGS <input type="checkbox"/>	• ALTERNATING <input type="checkbox"/>	• ARTIFICIAL <input type="checkbox"/>	• RESIDUAL <input type="checkbox"/>
ARTICULAT.LEGS <input type="checkbox"/>		• ULTRAVIOLET <input type="checkbox"/>	• PULSES <input type="checkbox"/>
MAX DIST. _____	AMPERAGE FIELD	DEMAGNETIZATION	PRECLEANING
• COIL <input type="checkbox"/>	AMP _____	YES <input type="checkbox"/> NO <input type="checkbox"/>	• BRUSHING <input type="checkbox"/>
BRAND _____	FIELD _____	RESIDUAL	• <input type="checkbox"/>

REMARKS:

**INSPECTORS****CONTRACTOR****TECHNIP****OWNER**

NAME

SIGNATURE

DATE

TECHNIP INDIA LTD



COMPANY:

SH. 2 OF 2

## W 04 N° \_\_\_\_\_

☐ DRY

☐ WET

☐ FLUORESCENT

[illegible]





PROJECT:

COMPANY:

QUALITY CONTROL FORM

W 10

PROJ. No.:

QCF REV. A

SH. \_\_\_\_ OF \_\_\_\_

## NDE / PWHT / HT / PMI AND MATERIAL TRACEABILITY SUMMARY

CONTRACTOR:

W 10 N° (SEE ISO N° )

ISO N° \_\_\_\_\_ SH. \_\_\_\_ OF \_\_\_\_ NDE (Ref to W 09) \_\_\_\_\_ HEAT TREAT. REQUIR. Y ☐ N ☐  
PIPING CLASS \_\_\_\_\_ MATERIAL \_\_\_\_\_ PMI Y ☐ N ☐

## LEGEND

RTR = RADIOG. REPORT N°  
UTR = UT REPORT N°  
REP = REPAIR REPORT N°



PTR = PT REPORT N°  
MTR = MT REPORT N°

(1) B = BUTTWELD; S = SOCKET WELD; EW = EXTERNAL WELD  
(2) P = PREBRICATION; E = ERECTION  
(3) A = ACCEPTED; R = TO BE REPAIRED; C = TO BE CUT; CM = CUT TO MODIFY

JOINTS			BASE MATERIAL TRACEABILITY				PMI	WELDER IDENTIF.	WPS N°	CONTROL AND EVALUATION CERTIFICATION									
N°	Type (1)	P/E (2)	HEAT NUMBER	MANUFACTURER	IDENT CODE	SHORT DESCR.	REPORT N°			VISUAL (3)	RADIOGRAPHIC / ULTRASONIC TEST			PT / MT			PMI	PWHT	HT
											RTR / UTR	(3)	REP	PTR / MTR	(3)	REP	REPORT N°	REPORT N°	REPORT N°
1																			
2																			
3																			
4																			
5																			
6																			
7																			
8																			
9																			
10																			
11																			
12																			
13																			
14																			

INSPECTORS		CONTRACTOR		TECHNIP		OWNER			
PHASE		PREFA.	ERECT.	PREFA.	ERECT.	PREFA.	ERECT.	PREFA.	ERECT.
NAME									
SIGNATURE									
DATE									

TECHNIP INDIA LTD

 		PROJECT:		
		COMPANY:		
QUALITY CONTROL FORM <b>W 12/A</b>		PROJ. No.:	QCF REV. A	SH. ___ OF ___
<b>CONSTRUCTION MATERIALS APPROVAL</b>		CONTRACTOR:		<b>W 12/A N°</b> _____
CIVIL <input type="checkbox"/>	PIPING <input type="checkbox"/>	MACHINERY <input type="checkbox"/>	INSTRUMENT <input type="checkbox"/>	INSULATION <input type="checkbox"/>
BLDG. <input type="checkbox"/>	MECHANIC. <input type="checkbox"/>	ELECTRICAL <input type="checkbox"/>	PAINTING <input type="checkbox"/>	STEEL STR. <input type="checkbox"/>
NDT <input type="checkbox"/>	SUPPORT PRF. <input type="checkbox"/>	_____ <input type="checkbox"/>	_____ <input type="checkbox"/>	_____ <input type="checkbox"/>
1. MATERIALS				
2. SUPPLIER				
3. PURPOSE				
4. ATTACHMENT DATA				
5. TYPE OF TEST PERFORMED				
6. TEST STANDARD UTILIZED				
REMARKS:				
RESULT:                      ACCEPTED <input type="checkbox"/> NOT ACCEPTED <input type="checkbox"/>				
<b>INSPECTORS</b>	<b>CONTRACTOR</b>	<b>TECHNIP</b>	<b>OWNER</b>	
NAME				
SIGNATURE				
DATE				

QCF STANDARTD REV.0





PROJECT:

COMPANY:

QUALITY CONTROL FORM

W 14A

PROJ. No.:

QCF REV. A

SH. \_\_\_ OF \_\_\_

### DIMENSIONAL CHECK

CONTRACTOR:

W 14A<sup>(1)</sup> N° \_\_\_\_\_

LINE / ISOMETRICS N° \_\_\_\_\_

TEST CIRCUIT \_\_\_\_\_

SYSTEM \_\_\_\_\_

CHECK LIST	N.A.	V. ED	CHECK LIST	N.A.	V. ED
<b>1 GENERAL</b>			<b>4. GASKETS – BOLTS</b>		
Check per P&ID	<input type="checkbox"/>	<input type="checkbox"/>	Correct type	<input type="checkbox"/>	<input type="checkbox"/>
Line routing & size	<input type="checkbox"/>	<input type="checkbox"/>	Correct bolts or studs	<input type="checkbox"/>	<input type="checkbox"/>
Materials	<input type="checkbox"/>	<input type="checkbox"/>	Bolt lubrication	<input type="checkbox"/>	<input type="checkbox"/>
Flange rating	<input type="checkbox"/>	<input type="checkbox"/>	.....	<input type="checkbox"/>	<input type="checkbox"/>
Installation level & plumb	<input type="checkbox"/>	<input type="checkbox"/>			
Line slopes per drawing	<input type="checkbox"/>	<input type="checkbox"/>	<b>5. PIPE SUPPORTS</b>		
Branches located correctly	<input type="checkbox"/>	<input type="checkbox"/>	Field supports installed	<input type="checkbox"/>	<input type="checkbox"/>
Branches reinforced	<input type="checkbox"/>	<input type="checkbox"/>	Sufficient supports	<input type="checkbox"/>	<input type="checkbox"/>
Weepholes in reinforcing pads	<input type="checkbox"/>	<input type="checkbox"/>	Anchors installed	<input type="checkbox"/>	<input type="checkbox"/>
High point vents installed	<input type="checkbox"/>	<input type="checkbox"/>	Guides installed & aligned	<input type="checkbox"/>	<input type="checkbox"/>
Low point drains installed	<input type="checkbox"/>	<input type="checkbox"/>	Proper shoes installed and welded	<input type="checkbox"/>	<input type="checkbox"/>
Reducers located correctly / orientation	<input type="checkbox"/>	<input type="checkbox"/>	Spring supports per drawing, stopped	<input type="checkbox"/>	<input type="checkbox"/>
Reducer type correct	<input type="checkbox"/>	<input type="checkbox"/>	Piping sits on	<input type="checkbox"/>	<input type="checkbox"/>
Sample connections installed	<input type="checkbox"/>	<input type="checkbox"/>	.....	<input type="checkbox"/>	<input type="checkbox"/>
Clearances for expansion	<input type="checkbox"/>	<input type="checkbox"/>			
Orifice flanges properly oriented	<input type="checkbox"/>	<input type="checkbox"/>	<b>6. INSULATING</b>		
.....	<input type="checkbox"/>	<input type="checkbox"/>	Welded insulation supports installed	<input type="checkbox"/>	<input type="checkbox"/>
			Clearances adequate for insulation	<input type="checkbox"/>	<input type="checkbox"/>
<b>2 VALVES</b>			.....	<input type="checkbox"/>	<input type="checkbox"/>
Identification code	<input type="checkbox"/>	<input type="checkbox"/>			
Flow direction	<input type="checkbox"/>	<input type="checkbox"/>	<b>7. INSTRUMENTS</b>		
Bypass installed	<input type="checkbox"/>	<input type="checkbox"/>	Correct control valves installed	<input type="checkbox"/>	<input type="checkbox"/>
Chain wheel installed	<input type="checkbox"/>	<input type="checkbox"/>	Meter runs properly installed	<input type="checkbox"/>	<input type="checkbox"/>
Extension installed	<input type="checkbox"/>	<input type="checkbox"/>	Valves at meter run installed	<input type="checkbox"/>	<input type="checkbox"/>
Steam oriented properly	<input type="checkbox"/>	<input type="checkbox"/>	Pressure gauge valves installed	<input type="checkbox"/>	<input type="checkbox"/>
Suitable access to operate & to maintain	<input type="checkbox"/>	<input type="checkbox"/>	Pressure gauges properly oriented	<input type="checkbox"/>	<input type="checkbox"/>
.....	<input type="checkbox"/>	<input type="checkbox"/>	Temp. connections properly oriented	<input type="checkbox"/>	<input type="checkbox"/>
			.....	<input type="checkbox"/>	<input type="checkbox"/>
<b>3 CONNECTION TO MACHINERY / EQUIPMENT</b>					
Flanges parallelism / Alignment	<input type="checkbox"/>	<input type="checkbox"/>	<b>8. TEST CIRCUIT PREPARATION</b>		
.....	<input type="checkbox"/>	<input type="checkbox"/>	Blinds installed	<input type="checkbox"/>	<input type="checkbox"/>
			Vents and drains installed	<input type="checkbox"/>	<input type="checkbox"/>

V.ED = VERIFIED

N.A. = NOT APPLICABLE

(1) SAME TEST CIRCUIT NUMBER

**INSPECTORS**

**CONTRACTOR**

**TECHNIP**

**OWNER**



NAME

SIGNATURE

DATE

TECHNIP INDIA LTD

QCP STANDARD REV.0

 				PROJECT:				
				COMPANY:				
QUALITY CONTROL FORM <b>W 14B</b>				PROJ. No.:	QCF REV. A	SH. ____ OF ____		
<b>PUNCH LIST AFTER PRESSURE TEST (LINE REINSTATEMENT)</b>				CONTRACTOR:		<b>W 14B N° _____</b>		
CIRCUIT N° _____				SYSTEM N° _____				
N°	ISO-LINE N° / SHEET	REV.	AREA	LIST OF REMOVED EQUIPMENT TO BE REINSTALLED & BLIND FLANGE TO BE REMOVED <b>AFTER PRESSURE TEST</b>	WORK ACCEPTANCE SIGNATURE			
					DATE	CONTR.	TECHNIP.	OWNER
REMARKS:								
<b>INSPECTORS</b>		<b>CONTRACTOR</b>		<b>TECHNIP</b>		<b>OWNER</b>		
NAME								
SIGNATURE								
DATE								



PROJECT:

COMPANY:

QUALITY CONTROL FORM

W 16

PROJ. No.:

QCF REV. A

SH. \_\_\_ OF \_\_\_

**MODIFICATIONS AFTER PRESSURE TEST  
LINE/ISO CHECK REPORT**

CONTRACTOR:

W 16<sup>(1)</sup> N° \_\_\_\_\_

CIRCUIT N°

SYSTEM N°

LINE / ISO N°

SH. N°

MODIFICATION AS PER ATTACHED

☐**TEST TO BE CARRIED OUT****REPORT REFERENCE**

1)

**NDE**

RADIOGR. TEST

☐ YES☐

NO

SEE REPORT

ULTRASONIC TEST

☒ YES☐

NO

SEE REPORT

PENETR. TEST

☐ YES☐

NO

SEE REPORT

MAGNETIC TEST

YES

☐

NO

☐

SEE REPORT

\_\_\_\_\_

2)

**POST WELD HEAT TREATMENT**

YES

☐

NO

☐

SEE REPORT

\_\_\_\_\_

3)

**HARDNESS TEST**

YES

☐

NO

☐

SEE REPORT

\_\_\_\_\_

4)

**PMI**

BASE MATERIAL

☐ YES☐

NO

SEE REPORT

WELDING

YES

☐

NO

☐

SEE REPORT

\_\_\_\_\_

5)

**PRESSURE TEST**

YES

☐

NO

☐

SEE REPORT

\_\_\_\_\_

6)

**COATING / BITUMIZING CHECK**

YES

☐

NO

☐

SEE REPORT

\_\_\_\_\_

WELDERS IDENTIFICATION: \_\_\_\_\_

WPS N°: \_\_\_\_\_

REMARKS: (1) SAME LINE/ISO NUMBER

**INSPECTORS****CONTRACTOR****TECHNIP****OWNER**

NAME

SIGNATURE

DATE



COMPANY:

W 18

SH. \_\_\_\_ OF \_\_\_\_

W 18 N°

**DATE:**

[illegible]



1

**OWNER**



DATE \_\_\_\_\_







 		PROJECT:																																																																																																								
		COMPANY:																																																																																																								
QUALITY CONTROL FORM <b>W 31B</b>		PROJ. No.:	QCF REV. A																																																																																																							
REINFORCING PADS PNEUMATIC TEST REPORT		CONTRACTOR:	SH. __ OF __ <b>W 31B N° ____</b>																																																																																																							
<p align="center"><b>REINFORCING PADS – PNEUMATIC TEST</b></p> <p>TEST MEDIUM _____ TEST PRESSURE _____ barg</p>																																																																																																										
<table border="1"> <thead> <tr> <th colspan="3">REFERENCE</th> <th rowspan="2">REINFORCING PAD IDENTIFICATION</th> <th rowspan="2">NOTES</th> </tr> <tr> <th>LINE / ISO N°</th> <th>SH.</th> <th>REV.</th> </tr> </thead> <tbody> <tr><td> </td><td> </td><td> </td><td> </td><td> </td></tr> <tr><td> </td><td> </td><td> </td><td> </td><td> </td></tr> <tr><td> </td><td> </td><td> </td><td> </td><td> </td></tr> <tr><td> </td><td> </td><td> </td><td> </td><td> </td></tr> <tr><td> </td><td> </td><td> </td><td> </td><td> </td></tr> <tr><td> </td><td> </td><td> </td><td> </td><td> </td></tr> <tr><td> </td><td> </td><td> </td><td> </td><td> </td></tr> <tr><td> </td><td> </td><td> </td><td> </td><td> </td></tr> <tr><td> </td><td> </td><td> </td><td> </td><td> </td></tr> <tr><td> </td><td> </td><td> </td><td> </td><td> </td></tr> <tr><td> </td><td> </td><td> </td><td> </td><td> </td></tr> <tr><td> </td><td> </td><td> </td><td> </td><td> </td></tr> <tr><td> </td><td> </td><td> </td><td> </td><td> </td></tr> <tr><td> </td><td> </td><td> </td><td> </td><td> </td></tr> <tr><td> </td><td> </td><td> </td><td> </td><td> </td></tr> <tr><td> </td><td> </td><td> </td><td> </td><td> </td></tr> <tr><td> </td><td> </td><td> </td><td> </td><td> </td></tr> <tr><td> </td><td> </td><td> </td><td> </td><td> </td></tr> <tr><td> </td><td> </td><td> </td><td> </td><td> </td></tr> </tbody> </table>			REFERENCE			REINFORCING PAD IDENTIFICATION	NOTES	LINE / ISO N°	SH.	REV.																																																																																																
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QCF STANDARD REV:0

 		PROJECT:		
		COMPANY:		
QUALITY CONTROL FORM <b>W 31C</b>		PROJ. No.:	QCF REV. A	SH. 1 OF 2
<b>INSPECTION OF VENTURI, RESTRICTION ORIFICE AND FLOW ORIFICE</b>		CONTRACTOR:		<b>W 31C N° _____</b>
EQUIPMENT ID NUMBER:	EQUIPMENT DESCRIPTION:	EQPT CODE	SYSTEM ID.	
LAYOUT DRAWING NUMBER:	REV N° :	PURCHASE ORDER NUMBER:		

ITEM N°	ACCEPTANCE CRITERIA	REFERENCE	N.A.	V.ED
<b>A</b>	<b>General Installation Requirements</b>			
A1	Standard Orifice Plate Installation checked together for accuracy and data completion on installation: <ul style="list-style-type: none"> <li>• Orifice bore is sharp upstream, 45 degree bevelled downstream;</li> <li>• Orifice bore is sharp, restrictive and shaped like a semi-circle;</li> <li>• Orifice bore is not bevelled and has sharp honed corners;</li> <li>• Upstream edges honed round/smooth have no nicks or flat spots downstream is bevelled 45 degrees.</li> </ul>		<input type="checkbox"/>	<input type="checkbox"/>
A2	Orifice Plates checked: A) Material is A240 Type 316 SS (max 217 HB) or per P.O. B) Plates have a fine finish (honed, lapped, polished or buffed). C) Plates are free of surface defects and bore edges are smooth. D) Downstream bevelled edges have no grooves, ridges or pits. E) Plates are flat, bores are centered and outside edges deburred. F) Plates are free from mechanical damage and welding distortion. G) Welded handles are parallel to plates with welds ground flush.		<input type="checkbox"/>	<input type="checkbox"/>
A3	Visually ID markings and orientation.		<input type="checkbox"/>	<input type="checkbox"/>
A4	Visually check orientation against Standard drawing.		<input type="checkbox"/>	<input type="checkbox"/>
A5	Orifice plates and holders. Check installation meets Standard Drawing dimensions.		<input type="checkbox"/>	<input type="checkbox"/>
A6	Ring Joint Orifice Assemblies. Visually Check ID markings and orientation.		<input type="checkbox"/>	<input type="checkbox"/>
A7	Straight minimum piping run lengths for Orifice Runs are acceptable. Measure and ensure installation spacings are acceptable. Noting correct direction of flow, the "A" Upstream and "B" Downstream Dimensions are within stated tolerances.		<input type="checkbox"/>	<input type="checkbox"/>
A8	Verify installation spacings as applicable on lines.		<input type="checkbox"/>	<input type="checkbox"/>
A9	Visually check flange class meets installed with taps/jackscrews. Internal welds are smooth, NDE complete.		<input type="checkbox"/>	<input type="checkbox"/>
A10	Visually check flanges for ring joint orifice assemblies.		<input type="checkbox"/>	<input type="checkbox"/>
A11	Orifice Flange Taps. Check tap dimensions and ensure clearances and spacing.		<input type="checkbox"/>	<input type="checkbox"/>
A12	Venturi Cylindrical Inlet sections are examined and accepted.		<input type="checkbox"/>	<input type="checkbox"/>

 		PROJECT:		
		COMPANY:		
QUALITY CONTROL FORM <b>W 31C</b>		PROJ. No.:	QCF REV. A	SH. 2 OF 2
<b>INSPECTION OF VENTURI, RESTRICTION ORIFICE AND FLOW ORIFICE</b>		CONTRACTOR:		<b>W 31C N° _____</b>
ITEM N°	ACCEPTANCE CRITERIA	REFERENCE	N.A.	V.ED
A13	Venturi Convergent entrances are examined and accepted.		<input type="checkbox"/>	<input type="checkbox"/>
A14	Venturi Throat sections are examined and accepted.		<input type="checkbox"/>	<input type="checkbox"/>
A15	Venturi Divergent outlet sections are examined and accepted.		<input type="checkbox"/>	<input type="checkbox"/>
A16	Venturi items for inspection and acceptance are as follows: A) Throat linings, as applicable, are secure and undamaged. B) Pressure Taps (if applicable) meet Engineering Drawing dimensions.		<input type="checkbox"/>	<input type="checkbox"/>
A17	Measure/ensure installation spacings are acceptable and direction of flow is correct.		<input type="checkbox"/>	<input type="checkbox"/>
A18	SS materials and plates are kept wrapped and protected from damage and are handled with extreme care during installation.		<input type="checkbox"/>	<input type="checkbox"/>
A19	Installation of venturis and orifice plates are not permanently installed until after piping systems have been flushed clean and hydrotested. Installed venturis and orifice plates (to ensure proper pipefitting) are removed, blocked off or isolated prior to commencing flushing/cleaning as they are sensitive to damage. Venturis and orifice plates go in last on line reinstatement.		<input type="checkbox"/>	<input type="checkbox"/>
<b>Remarks:</b>				
<b>INSPECTORS</b>		<b>CONTRACTOR</b>	<b>TECHNIP</b>	<b>OWNER</b>
NAME				
SIGNATURE				
DATE				

 		PROJECT:					
		COMPANY:					
QUALITY CONTROL FORM <b>W 51AG</b>		PROJ. No.:	QCF REV. A	SH. 1 OF 2			
<b>PIPING ERECTION (PER ISO) SUMMARY REPORT</b>		CONTRACTOR:		<b>W 51AG N° _____</b>			
ISOMETRIC / DRAWING N° _____ SH. _____ OF _____ REV. _____ AREA _____ SYSTEM N° _____							
INSPECTIONS (REF. TO QCP 1320.01)		N.A.	ACC.	REMARKS/ REFERENCES	INSPECTORS SIGNATURE & DATE		
					CONTR.	TECHNIP.	OWNER
D.1	PREASSEMBLY	<input type="checkbox"/>	<input type="checkbox"/>	W 10 (*)			
D.2	DELIVERED MATERIAL READY AT SITE (MATERIALS & SPOOLS IDENTIFICATION AND CONSERVATION STATUS)	<input type="checkbox"/>	<input type="checkbox"/>				
D.3	PIPE / SPOOL INTERNAL CLEANING	<input type="checkbox"/>	<input type="checkbox"/>	IC 01 (**)			
D.4	PIPE / SPOOL ERECTION AND ALIGNMENT (inclusive pipe identification transfer if required)	<input type="checkbox"/>	<input type="checkbox"/>				
D.5	PIPE / SPOOL TACK WELDS	<input type="checkbox"/>	<input type="checkbox"/>				
D.6	GAP CONTROL FOR SOCKET WELDS	<input type="checkbox"/>	<input type="checkbox"/>	W 24 (**)			
D.7	WELDING	<input type="checkbox"/>	<input type="checkbox"/>	W 10 (*)			
D.8	ORIFICE FLANGES AND VENTURI INSTALLATION	<input type="checkbox"/>	<input type="checkbox"/>	W 31C (**)			
D.9	PNEUMATIC TEST FOR REINFORCING PADS	<input type="checkbox"/>	<input type="checkbox"/>	W 31B (**)			
D.10	MATERIAL FULL TRACEABILITY	<input type="checkbox"/>	<input type="checkbox"/>	W 10 (*)			
D.11	RT JOINT SELECTION REQUEST	<input type="checkbox"/>	<input type="checkbox"/>	RT 01 (**)			
D.12	NDE / PMI / PWHT / HT EXECUTION & TRACEABILITY						
D.12.1	WELDING DAILY PROGRESS & VISUAL EXAMINATION	<input type="checkbox"/>	<input type="checkbox"/>	W 24 (**)			
D.12.2	PMI EXECUTION	<input type="checkbox"/>	<input type="checkbox"/>	QC 21 (**)			
D.12.3	PWHT CHART RECORDS	<input type="checkbox"/>	<input type="checkbox"/>	contractor Report (**)			
D.12.4	HARDNESS TEST EXECUTION	<input type="checkbox"/>	<input type="checkbox"/>	contractor Report (**)			
D.12.5	LIQUID PENETRANT EXAMINATION	<input type="checkbox"/>	<input type="checkbox"/>	W 03 (**)			
D.12.6	MAGNETIC PARTICLE EXAMINATION	<input type="checkbox"/>	<input type="checkbox"/>	W 04 (**)			
D.12.7	RADIOGRAPHIC EXAM. FILM REVIEW	<input type="checkbox"/>	<input type="checkbox"/>	W 01 (**)			
D.12.8	ULTRASONIC EXAMINATION	<input type="checkbox"/>	<input type="checkbox"/>	W 02 (**)			
D.12.9	NDE / PMI / PWHT / HT TRACEABILITY	<input type="checkbox"/>	<input type="checkbox"/>	W 10 (*)			
D.13	JOINT REPAIR EXECUTION	<input type="checkbox"/>	<input type="checkbox"/>	W 10 (*)			
D.14	REPAIRS RAD. FILM REVIEW	<input type="checkbox"/>	<input type="checkbox"/>	W 01 (**)			
D.15	JOINT CUT OUT FOR MODIFICATION	<input type="checkbox"/>	<input type="checkbox"/>	W 10 (*)			
D.16	PIPING SUPPORT INSTALLATION	<input type="checkbox"/>	<input type="checkbox"/>				
D.17	VALVE INSTALLATION	<input type="checkbox"/>	<input type="checkbox"/>	V 01 (**)			
D.18	FLANGE FACES INSPECTION	<input type="checkbox"/>	<input type="checkbox"/>				

				PROJECT:			
				COMPANY:			
QUALITY CONTROL FORM <b>W 51AG</b>				PROJ. No.:	QCF REV. A	SH. 2 OF 2	
<b>PIPING ERECTION (PER ISO)</b> <b>SUMMARY REPORT</b>				CONTRACTOR:		W 51AG N° _____	
INSPECTIONS (REF. TO QCP 1320.01)		N.A.	ACC.	REMARKS/ REFERENCES	INSPECTORS SIGNATURE & DATE		
					CONTR.	TECHNIP	OWNER
D.19	FLANGES PARALLELISM / ALIGNMENT & GASKET INSTALLATION	<input type="checkbox"/>	<input type="checkbox"/>	BT 01 (**)			
D.20	TORQUE WRENCHES CALIBRATION	<input type="checkbox"/>	<input type="checkbox"/>	Contractor Report (**)			
D.21	JOINT BOLTS TIGHTENING EXECUTION	<input type="checkbox"/>	<input type="checkbox"/>	BTC 01 (**)			
D.22	SLOPE CHECK	<input type="checkbox"/>	<input type="checkbox"/>	SS 01 (**)			

NOTES: (\*) W 10 HAVE THE SAME N° OF THE ISOMETRIC

(\*\*) THE QC REPORTS N° SHALL BE INDICATED IN THE RELEVANT HERE BELOW SPACES :

IC 01 N° \_\_\_\_\_ W31B N° \_\_\_\_\_ W31C N° \_\_\_\_\_ W24 N° \_\_\_\_\_ RT 01 N° \_\_\_\_\_ QC21 N° \_\_\_\_\_ W01 N° \_\_\_\_\_ W02 N° \_\_\_\_\_

W03 N° \_\_\_\_\_ W04 N° \_\_\_\_\_ V 01 N° \_\_\_\_\_ BT01 N° \_\_\_\_\_ BTC01 N° \_\_\_\_\_ SS 01 N° \_\_\_\_\_

PWHT contractor Report N° \_\_\_\_\_ HT contractor Report N° \_\_\_\_\_ CALIBRATION contractor Report N° \_\_\_\_\_

<b>D.25) FINAL DOC. REVIEW</b>	<b>INSPECTORS</b>	<b>CONTRACTOR</b>	<b>TECHNIP</b>	<b>OWNER</b>
	NAME			
	SIGNATURE			
	DATE			



PROJECT:

COMPANY:

QUALITY CONTROL FORM **W 51T**

PROJ. No.:

QCF REV. A

SH. \_\_\_ OF \_\_\_

**PRESSURE TEST PREPARATION / EXECUTION  
(PER TESTING CIRCUIT)  
SUMMARY REPORT**

CONTRACTOR:

**W 51T N°** \_\_\_\_\_

TEST CIRCUIT N° \_\_\_\_\_ SYSTEM N° \_\_\_\_\_

LINES / ISOs N° \_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

INSPECTIONS (REF. TO QCP 1320.01)		N.A.	ACC.	REMARKS/ REFERENCES	INSPECTORS SIGNATURE & DATE		
					CONTRACT.	TECHNIP	OWNER
E.1	TEST PACK CREATION	<input type="checkbox"/>	<input type="checkbox"/>				
E.2	PUNCH LIST BEFORE PRESSURE TEST	<input type="checkbox"/>	<input type="checkbox"/>	PL 10 (*)			
E.3	NDE VERIFICATION (Check of relative QCF W10 issued for ISO's)	<input type="checkbox"/>	<input type="checkbox"/>				
E.4	DIMENSIONAL CHECK	<input type="checkbox"/>	<input type="checkbox"/>	W 14A (*)			
E.5	PUNCH "A" CLEARANCE AND RELEASE FOR TEST	<input type="checkbox"/>	<input type="checkbox"/>	PL 10 (*)			
E.6	INTERNAL CLEANLINESS VERIFICATION (Check of relative QCF IC01 issued for spools/ISO)	<input type="checkbox"/>	<input type="checkbox"/>				
E.7	BLIND FLANGES INSTALLATION	<input type="checkbox"/>	<input type="checkbox"/>	BCS 01 (*)			
E.8	PRESSURE TEST EXECUTION	<input type="checkbox"/>	<input type="checkbox"/>	W 13 (*)			
E.9	WATER DRY-OUT EXECUTION	<input type="checkbox"/>	<input type="checkbox"/>	LU 01 (*)			
E.10	BLIND FLANGES REMOVAL	<input type="checkbox"/>	<input type="checkbox"/>	BCS 01 (*)			
E.11	WORK ACCEPTANCE OF "PUNCH LIST AFTER PRESSURE TEST" (LINE REINSTATEMENT)	<input type="checkbox"/>	<input type="checkbox"/>	W 14B (*)			

NOTES: (\*) W 14A HAVE THE SAME N° OF THE TEST CIRCUIT

(\*\*) THE QC REPORTS N° SHALL BE INDICATED IN THE RELEVANT HERE BELOW SPACES :

PL 10 N° \_\_\_\_\_ W14A N° \_\_\_\_\_ W14B N° \_\_\_\_\_ BCS 01 N° \_\_\_\_\_ W13 N° \_\_\_\_\_ LU 01 N° \_\_\_\_\_

QCF STANDARD REV.1

<b>E. 12) FINAL DOC. REVIEW</b>	<b>INSPECTORS</b>	<b>CONTRACTOR</b>	<b>TECHNIP</b>	<b>OWNER</b>
	NAME			
	SIGNATURE			
	DATE			



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PROJECT:

COMPANY:

QUALITY CONTROL FORM

W 51T

PROJ. No.:

QCF REV. A

SH. \_\_\_ OF \_\_\_

**PRESSURE TEST PREPARATION / EXECUTION  
(PER TESTING CIRCUIT)  
SUMMARY REPORT**

CONTRACTOR:

W 51T N° \_\_\_\_\_

TEST CIRCUIT N° \_\_\_\_\_ SYSTEM N° \_\_\_\_\_

LINES / ISOs N° \_\_\_\_\_

INSPECTIONS (REF. TO QCP 1320.01)		N.A.	ACC.	REMARKS/ REFERENCES	INSPECTORS SIGNATURE & DATE		
					CONTRACT.	TECHNIP	OWNER
E.1	TEST PACK CREATION	<input type="checkbox"/>	<input type="checkbox"/>				
E.2	MECHANICAL CLEARANCE FOR PRESSURE TESTING	<input type="checkbox"/>	<input type="checkbox"/>	MC 01 (*)			
E.3	PUNCH LIST BEFORE PRESSURE TEST	<input type="checkbox"/>	<input type="checkbox"/>	PL 10 (**)			
E.4	NDE VERIFICATION (Check of relative QCF W10 issued for ISO's)	<input type="checkbox"/>	<input type="checkbox"/>	W 10			
E.5	PUNCH "A" CLEARANCE AND RELEASE FOR TEST	<input type="checkbox"/>	<input type="checkbox"/>	PL 10 (**)			
E.6	INTERNAL CLEANLINESS VERIFICATION (Check of relative QCF IC01 issued for spools/ISO)	<input type="checkbox"/>	<input type="checkbox"/>				
E.7	BLIND FLANGES INSTALLATION	<input type="checkbox"/>	<input type="checkbox"/>	BCS 01 (**)			
E.8	BOLT TORQUING CHECK REPORT	<input type="checkbox"/>	<input type="checkbox"/>	BTC 01 (**)			
E.9	PRESSURE TEST EXECUTION	<input type="checkbox"/>	<input type="checkbox"/>	W 13 (**)			
E.10	WATER DRY-OUT EXECUTION	<input type="checkbox"/>	<input type="checkbox"/>	LU 01 (**)			
E.11	BLIND FLANGES REMOVAL	<input type="checkbox"/>	<input type="checkbox"/>	BCS 01 (**)			
E.12	WORK ACCEPTANCE OF "PUNCH LIST AFTER PRESSURE TEST" (LINE REINSTATEMENT)	<input type="checkbox"/>	<input type="checkbox"/>	PL 10 (**)			

NOTES: (\*) MC 01 HAVE THE SAME N° OF THE TEST CIRCUIT

(\*\*) THE QC REPORTS N° SHALL BE INDICATED IN THE RELEVANT HERE BELOW SPACES :

PL 10 N° \_\_\_\_\_ W14A N° \_\_\_\_\_ BCS 01 N° \_\_\_\_\_ W13 N° \_\_\_\_\_ LU 01 N° \_\_\_\_\_ BTC 01 N° \_\_\_\_\_

QCF STANDARD REV.1

E.12) FINAL DOC. REVIEW	INSPECTORS	CONTRACTOR	TECHNIP	OWNER
	NAME			
	SIGNATURE			
	DATE			



PROJECT:

COMPANY:

QUALITY CONTROL FORM **W 51UG**

PROJ. No.:

QCF REV. A

SH. 1 OF 2

**PIPING ERECTION (PER ISO)  
SUMMARY REPORT**

CONTRACTOR:

**W 51UG N° \_\_\_\_**

ISOMETRIC / DRAWING N° \_\_\_\_\_

SH. \_\_\_\_ OF \_\_\_\_ REV. \_\_\_\_\_

AREA \_\_\_\_\_

SYSTEM N° \_\_\_\_\_

INSPECTIONS (REF. TO QCP 1320.01)		N.A.	ACC.	REMARKS/ REFERENCES	INSPECTORS SIGNATURE & DATE		
					CONTR.	TECHNIP.	OWNER
D.1	PREASSEMBLY	<input type="checkbox"/>	<input type="checkbox"/>	W 10 (*)			
D.2	DELIVERED MATERIAL READY AT SITE (MATERIALS & SPOOLS IDENTIFICATION AND CONSERVATION STATUS)	<input type="checkbox"/>	<input type="checkbox"/>				
D.3	PIPE / SPOOL INTERNAL CLEANING	<input type="checkbox"/>	<input type="checkbox"/>	IC 01 (**)			
D.4	PIPE / SPOOL ERECTION AND ALIGNMENT (inclusive pipe identification transfer if required)	<input type="checkbox"/>	<input type="checkbox"/>				
D.5	PIPE / SPOOL TACK WELDS	<input type="checkbox"/>	<input type="checkbox"/>				
D.7	WELDING	<input type="checkbox"/>	<input type="checkbox"/>	W 10 (*)			
D.8	ORIFICE FLANGES AND VENTURI INSTALLATION	<input type="checkbox"/>	<input type="checkbox"/>	W 31C (**)			
D.9	PNEUMATIC TEST FOR REINFORCING PADS	<input type="checkbox"/>	<input type="checkbox"/>	W 31B (**)			
D.10	MATERIAL FULL TRACEABILITY	<input type="checkbox"/>	<input type="checkbox"/>	W 10 (*)			
D.11	RT JOINT SELECTION REQUEST	<input type="checkbox"/>	<input type="checkbox"/>	RT 01 (**)			
D.12	NDE / PMI / PWHT / HT EXECUTION & TRACEABILITY						
D.12.1	WELDING DAILY PROGRESS & VISUAL EXAMINATION	<input type="checkbox"/>	<input type="checkbox"/>	W 24 (**)			
D.12.2	PMI EXECUTION	<input type="checkbox"/>	<input type="checkbox"/>	QC 21 (**)			
D.12.3	PWHT CHART RECORDS	<input type="checkbox"/>	<input type="checkbox"/>	Contractor Report (**)			
D.12.4	HARDNESS TEST EXECUTION	<input type="checkbox"/>	<input type="checkbox"/>	Contractor Report (**)			
D.12.5	LIQUID PENETRANT EXAMINATION	<input type="checkbox"/>	<input type="checkbox"/>	W 03 (**)			
D.12.6	MAGNETIC PARTICLE EXAMINATION	<input type="checkbox"/>	<input type="checkbox"/>	W 04 (**)			
D.12.7	RADIOGRAPHIC EXAM. FILM REVIEW	<input type="checkbox"/>	<input type="checkbox"/>	W 01 (**)			
D.12.8	ULTRASONIC EXAMINATION	<input type="checkbox"/>	<input type="checkbox"/>	W 02 (**)			
D.12.9	NDE / PMI / PWHT / HT TRACEABILITY	<input type="checkbox"/>	<input type="checkbox"/>	W 10 (*)			
D.13	JOINT REPAIR EXECUTION	<input type="checkbox"/>	<input type="checkbox"/>	W 10 (*)			
D.14	REPAIRS RAD. FILM REVIEW	<input type="checkbox"/>	<input type="checkbox"/>	W 01 (**)			
D.15	JOINT CUT OUT FOR MODIFICATION	<input type="checkbox"/>	<input type="checkbox"/>	W 10 (*)			
D.16	PIPING SUPPORT INSTALLATION	<input type="checkbox"/>	<input type="checkbox"/>				
D.17	VALVE INSTALLATION	<input type="checkbox"/>	<input type="checkbox"/>	V 01 (**)			
D.18	FLANGE FACES INSPECTION	<input type="checkbox"/>	<input type="checkbox"/>				



				PROJECT:			
				COMPANY:			
QUALITY CONTROL FORM <b>W 51UG</b>				PROJ. No.:	QCF REV. A	SH. 2 OF 2	
PIPING ERECTION (PER ISO) SUMMARY REPORT				CONTRACTCTOR:		W 51UG N° ____	
INSPECTIONS (REF. TO QCP 1320.01)		N.A.	ACC.	REMARKS/ REFERENCES	INSPECTORS SIGNATURE & DATE		
					CONTR.	TECHNIP	OWNER
D.19	FLANGES PARALLELISM / ALIGNMENT & GASKET INSTALLATION	<input type="checkbox"/>	<input type="checkbox"/>	BT 01 (**)			
D.20	TORQUE WRENCHES CALIBRATION	<input type="checkbox"/>	<input type="checkbox"/>	Contractctor Report (**)			
D.21	JOINT BOLTS TIGHTENING EXECUTION	<input type="checkbox"/>	<input type="checkbox"/>	BTC 01 (**)			
D.22	SLOPE CHECK	<input type="checkbox"/>	<input type="checkbox"/>	SS 01 (**)			
D.23	PRESSURE TEST	<input type="checkbox"/>	<input type="checkbox"/>	W 51T (**)			
D.24	HOLIDAY TEST AFTER PRESSURE TEST	<input type="checkbox"/>	<input type="checkbox"/>	W 18 (**)			

NOTES: (\*) W 10 HAVE THE SAME N° OF THE ISOMETRIC

(\*\*) THE QC REPORTS N° SHALL BE INDICATED IN THE RELEVANT HERE BELOW SPACES :

IC 01 N° \_\_\_\_ W31B N° \_\_\_\_ W31C N° \_\_\_\_ W24 N° \_\_\_\_ RT 01 N° \_\_\_\_ QC21 N° \_\_\_\_ W01 N° \_\_\_\_ W02 N° \_\_\_\_  
W03 N° \_\_\_\_ W04 N° \_\_\_\_ V 01 N° \_\_\_\_ BT01 N° \_\_\_\_ BTC01 N° \_\_\_\_ SS 01 N° \_\_\_\_ W 18 N° \_\_\_\_ W 51T

N° \_\_\_\_

PWHT Contractctor Report N° \_\_\_\_ HT Contractctor Report N° \_\_\_\_ CALIBRATION Contractctor Report N° \_\_\_\_

D.25) FINAL DOC. REVIEW	<b>INSPECTORS</b>	<b>CONTRACTCTOR</b>	<b>TECHNIP</b>	<b>OWNER</b>
	NAME			
	SIGNATURE			
	DATE			