

Subject: Quality Assurance Plan-Type-1 CNG Cylinder Cascade



GUJARAT ENERGY

QUALITY ASSURANCE PLAN (QAP)

**SUPPLY OF TYPE – I CNG STORAGE CASCADE
(3000 WLC/ 4500 WLC)**

File No: GEL-Tech. Services-2026-9-191696

Document No: GGL/TS/CNG/SUPPLY/TYPE-1 CASCADE/QAP

REV. NO	CLAUSE NO.	REVISION DESCRIPTION	DATE OF ISSUE
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Sr. No.	Characteristic & Test	Nature	Inspection By			Quantum Of Check (TPI)	Reference Documents
			OEM	TPI	CLIENT		
1.	CASCADE FRAME DRAWING: 1. DIMENSION CHECK AS PER DRAWING 2. DP TEST OF WELD JOINTS 3. PAINT COATING THICKNESS	Major	Document Submission by OEM & Review of Certificate	Sr. No. 1 and 3: Witness and Review of Certificate Sr. No. 2: Review of Certificate	Review of Certificate	100%	As per approved drawing
2.	CYLINDER	Major	Document Submission by OEM & Review of Certificate	Physical verification & Review of Cylinder manufacturing test Certificates & NOC for cylinder issued by CCOE, Nagpur	Review of Certificate	100%	As per IS 7285 Part-2
3.	CYLINDER CLAMP: MAJOR CYLINDER CLAMP WITH MS CLAMP	Major	Document Submission by OEM & Review of Certificate & Drawing	Verification of fitting and layout as per drawing	Review of Certificate	100%	
4.	CYLINDER VALVES: INSPECTION AS PER MANUFACTURING PROCEDURE	Major	Document Submission by OEM & Review of Certificate	Review of Certificate	Review of Certificate	100%	
5.	CYLINDER ASSEMBLY FRAME: VERIFICATION OF CYLINDER'S SR. NO.	Major	Document Submission by OEM & Review of Certificate	Review and Verification of Loading Chart	Review of Certificate	100%	
6.	VALVE MANIFOLD & HEADER ASSEMBLY: VERIFICATION OF FITTING, SIZES.	Major	Document Submission by OEM & Review of Certificate	Verification of test certificates for material and test pressure & verification of layout from GEL approved drawings	Review of Certificate	100%	
7.	VENT MANIFOLD: SS 316 TUBING WITH SS 316 FITTING.	Major	Document Submission by OEM & Review of Certificate	Verification of fitting and layout from GEL approved drawings	Review of Certificate	100%	
8.	VENT ARRANGEMENT (UPTO 3MTR. FROM OPERATING LEVEL) WITH STEEL FITTING & STEEL TUBE	Major	Document Submission by OEM & Review of Certificates & Drawing	Verification of fitting and layout from GEL approved drawings	Review of Certificate	100%	

9.	PRESSURE TESTING OF SS TUBING WITH SS FITTING, JOINTS AND HEADER BY AIR PRESSURE (250 BAR AND HOLD FOR 5 MINS.)	Major	Document Submission by Conformance to test procedure with test Certificates/ Reports from OEM	Witness and Review of Certificate/ Report	Review of Certificate/ Report	100%	
10.	LEAKAGE TEST OF VENT MANIFOLD: AIR TEST AT 5 BAR & HOLD FOR 5 MINS. WITH SOAP SOLUTION)	Major	Document Submission by Conformance to test procedure with test Certificates/ Reports from OEM	Witness and Review of Certificate/ Report	Review of Certificate/ Report	100%	
11.	VISUAL INSPECTION OF COMPLETE ASSEMBLY	Major	Document Submission by Conformance to test procedure with test Certificates/ Reports from OEM	Witness and Review of Certificate/ Report	Review of Certificate/ Report	100%	
12.	TC VERIFICATION: SS NRV, SS BALL VALVE, SS BLEED VALVE/ SS NEEDLE VALVE, SS PRESSURE RELIEF VALVE.	Major	Document Submission by OEM & Review of Certificate & Drawing	Review of Certificates & Drawings	Review of Certificate	100%	
13.	CALIBRATION OF MEASURING INSTRUMENTS FOR INSPECTION.	Major	Document Submission by OEM & Review of Certificate	Review of Certificates	Review of Certificate	100%	
14.	CHECKING OF CYLINDERS PAINT COATING THICKNESS	Major	Document Submission by OEM, Witness & Review of Certificate	Witness & Review of Certificates as per approved drawing	Review of Certificate	100%	
15.	MARKING AND INSPECTION IDENTIFICATION STAMPING OVER CASCADES	Major	Document Submission by OEM & Witness & Review of Certificate	Witness & Review of Certificates	Review of Certificate	100%	
16.	VALID PESO (CCOE) APPROVAL OF CYLINDER DESIGN, CYLINDER MATERIAL, CYLINDER SHUT OFF	Major	Document Submission by OEM & Review of Certificate	Review of PESO approved Certificates	Review of Certificate	100%	

	VALVE WITH FUSIBLE BRUST DISC						
17.	CALIBRATION CERTIFICATES OF TEMP. GAUGE AND PRESSURE GAUGE	Major	Document Submission by OEM & Review of Certificate	Review of Certificates	Review of Certificates	100%	
18.	FIRST FILLING PERMISSION ISSUED BY PESO	Major	Document Submission by OEM & Review of Certificate & first filling permission shall not be 6-month-old for any cylinder used inside cascade	Review of PESO cylinder fill permission and it should not be more than 6-month-old.	Review of Certificate	100%	
19.	CALIBRATION CERTIFICATES OF SRV	Major	Document submission by OEM and SRV shall be tested as per SMPV rule. Testing medium shall be Air/ Gas	Review of Certificate	Review of Certificate	100%	Testing shall be performed by competent authority certified under Factories act 1948