

SHAMS POWER COMPANY
ENGINEERING DIVISION
INSPECTION & CORROSION SECTION
SHAMS 1

LOCATION : R1LCC50AC001

KKS : R1LCC50AC001

GRADE & CLASSIFICATION : 2

CERTIFICATE OF INSPECTION

The equipment detailed below was examined in accordance with the SHAMS code of practice for plant inspection,

ITEM : HP- Heater -3

LOCATION : SHAMS Plant

TYPE OF INSPECTION : Major

DATE OF INSPECTION : March, 2020

PLACE OF INSPECTION : IN-SITU

DATE OF LAST INSPECTION : Jan, 2019

REPORT :

1.0. SUMMARY

The above HP- Heater -3 was taken off line, isolated, opened, vented & cleaned for major external & internal inspections.

2.0. SUBJECT

2.1. This is a horizontal, cylindrical, carbon steel tank with one inlet and outlet of condensate water.

Item	Shell Side	Tube side
Design pressure		
Design temperature		
Operation pressure		
Operation temperature		
Fluid	Steam/condensate	Water
Material	Carbon Steel	304 L
Tube Number		1216
Tube diameter		5/8 inch
Tube thickness		2.11 mm
Tube length		9500 mm

.....
The above equipment is/ ~~is not~~ considered suitable for further service under the present operating conditions

NEXT MAJOR INSPECTION DUE : March 2024

INSPECTED: Osman Ismail

ENDORSEMENT: 48 MONTHS

REVIEWED: Ali Al Masabai

3.0 HISTORY

This HP heater -3 was commissioned in 2013. Periodical inspection records since Oct.'2014 are available.

4.0. SCOPE OF INSPECTION

- 4.1 Visual Inspection
- 4.2 Ultrasonic Thickness survey
- 4.3 Dye- penetrant

5.0. CONDITIONS FOUND

5.1. External (Shell side)

- 5.1.1 All painting and insulation found intact without any evidence of painting peel off or blistering and no evidence of any damage for insulation or insulation cover aluminum sheet.
- 5.1.2 All ladders, stairways and handrails found in satisfactory condition.
- 5.1.3 All concrete support found in satisfactory condition without evidence of cracking or spalling.
- 5.1.4 All external piping insulation found in satisfactory condition.
- 5.1.5 All earthing lugs found in satisfactory condition.

5.2. Internal (Tube side)

- 5.2.1 All tubes as could see internal surfaces found satisfactory condition without evidence of corrosion.
- 5.2.2 All tube to tube sheet welds found in satisfactory condition.

6.0 NDT

6.1 Ultrasonic thickness survey

Ultrasonic thickness measurement was carried out on accessible locations of channel found satisfactory with average thickness 67.22 mm. See attached thickness measurement report.

6.2 Dye – Penetrant test

Dye – Penetrant test was carried out on tube to tube sheet welds found satisfactory. See attached thickness measurement report.

6.3 Eddy Current test

It was not done during that outage 2020

6.4 borescope Inspection

It was not done during that outage 2020

7.0. Recommendations

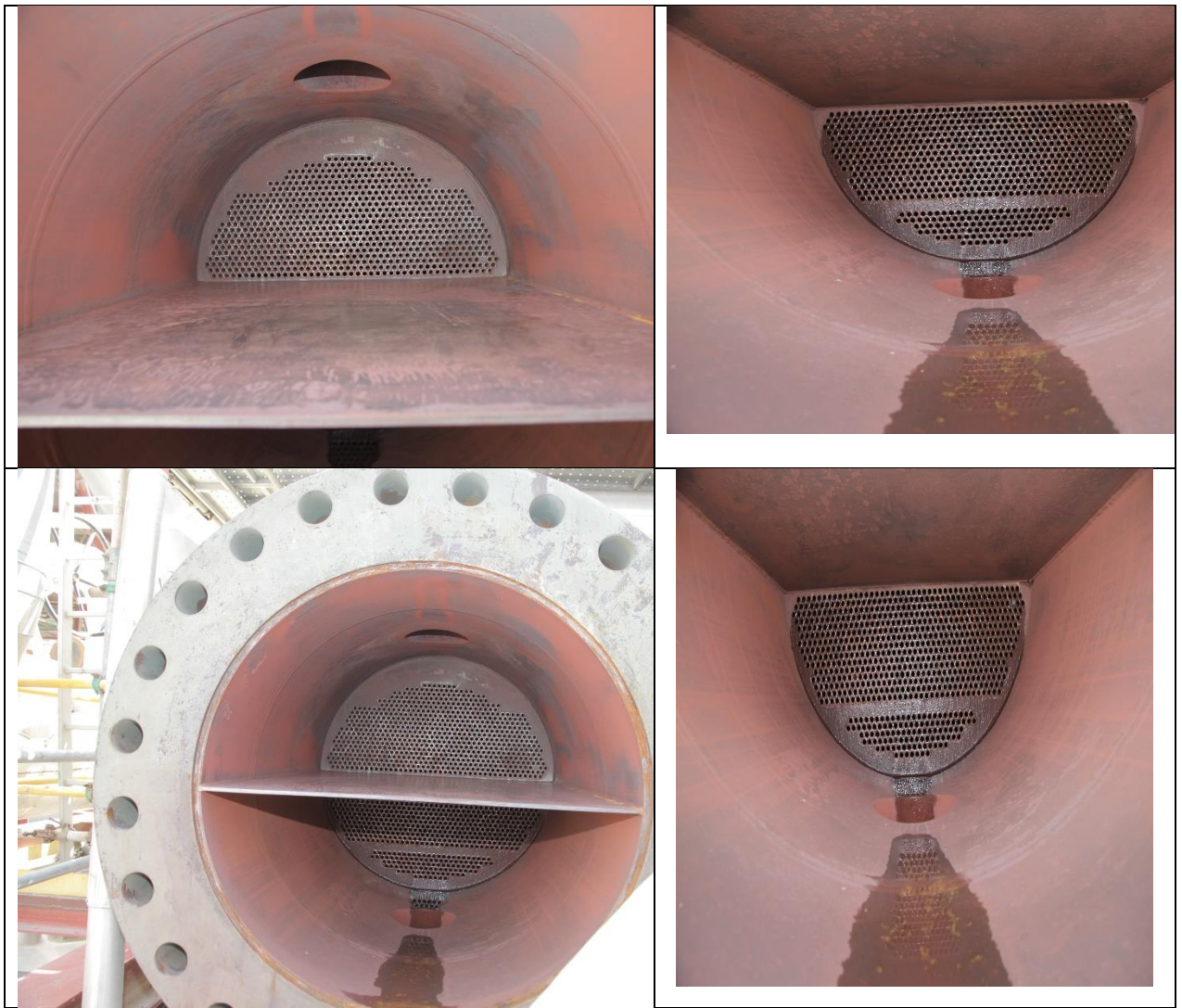
HP heater -3 should be open for inspection after four years as per SHAMS code of practice.

9.0 Inspection Grade and Interval

In accordance with the latest revision of SHAMS Code of Practice, this HP- Heater -3 endorsed for 48 months under class 2, for next Major Inspection.

FREQUENCY : 48 MONTHS.
ENDORSEMENT : 48 MONTHS,
GRADE : 2
Next Major Insp. due : March, 2024

Photos



Tubes, welds and internal surfaces of (channel & pass partition)

Form No.: IN-QSF-36 Rev. 05E Dtd.: 20-10-2018


ULTRASONIC THICKNESS GAUGING REPORT

Client:	SHAMS POWER COMPANY		
Date:	14.03.2020	Report No.:	AD / 477
Project:	SHAMS OUTAGE MARCH 2020	Job No.:	N/A
Location:	MADINAT ZAYED	Drawing No.:	N/A
Item ID:	HP HEATER-3	Material:	CS
Ref/ Procedure No:	INSPEC/UTG/001 Rev.10	Ref. Standard:	ASME SEC V
UTG Equipment Model/ Manufacturer:	USM 35 X DAC / GE	Serial No.:	7292a
Calibration Block No.:	STEP WEDGE, IHW V2 BLOCK	EQPT Calibration Certificate & Due Date:	INS/UT/CAL-043/19/AUH
Probe Type/ Size/Frequency:	WK TR 0° PROBE/ 10mm DIA / 5 MHz	Couplant Brand Name & Type:	POLYCELL + WATER
Connecting Cable Type & Length:	LEMO TO MICRODOT & 2 MTR	Special Attachment/ Equipment/ Block:	STEP WEDGE BLOCK (SL NO : AZB270)
Test Temperature:	AMBIENT	Surface Condition:	AS CLEANED
Inspection Date:	14.03.2020	Page:	1 of 1
Description:			

ULTRASONIC THICKNESS GAUGING WAS CARRIED OUT ON THE FOLLOWING HP HEATER-3 (KKS R1LCC50AC001)

LOCATION	ORIENTATION	MEASURED THICKNESS (mm)
1	12 O'CLOCK	67.22
1	3 O'CLOCK	66.80
1	6 O'CLOCK	66.85
1	9 O'CLOCK	67.13

REPORT FORMAT APPLICABLE ONLY FOR AUH & FUJ FACILITY

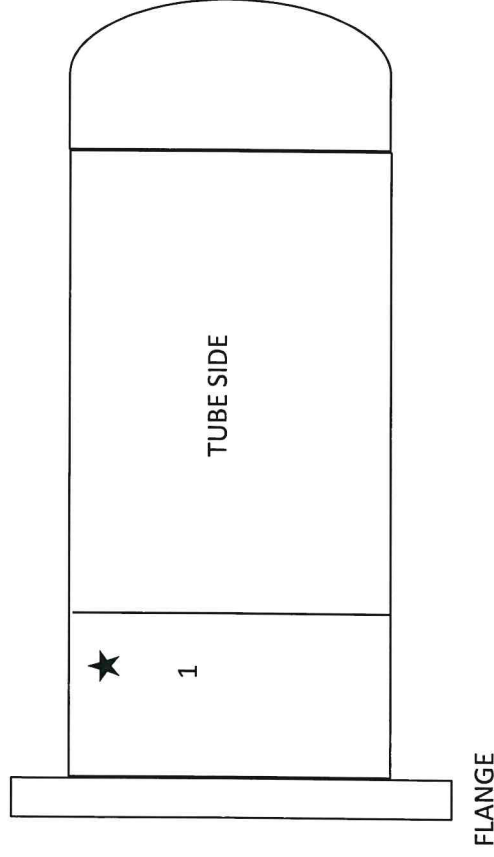
LEVEL II TECHNICIAN		CLIENT REPRESENTATIVE		AI / TPI
Name :	RAJESH KANNAN	Name :		
Sign :		Sign :		
Date :	14.03.2020	Date :		
<small>Dubai Branch Sharjah Branch Abu Dhabi Branch Fujairah Branch Oman Branch Registered Office</small>		<small>Tel: 04 3241955 Tel: 06 5361300 Tel: 02 6225820 Tel: 09 2230754 Tel: 00968 2440 5855</small>		<small>Email: inspec.dxbcoor@intertek.com Email: inspec.shjcoor@intertek.com Email: inspec.adhcoor@intertek.com Email: inspec.fujcoor@intertek.com Email: inspec.muscat@intertek.com</small>

Please see terms & conditions. This report is valid only if signed and stamped (Numbered Stamp) by Level II / Level III.

For Complaints & Suggestions:
Please email to: suggestions.inspec@intertek.com

ULTRASONIC THICKNESS SCANNING DRAWING SHEET

HP HEATER-3



★ UTG LOCATION

LEVEL II TECHNICIAN

Name :- RAJESH KANNAN & SIVANESAN

Sign

Sign No.

Date :- 03/03/2020

Form No.: IN-QSF-36 Rev. 05E Dtd.: 20-10-2018


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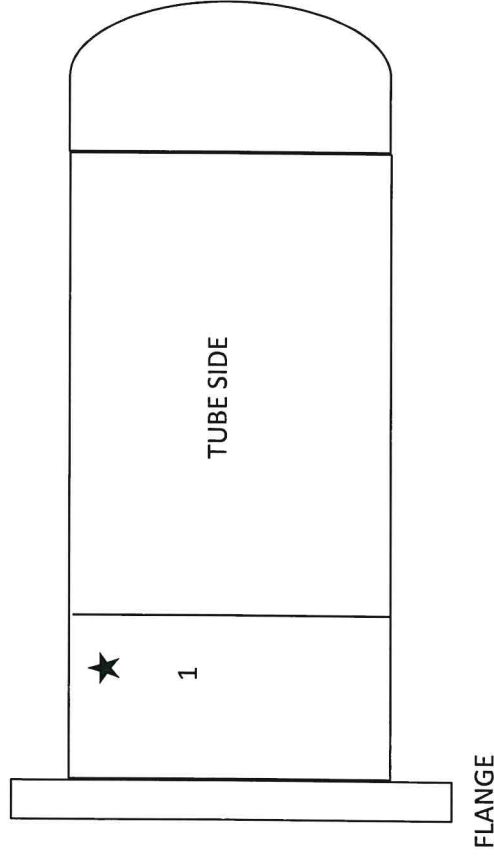
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Name :	RAJESH KANNAN	Name :		
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Dubai Branch Sharjah Branch Abu Dhabi Branch Fujairah Branch Oman Branch Registered Office		Tel: 04 3241955 Tel: 06 5361300 Tel: 02 6225820 Tel: 09 2230754 Tel: 00968 2440 5855		Email: inspec.dxb@intertek.com Email: inspec.shj@intertek.com Email: inspec.adh@intertek.com Email: inspec.fuj@intertek.com Email: inspec.muscat@intertek.com

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