

SHAMS POWER COMPANY
ENGINEERING DIVISION
INSPECTION & CORROSION SECTION
SHAMS 1

LOCATION : R1LCA10BB001

KKS : R1LCA10BB001

GRADE & CLASSIFICATION : 2

CERTIFICATE OF INSPECTION

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

ITEM : Condensate tank

LOCATION : SHAMS Plant

TYPE OF INSPECTION : Major

DATE OF INSPECTION : March, 2020 -Outage

PLACE OF INSPECTION : IN-SITU

DATE OF LAST INSPECTION : Jan, 2019

REPORT :

1.0. SUMMARY

The above pressure vessel was taken off line, isolated, opened, vented & cleaned for major external & internal inspections.

2.0. SUBJECT

2.1. This is a horizontal, cylindrical, ASTM A-516 Gr.60 tank with one inlet and outlet of condensate water.

Size	3.3X10.42 m
Design pressure	3 barg
Design temperature	+50 c
Operation pressure	65 mbarg
Operation temperature	40c
Fluid characteristics @ 141 c	
Flanges	1A3
Piping	1A3
Shell minimum thickness	1.6mm corrosion allowance
Head minimum thickness	1.6mm corrosion allowance

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

NEXT MAJOR INSPECTION DUE :January 2024

INSPECTED: Osman Ismail

ENDORSEMENT: 48 MONTHS

REVIEWED: Ali AL Masabai

3.0 HISTORY

This tank 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 measurement.

5.0. CONDITIONS FOUND

5.1. External

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

5.2.1 All internals found in satisfactory condition without evidence of fallen down, damage or corrosion.

5.2.2 All internal surfaces of shell and heads found in satisfactory condition, apart from normal carbon steel very thin hydroxide layer.

5.2.3 All welds of shell and heads found in satisfactory condition without evidence of heavy

5.2.4 All internal surfaces of connected nozzles and manway found in satisfactory condition accept manhole visual inspection revealed noticeable pit surrounded by some shallow wide pits. This is most probably due to oxygen corrosion.

5.2.5 All thermos wells found in satisfactory condition.

8.1. Ultrasonic Testing

- Ultrasonic thickness measurement was carried out on the internal shell courses and heads found satisfactory. See attached thickness measurement report.

6.0. Recommendation

- Review BFW deaerating process to assure absence of oxygen and mitigate any oxygen further corrosion.

10. Inspection Grade and Interval

In accordance with the latest revision of SHAMS Code of Practice, this **Condensate tank** was endorsed for 48 months for next Major Inspection.

FREQUENCY : 48 MONTHS.

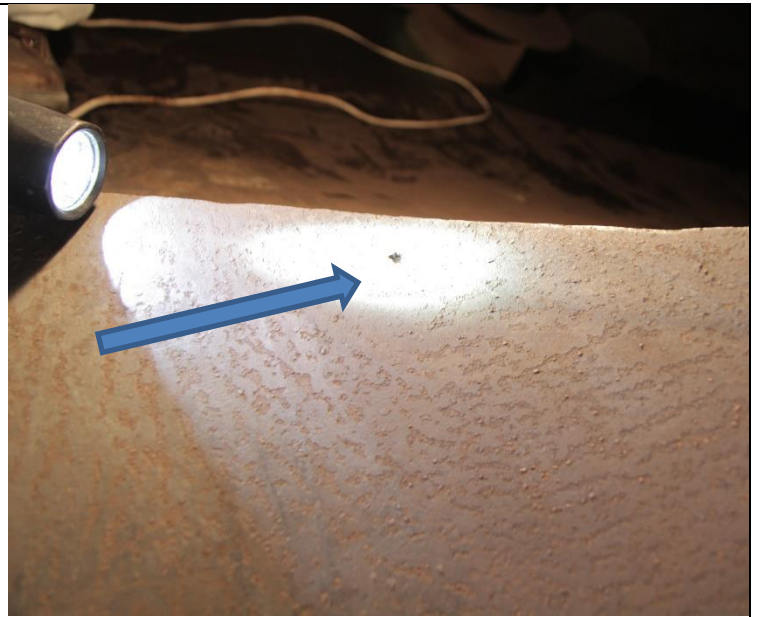
ENDORSEMENT : 48 MONTHS,

Next Major Insp. due : March, 2024

Photos



Condensate tank general view



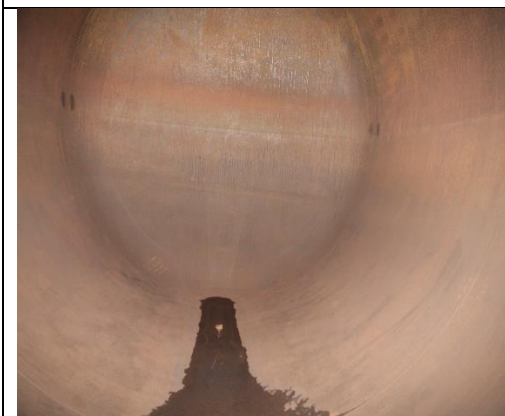
Manway nozzle pitting



Internals and shell surfaces







Manway, manway cover and devoid



Dished end internal surfaces



Shell internal surfaces and welds

	
<p>Spray nozzle condition</p>	<p>Shell and connected nozzle internal surfaces</p>
	
<p>Thermowells – general & close up views</p>	

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

ULTRASONIC THICKNESS GAUGING REPORT

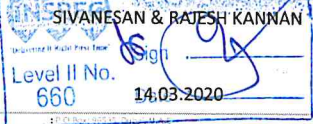
Client:	SHAMS POWER COMPANY		
Date:	14.03.2020	Report No.:	AD / 478
Project:	SHAMS OUTAGE MARCH 2020	Job No.:	N/A
Location:	MADINAT ZAYED	Drawing No.:	N/A
Item ID:	CONDENSTATE TANK R1EKD14-BB001	Material:	CS
Ref/ Procedure No:	INSPEC/UTG/001 Rev.10	Ref. Standard:	ASME SEC V
UTG Equipment Model/ Manufacturer:	USM 35 X DAC / GE	Serial No.:	7292a
Calibration Block No.:	STEP WEDGE, IIV 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 3

Description:

ULTRASONIC THICKNESS GAUGING WAS CARRIED OUT ON THE FOLLOWING ITEM

FOR THICKNESS REFER CONTINUATION SHEET

REPORT FORMAT APPLICABLE ONLY FOR AUH & FUJ FACILITY

LEVEL II TECHNICIAN		CLIENT REPRESENTATIVE		AI / TPI
Name :	SIVANESAN & RAJESH KANNAN	Name :		
Sign :		Sign :		
Date :	14.03.2020	Date :		

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

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

(CONTINUATION SHEET)

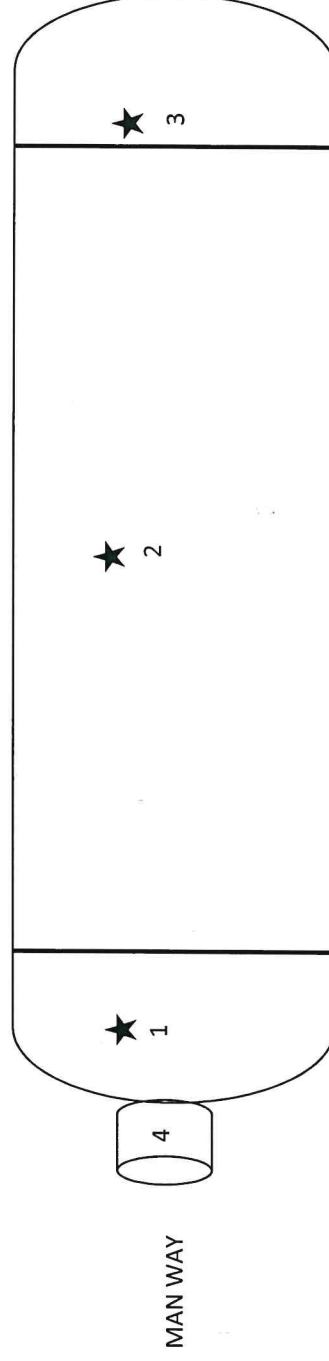
Date:	14.03.2020	Report No.:	AD- 478	Page:	2	Of	2
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Please email to: suggestions.inspec@intertek.com

ULTRASONIC THICKNESS SCANNING DRAWING SHEET

CONDENSTATE TANK



★ UTG LOCATION

LEVEL II TECHNICIAN

Name :- SIVANESAN & RAJESH KANNAN

Sign :- No.

Date :- 14.03.2020