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INSPECTION REPORT Nr LNP/BJ-12/048-CD01	
J-PECO Job nr: LNP/BJ-12/048	

PROJECT: Ghana Early Phase Gas Infrastructure Project	Ref: JPP/HF-12/048
J-PECO Client: Sinopec International Petroleum Service Company (SIPSC)	P/o nr: / (client to J-PECO)
Manufacturer: SICHUAN KEYCON VALVE MANUFACTURING CO., LTD (KCON)	P/o nr: / (client to Manufacturer)
Inspection requested by: Sinopec International Petroleum Service Company (SIPSC)	

No.	SUPPLY / SUBJECT OF INSPECTION	KCON Serial Nr	Project TAG Nr	QTY
1	12"-1500LB Top Entry Trunnion Ball Valves (PNEUMATIC ACTUATOR)	J-31362-1	ESDV-01-001-GP	1 set
2	12"-1500LB Top Entry Trunnion Ball Valves (GEAR OPERATOR)	J-31361-1, J-31361-2, J-31361-3, J-31361-4.	J-PECO-01-001-GP, J-PECO-01-002-GP, J-PECO-01-003-GP, J-PECO-01-004-GP.	4 sets

DOCUMENTS OF REFERENCE : See continuation sheet for additional documents: <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No				
Title	Reference n°	Rev.	Approved by	Date
ITP	CP12228KO	2-1	SIPSC	2012-11-12
Data sheet	05-3994-01-P-1-021	01	SIPSC	2012-06-26
Technical bid docuemnts	Project No. 2011074	-	SIPSC	2012-12-14

INSPECTIONS : <u>Inspection place & Date or Period:</u> Place: Guanghan city, P. R. China Date: 2013-1-27~2-1 <u>Stage of inspection :</u> <input type="checkbox"/> Before manufacturing <input type="checkbox"/> During manufacturing <input checked="" type="checkbox"/> Final <input type="checkbox"/> Packing <u>Kind of inspection:</u> <input type="checkbox"/> Pre-inspection meeting <input checked="" type="checkbox"/> Witnessing tests <input checked="" type="checkbox"/> Final inspection <input checked="" type="checkbox"/> Document review <input type="checkbox"/> Expediting & vendor assessment <input type="checkbox"/> Packing (for details see continuation sheet) <u>Stamping :</u> <input checked="" type="checkbox"/> No <input type="checkbox"/>  <input type="checkbox"/> 	<u>Results of inspection :</u> <input checked="" type="checkbox"/> Satisfactory <input type="checkbox"/> Unsatisfactory <u>Non Conformities Reports (NCR):</u> <input type="checkbox"/> NCR's issued during reported period : None <input type="checkbox"/> List of outstanding NCR's : None <u>Main Conclusions & Remarks:</u> (for details see continuation sheet) J-PECO inspector witnessed pressure testing and function testing, and performed final inspection, and review relevant document, the inspection results were acceptable as per project specification The inspection details refer to the following report content. <u>Next visit scheduled:</u> TBA
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Description of the inspections carried out:

➤ Introduction

J-PECO inspector XXX from J-PECO CHINA carried out the visit inspection for the ball valves listed in the last page during 2013-1-27~2-1 at **SICHUAN KEYCON VALVE MANUFACTURING CO., LTD** (hereafter as KCON). The inspection results were acceptable.

J-PECO Scope of work

1. Witness Pressure test
2. Witness torque test
3. Witness Function test
4. Witness Anti-Static test
5. Visual inspection
6. Dimension inspection
7. Painting check
8. Documents review

➤ Manufacturing Progress Status

J-PECO inspector arrived at KCON, all valves were finished assembly, and ready for pressure testing. Up to now, KCON is ready for packing and loading.

Item	Assembly	Testing	Painting	Packing
1	100%	100%	100%	Ready
2	100%	100%	100%	Ready

➤ Details of inspection activities carried out with respect to scope of work

1. Witness pressure testing

J-PECO inspector witnessed pressure testing for the 5 sets of valve according to API 6D standards. The details were as following table:

No	Strength test	Water seal test	Air seal test	DBB water test	DBB air test	Results
1	38MPa/15min	27.5MPa/5min	0.6MPa/5min	27.5MPa/5min	0.6MPa/5min	Acc.
2	38MPa/15min	27.5MPa/5min	0.6MPa/5min	27.5MPa/5min	0.6MPa/5min	Acc.

The pressure testing was acceptable. Please refer to process pictures:



Shell strength testing



P=38MPa



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Water seal testing (No leakage)



P=27.5MPa



Air seal testing (No leakage)



P=0.6MPa



DBB water seal testing (No leakage)



DBB air seal testing (No leakage)

2. Witness torque testing

KCON tested the torque values for the 5 sets of valve. J-PECO inspector witnessed total process, and checked the torque values, which met drawing's requirement. KCON tested the torque value for item1 (PNEUMATIC ACTUATOR) with special test tool. Please see following pictures:

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Overview of test torque for item1



Testing process

KCON tested the torque value for item2 (GEAR OPERATOR, 4 sets) with torque spanner. Please see following pictures:



Overview of test torque for item2



Testing values

3. Witness Function test

Because the PNEUMATIC ACTUATOR didn't arrive at KCON site (buy it from aboard). So, KCON did the function test with gear box (it's same with item2).

J-PECO inspector witnessed the function process, and run the wheel, it's smooth. Accepted.



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J-PECO inspector witnessed the anti-static testing process. KCON tested the anti-static with multimeter (12V). Required value is less than 10ohm. Actual values are about 0.4ohm, which met standard's requirements.



Between stem and body



Between stem and ball

5. Visual inspection

J-PECO inspector checked the Visual quality as per approved drawings and spec. The 2 plugs were welded after pressure testing, it met drawing's requirements. J-PECO inspector found one nut was installed incorrectly. KCON corrected them, acceptable.



Overview

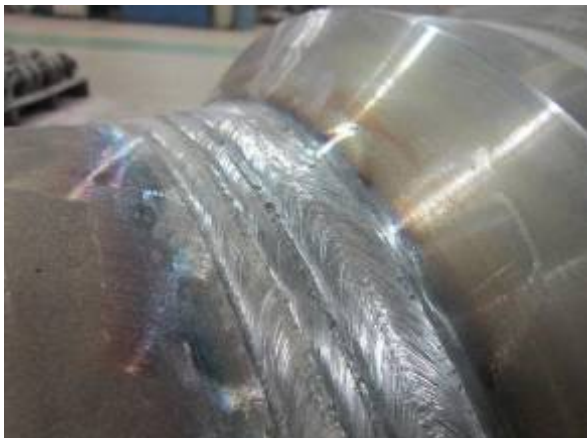


Plugs were welded



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Before correcting



Weld seam check

After correcting



Traceability check

6. Dimension inspection

J-PECO inspector checked the main dimension as per approved drawings. It's acceptable. Please refer to following pictures.

**7. Painting check**

J-PECO inspector randomly checked the dry film thickness for primer.



Overview



Check DFT


☐ Interim
☒ Final

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KCON do the painting as per KCON' specification. And DFT met KCON's procedure. KCON didn't complete top coat till J-PECO inspector leave.

J-PECO inspector checked the paint, please following pictures.



8. Documents review

KCON submitted some documents for review.

J-PECO inspector found the heat number was wrong as per my experience. KCON contacted the forging supplier, and confirmed this thing. And the forging supplier corrected and issued the MTC. KCON corrected the heat number on the surface of parts.



Before correcting



After correcting



Before correcting



After correcting


☐ Interim
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The documents included:

- MTC of raw materials
- UT reports
- UT operator and reviewer's personnel certificates
- Assembly records
- Pressure testing report
- Function and torque testing report
- Anti-static testing report
- Fire test certificate of API 607
- 3.1 TEST and MATERIALS certificates (please refer to annexe1)

Above documents were reviewed, and acceptable.

➤ Results of Inspection

The inspection results are acceptable according to the project specification.

➤ Problems pending / Areas of Concern

N/A

ANNEXES ☒ Yes (3.1 certificates) ☐ No

Inspected by:

Name: XXX

Signature:

Date of issue: 2013-2-3

Inspection centre: J-PECO CHINA

Checked by:

Name: XXX

Signature:

Distribution: ☒ CLIENT ☐ MANUFACTURER ☒ J-PECO CHINA