

SHAMS POWER COMPANY
ENGINEERING DIVISION
INSPECTION & CORROSION SECTION
SHAMS 1

LOCATION : R1LAA10BB001

KKS : R1LAA10BB001

CERTIFICATE OF INSPECTION

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

ITEM : Deaerator and feed water tank

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 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.70 tank with one inlet and outlet of boiler feed water, inlet of bleed 3 steam turbine, gases outlet and inlets of chemical dosing.

Size	Length 10.5m X internal diameter 3.4m
Design pressure	5.6 bara
Design temperature	180c
Operation pressure	3.7 bara
Operation temperature	141c
Fluid characteristics @ 141 c	Water density: 925,2 kg/m ³ viscosity : 0,14 mPa.s
Shell minimum thickness	15+3mm corrosion allowance
Head minimum thickness	12.75+3mm 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.

5.1.3 All ladders, stairways and handrails found in satisfactory condition.

5.1.4 All concrete support found in satisfactory condition without evidence of cracking or spalling.

5.1.5 Manhole found in satisfactory condition without evidence of any corrosion.

5.1.6 All external piping insulation found in satisfactory condition.

5.1.7 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 except some spray nozzle found loose and it fixed back properly.

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

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

5.2.4 All internal surfaces of connected nozzles and manway found in satisfactory condition without evidence of severe corrosion.

5.2.4 All thermos wells found in satisfactory condition.

5.8.1. Ultrasonic Testing

Ultrasonic thickness measurement was carried out on the internal shell courses and heads found satisfactory. Thickness measurement report available.

6.0. Recommendations

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

any

10. Inspection Grade and Interval






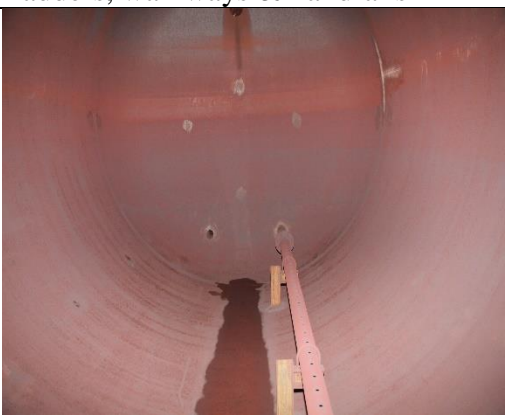
In accordance with the latest revision of SHAMS Code of Practice, this **Deaerator** was endorsed for 48 months under class 2, for next Major Inspection.

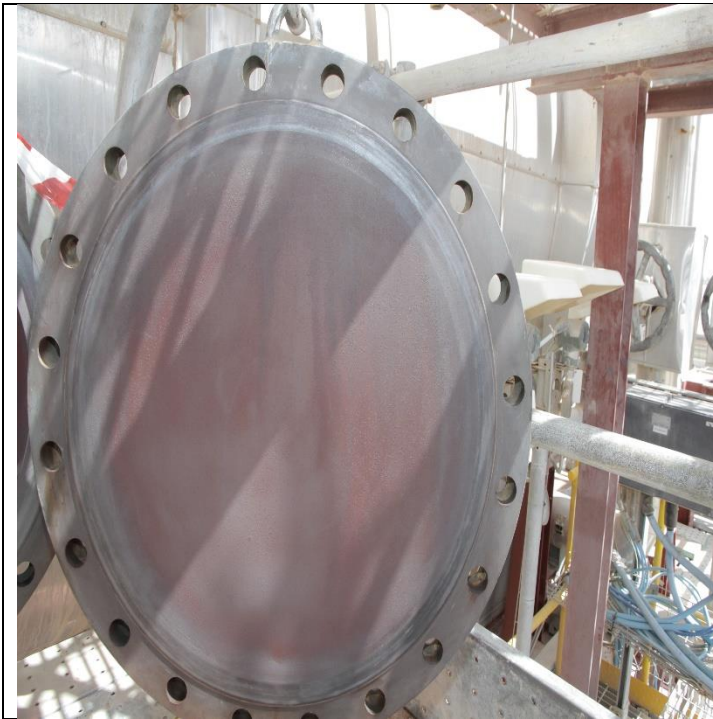
Frequency : 48 Months.

Endorsement : 48 Months

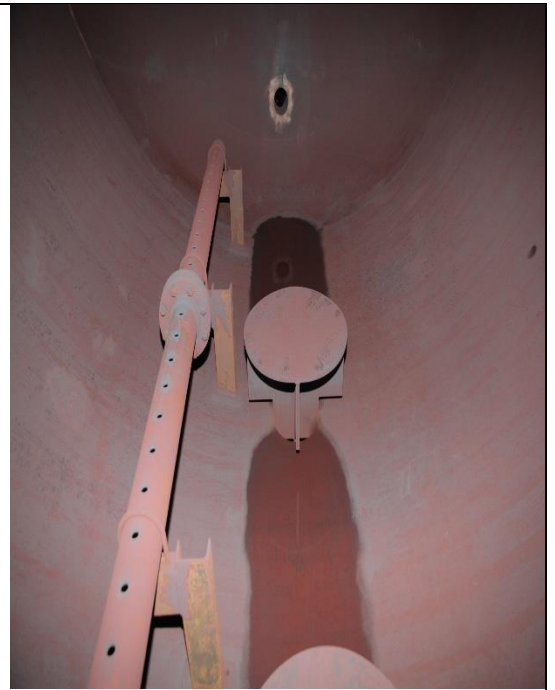
Next Major Insp. due : March, 2024

Photos

	
<p>Spray nozzles & internals</p>	<p>Internals</p>
	
<p>Shell internal surfaces and welds</p>	<p>Ladders, walkways & handrails</p>
	
<p>Manway cover & devoid (deaerator)</p>	<p>Feed water tank internal surfaces and weld</p>



Manway cover & devoid (feed water tank)



Internals (feed water tank)

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

ULTRASONIC THICKNESS GAUGING REPORT


Client:	SHAMS POWER COMPANY		
Date:	03.03.2020	Report No.:	AD / 457
Project:	SHAMS OUTAGE MARCH 2020	Job No. :	N/A
Location:	MADINAT ZAYED	Drawing No.:	N/A
Item ID:	DEAERATOR - R11LA10 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, I1W 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:	03.03.2020	Page:	1 of 2

Description:

ULTRASONIC THICKNESS GAUGING WAS CARRIED OUT ON THE FOLLOWING ITEM

FOR THICKNESS DETAILS REFER CONTINUATION SHEET

REPORT FORMAT APPLICABLE ONLY FOR AUH & FUJ FACILITY

LEVEL II TECHNICIAN		CLIENT REPRESENTATIVE		AI / TPI
Name :	AFZAL ANSARI & SHYMAL PAUL	Name :		
Sign :		Sign :		
Date :	03.03.2020	Date :		

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Please email to: suggestions.inspec@intertek.com

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

ULTRASONIC THICKNESS SCANNING REPORT

(CONTINUATION SHEET)

Date:	03.03.2020	Report No.:	AD- 457	Page:	2	Of	3
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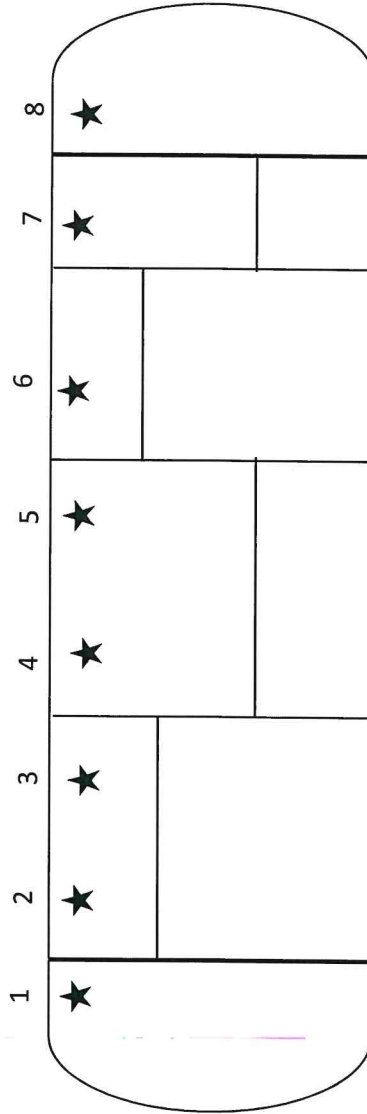
LOCATION	ORIENTATION	ORIGINAL THICKNESS	MEASURED THICKNESS MINIMUM (mm)	DIMINUTION IN mm	DIMINUTION IN %	REMARK
1	12"O"CLOCK	-	14.01	-	-	DISH
1	3"O"CLOCK	-	14.02	-	-	DISH
1	6"O"CLOCK	-	14.03	-	-	DISH
1	9"O"CLOCK	-	14.45	-	-	DISH
2	12"O"CLOCK	-	15.60	-	-	SHELL
2	3"O"CLOCK	-	15.30	-	-	SHELL
2	6"O"CLOCK	-	15.60	-	-	SHELL
2	9"O"CLOCK	-	15.60	-	-	SHELL
3	12"O"CLOCK	-	15.70	-	-	SHELL
3	3"O"CLOCK	-	15.20	-	-	SHELL
3	6"O"CLOCK	-	15.70	-	-	SHELL
3	9"O"CLOCK	-	15.40	-	-	SHELL
4	12"O"CLOCK	-	15.40	-	-	SHELL
4	3"O"CLOCK	-	15.60	-	-	SHELL
4	6"O"CLOCK	-	15.20	-	-	SHELL
4	9"O"CLOCK	-	15.60	-	-	SHELL
5	12"O"CLOCK	-	15.40	-	-	SHELL
5	3"O"CLOCK	-	15.40	-	-	SHELL
5	6"O"CLOCK	-	15.60	-	-	SHELL
5	9"O"CLOCK	-	15.70	-	-	SHELL
6	12"O"CLOCK	-	15.40	-	-	SHELL
6	3"O"CLOCK	-	15.60	-	-	SHELL
6	6"O"CLOCK	-	15.70	-	-	SHELL
6	9"O"CLOCK	-	15.40	-	-	SHELL
7	12"O"CLOCK	-	15.70	-	-	SHELL
7	3"O"CLOCK	-	15.60	-	-	SHELL
7	6"O"CLOCK	-	15.60	-	-	SHELL
7	9"O"CLOCK	-	15.70	-	-	SHELL
8	12"O"CLOCK	-	13.89	-	-	DISH
8	3"O"CLOCK	-	13.90	-	-	DISH
8	6"O"CLOCK	-	13.27	-	-	DISH
8	9"O"CLOCK	-	14.02	-	-	DISH

REPORT FORMAT APPLICABLE ONLY FOR AUH & FUJ FACILITY

LEVEL II TECHNICIAN		CLIENT REP.	AI/TPI
Name : Sign : Date :	 SHYMAL PAUL 05.03.2020	Name : Sign : Date :	
Dubai Branch Sharjah Branch Abu Dhabi Branch Fujairah Branch Oman Branch Registered Office	Level II No. 600 Date :	Fax: 04 3241957 Fax: 06 5361173 Fax: 02 6225830 Fax: 09 2238754 Fax: 00968 2448 5555	Email: inspec.dxbcoor@intertek.com Email: inspec.shjcoor@intertek.com Email: inspec.adcoor@intertek.com Email: inspec.fujcoor@intertek.com Email: inspec.muscat@intertek.com
33-37 Athol Street, Douglas, IM1, 1LB, Isle of Man. Company Number 010728V.		INSPEC IS PART OF INTERTEK GROUP For Complaints & Suggestions: Please email complaints@intertek.com	

ULTRASONIC THICKNESS SCANNING DRAWING SHEET

DEAERATOR TANK



★ UTG LOCATION

LEVEL II TECHNICIAN

Name :- SHYMAL PAUL & ARZAL ANSARI

Sign :-

Level II No.

Date :- 03.03.2020