

 	PROJECT	Standby SRU & Additional Tanks		
		IOCL Paradip Refinery		
	CLIENT	INDIAN OIL CORPORATION LIMITED		
QCP-STEEL STRUCTURES ERECTION	Project No. 080557C001	Document No. 080557C-000-QCP-1812-001	Rev. No. A	Page 1 of 3
QUALITY CONTROL PLAN STEEL STRUCTURES ERECTION				

TYPE OF QUALITY CONTROL REPORT	CERTIFICATION EXTENT
CS 2	SINGLE REPORT PER EACH STRUCTURE
CS 3	SINGLE REPORT PER EACH LOT OF NODES
CS 6 – CS 7	SINGLE REPORT PER EACH STRUCTURE OR IDENTIFIED SECTION
CW 58	SINGLE REPORT PER EACH RELEASED GROUP OF ITEMS

REFERENCE DOCUMENTS:

- 080557C-000-PP-805 SITE CO-ORDINATION & COMMUNICATION PROCEDURE
- 080557C-000-JSS-1800-001 SPECIFICATIONS FOR STRUCTURAL STEEL WORKS
- Drawings



LEGENDA

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

A	21/10/2019	ISSUED FOR INFORMATION	SMP	PKP	LA/ANJ	JMC
REV.	DATE	DESCRIPTION	PREPARED	CHECKED	APPROVED	AUTHORIZED

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QUALITY CONTROL PLAN
STEEL STRUCTURES ERECTION

QUALITY CONTROL ACTIVITIES

Nr.	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 SPECIFICATIONS AND PROCEDURES	N.A.	!	!	
A.3	CONTRACTOR METHOD STATEMENT & ENGINEERED LIFTING STUDY (IF REQUIRED)	N.A.	P	R	(1)
B)	BEFORE ERECTION				
B.1	MATERIAL RELEASED AND CONSERVATION STATUS	N.A.	WC	S	
B.2	FOUNDATIONS CHECK	CS 2	WC	W/R	
C)	STEEL STRUCTURE ERECTION				
C.1	PRE-ASSEMBLYING (IF ANY)	CS 2	WC	S	
C.2	ERECTION	CS 2	WC	S	
C.3	COLUMN POSITION CHECK - COLUMN ALIGNMENT - COLUMN ELEVATION - COLUMN PLUMBNESS	CS 7 / CS 2	WC	S	
C.4	BEAMS POSITION CHECK - BEAMS ELEVATION / LEVELNESS	CS 6 / CS 2	WC	S	
C.5	ANCHOR BOLTS TIGHTNESS BEFORE GROUTING	CS 2	WC	W/R	(2)
C.6	BOLTS TIGHTNESS FOR ELEVATED STRUCTURE	CS 3 / CS 2	WC	W/R	
C.7	GROUTING AUTHORIZATION	CW 58 / CS 2	WC	W/R	(3)
C.8	ANCHOR BOLTS TIGHTNESS AFTER GROUTING	CS 2	WC	S	(2)
C.9	CLEANING & FINAL ACCEPTANCE	CS 2	WC	W/R	
C.10	FINAL DOCUMENTATION REVIEW	CS 2	P	R	

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- NOTES: (1) A COPY OF THE DOCUMENT WILL BE DELIVERED TO OWNER FOR INFORMATION
- (2) **ANCHOR BOLTS TIGHTENING PROCEDURE:**
BEFORE GROUTING:
• ALL BOLTS SHALL BE IN A CONDITION TO INSURE A GOOD CONTACT BETWEEN MATING SURFACES;
• NUTS SHALL BE MARKED WITH CRAYONS OR CHALK TO SHOW THE LOCATION IN THE PREVIOUS CONDITION.
AFTER GROUTING:
• ALL BOLTS SHALL BE IN A "SNUG TIGHT" CONDITION AND ADDITIONALLY SHOULD BE TIGHTENED BY 90°*180° NUT ROTATION.
- (3) THESE GROUTING AUTHORIZATION REPORTS WILL BE ALWAYS AVAILABLE DURING THE CONSTRUCTION BUT NOT INCLUDED IN THE CONSTRUCTION QUALITY DOSSIER.

GENERAL NOTES

- 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.
- 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



PROJECT:

COMPANY:

QUALITY CONTROL FORM

CS 2

PROJ. No.:

QCF REV. A

SH. 1 OF 1

**STEEL STRUCTURES ERECTION
SUMMARY REPORT**

CONTRACTOR:

CS 2 N° _____

STEEL STRUCTURE DESCRIPTION / ITEM _____

AREA _____

DRAWINGS & REV. _____

INSPECTIONS (REF. TO QCP 1812.01)		N.A.	ACC	REMARKS/ REFERENCES	INSPECTORS SIGNATURE & DATE		
					CONTRACTOR	TECHNIP	OWNER
B.2	FOUNDATION CHECK	<input type="checkbox"/>	<input type="checkbox"/>				
C.1	PRE-ASSEMBLYING	<input type="checkbox"/>	<input type="checkbox"/>				
C.2	ERECTION	<input type="checkbox"/>	<input type="checkbox"/>				
C.3	COLUMN POSITION CHECK - COLUMN ALIGNMENT - COLUMN ELEVATION - COLUMN PLUMBNESS	<input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>	<input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>	CS 7 (*) CS 7 (*)			
C.4	BEAMS POSITION CHECK - BEAMS ELEVATION / LEVELNESS	<input type="checkbox"/> <input type="checkbox"/>	<input type="checkbox"/> <input type="checkbox"/>	CS 6 (*)			
C.5	ANCHOR BOLTS TIGHTNESS BEFORE GROUTING	<input type="checkbox"/>	<input type="checkbox"/>				
C.6	BOLTS TIGHTNESS FOR ELEVATED STRUCTURE	<input type="checkbox"/>	<input type="checkbox"/>	CS 3 (*)			
C.7	GROUTING AUTHORIZATION YES <input type="checkbox"/> NO <input type="checkbox"/>			CW 58 (*)			
C.8	ANCHOR BOLTS TIGHTNESS AFTER GROUTING	<input type="checkbox"/>	<input type="checkbox"/>				
C.9	CLEANING & FINAL ACCEPTANCE	<input type="checkbox"/>	<input type="checkbox"/>				

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

CW 58 N° _____ CS 3 N° _____ CS 6 N° _____ CS 7 N° _____

N.A. = NOT APPLICABLE

ACC. = ACCEPTED

C.10) FINAL DOC. REVIEW	INSPECTORS	CONTRACTOR	PMC	OWNER
	NAME			
	SIGNATURE			
	DATE			



PROJECT:

COMPANY:

QUALITY CONTROL FORM

CS 3

PROJ. No.:

QCF REV. A

SH. 1 OF 1

**BOLTS TIGHTENING CHECK
(STRUCTURES REPORT)**

CONTRACTOR:

CS 3 N° _____

STEEL STRUCTURE DESCRIPTION / ITEM _____

AREA _____

DRAWINGS & REV. _____

1 NUMBER OF OMOGENEOUS NODES INCLUDED
IN THE REFERENCE LOT TO BE CHECKED _____

2 SIZE OF BOLTS _____

3 BOLTS CLASS _____

4 DESIGN TIGHTENING TORQUE (Nm) _____

(ONLY FOR CALIBRATED WRENCH APPLICATION)

5 TOTAL N° OF BOLTS FOR THE REF. LOT _____

6 BOLT CHECK

- MINIMUM 5% OF TOTAL BOLTS FOR THE REF. LOT
- MINIMUM 2 BOLTS PER EACH NODE

7 TIGHTENING METHOD

- CALIBRATED WRENCH ☐
- TURN OF NUTS ☐

CHECKED BOLTS
PER NODEACTUAL TORQUE (1)
(Nm)

ACC.

UN-ACC.

Total Bolt Checked

REMARKS: (1) Column to fill up only when Calibrated Wrench is applied.

INSPECTORS**CONTRACTOR****PMC****OWNER**

NAME

SIGNATURE

DATE



COMPANY:

SH. 1 OF 1

CS 6 N° _____

AREA _____

NOTES: (1) COLUMN IDENTIFICATION

INSPECTORS	CONTRACTOR	PMC	OWNER
NAME			
SIGNATURE			
DATE			



COMPANY:

SH. 1 OF 1

CS 7 N°

AREA

OWNER



COMPANY:

CW 58

SH. 1 OF 1

CW 58 N° _____

REMARKS:

DATE _____