



Pressure Equipment Integrity Management System

External Inspection Form

Owner: EOG Canada Oil and Gas District / Facility: Northeast BC / Maxhamish
 Location (LSD) ♦: D-36-I/94-O-14 Surface Location: _____

Vessel Data

A Number ♦ : SN-REB-01-0141-01-001-R Serial Number ♦ : REB-01-0141-01-001-R
CRN ♦ : n/a Vessel Type: Reboiler
Description ♦ : Dehy 2 Glycol Regenerator/Reboiler Skid / Process: Dehy 2
Tag No: H-300, 6763EOG, BF5830 Current Status: In Service

Course #1 (Main)

Orientation: <u>Horizontal</u>	Coated?	<u>No</u>	Type:	
Fluids: _____	Anodes?	<u>No</u>	Type:	Quantity:
Sour ♦ ? <u>No</u>	Hand Holes?	<u>No</u>		
Manufacturer ♦ : _____	Manway?	<u>No</u>	Size:	
MAWP ♦ : <u>15 psi</u>	MAWP Temp:	<u>100 °F</u>	MDMT:	
Shell Material: _____	Nom. Shell Thick:			
Head Material: _____	Min. Head Thick:			
Diameter: <u>34 in OD</u>	Length:	<u>129 in</u>		
Year Built ♦ : _____	Installation Date ♦ :			
Volume: _____	Corrosion Allow:			
Radiography: <u>None</u>	Stress Relieved?	<u>No</u>		
	ABSA Grade:	<u>2</u>		

Course #2

Description: _____	Course Type:	_____
Fluids: _____	Sour?	_____
MAWP: _____	MAWP Temp:	_____
Tube/Shell Material: _____	Nom. T/S Thick:	_____
Head Material: _____	Min. Head Thick:	_____
Diameter: _____	Length:	_____

PRV #1 Course # _____ PRV Location or Position: Open to atmosphere

Serial No ♦ : _____	Model No:	_____
Set Pressure ♦ : _____	Ports:	_____
Capacity: _____	Manufacturer:	_____
Service date ♦ : _____	By: _____	Car Seal #: _____
Block Valve? _____	Install Date:	Tag no: _____

PRV #2 Course # _____ PRV Location or Position: _____

Serial No: _____	Model No:	_____
Set Pressure: _____	Ports:	_____
Capacity: _____	Manufacturer:	_____
Service date: _____	By: _____	Car Seal #: _____
Block Valve? _____	Install Date:	Tag no: _____

Comments: Output Rating: 750,000 BTU/hr, Maximum HR input: 1,071,429 BTU/hr ENSIGN OPSCO_x000D_ PIC: 004, 008, 009



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External Visual Inspection - Vessel

	<u>Okay</u>	<u>Comment</u>		<u>Okay</u>	<u>Comment</u>
Name Plate Accessible:	<input checked="" type="checkbox"/>	_____	Paint/Coating Condition:	<input type="checkbox"/>	N/A _____
Piping Connections Made:	<input checked="" type="checkbox"/>	_____	Insulation Condition:	<input checked="" type="checkbox"/>	Dented still column _____
Inspection Access (i.e. skirt):	<input checked="" type="checkbox"/>	_____	External Surface Condition:	<input checked="" type="checkbox"/>	_____
Bolting Check:	<input checked="" type="checkbox"/>	_____	Foundation:	<input checked="" type="checkbox"/>	Bolted _____
Leaks/Drips/Seeping:	<input checked="" type="checkbox"/>	_____	Bending/Warping/Distortion:	<input checked="" type="checkbox"/>	_____
Dents:	<input checked="" type="checkbox"/>	_____	Cuts/Gouges:	<input checked="" type="checkbox"/>	_____
Ladders/Walkways:	<input checked="" type="checkbox"/>	_____	Ground Wire Connection:	<input checked="" type="checkbox"/>	_____
Condition of Gauges:	<input checked="" type="checkbox"/>	_____	Other Equipment:	<input checked="" type="checkbox"/>	_____
Observed operating pressure (shell):	N/A	<input type="checkbox"/> psi <input type="checkbox"/> kPa	Gauge Range (shell):		<input type="checkbox"/> psi <input type="checkbox"/> kPa
Observed operating pressure (tube):		<input type="checkbox"/> psi <input type="checkbox"/> kPa	Gauge Range (tube):		<input type="checkbox"/> psi <input type="checkbox"/> kPa
Observed operating temperature (shell):	15	<input type="checkbox"/> °F <input checked="" type="checkbox"/> °C	Gauge Range (shell):	10 to 250	<input type="checkbox"/> °F <input checked="" type="checkbox"/> °C
Observed operating temperature (tube):		<input type="checkbox"/> °F <input type="checkbox"/> °C	Gauge Range (tube):		<input type="checkbox"/> °F <input type="checkbox"/> °C

Detailed Observations/Notes/Comments:

O/S at time of inspection

External Visual Inspection - Piping

	<u>Okay</u>	<u>Comment</u>		<u>Okay</u>	<u>Comment</u>
Bolting Check:	<input checked="" type="checkbox"/>	_____	Insulation Condition:	<input type="checkbox"/>	N/A _____
Paint/Coating Condition:	<input checked="" type="checkbox"/>	_____	Check for dead legs:	<input checked="" type="checkbox"/>	_____
Leaks/Drips/Seeping:	<input checked="" type="checkbox"/>	_____	Bending/Warping/Distortion:	<input checked="" type="checkbox"/>	_____
Dents:	<input checked="" type="checkbox"/>	_____	Cuts/Gouges:	<input checked="" type="checkbox"/>	_____
Supports:	<input checked="" type="checkbox"/>	_____	Misalignment:	<input checked="" type="checkbox"/>	_____

External Visual Inspection - PRV(s) - N/A

	<u>Okay</u>	<u>Comment</u>		<u>Okay</u>	<u>Comment</u>
PRV Piping Check:	<input type="checkbox"/>	_____	Flare Line Slope Check:	<input type="checkbox"/>	_____
Damage/Leaks:	<input type="checkbox"/>	_____	Seals Intact:	<input type="checkbox"/>	_____
Weather Protection:	<input type="checkbox"/>	_____	Lifting Lever Acceptable:	<input type="checkbox"/>	_____

	Vessel MAWP	PRV Set Pressure	PRV Capacity	PRV Size	Last Service Date	Serviced By	Block Valve Present?	Locked Open?	Reportable?
Shell		#1							
Tube		#2							

PRV Check: OK - PRV Set pressure is not greater than vessel MAWP PRV is set too high. Reset PRV to vessel MAWP.

Detailed Observations/Notes/Comments:



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Action Item(s) Identified? Yes No If yes, indicate required work and RA #: _____ Field Tag #: _____

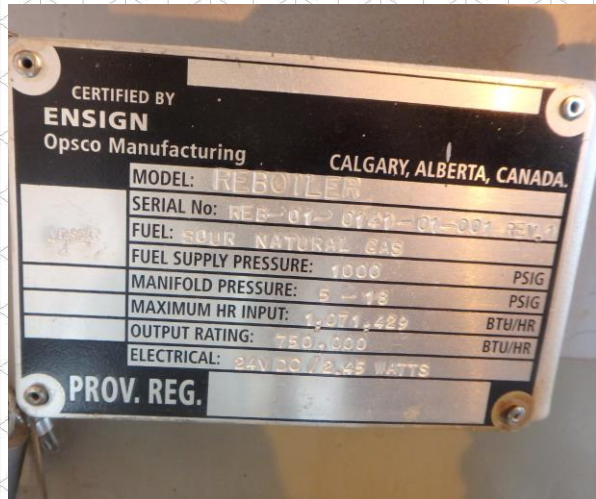
The scope of this external inspection is restricted to the items detailed above and forms part of a thorough integrity assessment for this equipment. Results of this inspection have determined the external condition of this equipment to be:

- Acceptable
- Acceptable with the identified action items resolved before the associated action item's "Required By Date".
- Not Acceptable until the identified action items are resolved.

Inspector Name: Joey Poapst Inspector Company: Northern Materials Engineering

Inspector Signature:  Inspection Date: Oct 12, 2017

Sketch / Image Area



	TITLE	DRAWN BY	DATE

Documentation

- Documents Acquired: Manufacturer's Data Report (U-1A) Jurisdictional Operating Permit / Licence
- Name Plate Information is correct? Yes No To be completed through routine ABSA reporting process
- Design is registered in province (CRN)? Yes No, Generate an Action Item and arrange for design registration



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SN: REB-01-0141-01-001-R Vessel Description: Dehy 2 Glycol Regenerator/Reboiler Location (LSD): D-36-I/94-O-14

Service Conditions

Process Fluids Description:

<input type="checkbox"/> Sour	<input type="checkbox"/> Produced Water	<input type="checkbox"/> OWE	<input type="checkbox"/> Solids
<input checked="" type="checkbox"/> Condensed Water	<input type="checkbox"/> Propane	<input type="checkbox"/> Air	<input type="checkbox"/> Frac. Sand
<input type="checkbox"/> Liquid Hydrocarbon	<input checked="" type="checkbox"/> Glycol	<input type="checkbox"/> NG	<input type="checkbox"/> _____

Potential Mode(s) of Deterioration:

<input checked="" type="checkbox"/> Pitting	<input type="checkbox"/> Crevice	<input type="checkbox"/> High Temp	<input type="checkbox"/> Sulphidation
<input checked="" type="checkbox"/> General Corrosion	<input type="checkbox"/> Erosion	<input type="checkbox"/> Cavitation	<input type="checkbox"/> Under Deposit Corr.
<input type="checkbox"/> External Atm. Corrosion	<input type="checkbox"/> Under Insulation	<input type="checkbox"/> Mechanical Damage	
<u>Cracking</u> <input type="checkbox"/> SCC	<input type="checkbox"/> Hydrogen	<input type="checkbox"/> Fatigue	<input type="checkbox"/> Other

Area(s) Most Likely to Deteriorate:

<input type="checkbox"/> Top Head	<input type="checkbox"/> Bottom Head	<input type="checkbox"/> Nozzles	<input type="checkbox"/> Welds
<input type="checkbox"/> Attachments	<input type="checkbox"/> Shell (lower)	<input type="checkbox"/> Shell (Upper)	<input type="checkbox"/> Shell (other)
<input checked="" type="checkbox"/> Tubes	<input type="checkbox"/> Piping (inlet)	<input type="checkbox"/> Piping (outlet)	<input type="checkbox"/> Piping (drain)

Current Mitigation Program? Yes No
(if yes, describe) _____

Other Considerations? Yes No
(if yes, describe) _____

Additional Process Monitoring Yes No (if yes, describe in area below or attach details)

Fluids Sample (Type / Frequency / Analysis Req'd) _____

Corrosion Monitoring (Coupons / Probes) _____

Other (describe) _____

Inspection History

(Complete this section if the vessel is new and a baseline inspection was completed or if the vessel is used)

Inspection Company: _____ Last Inspection Date: _____

Inspection – Plan Assigned Grade 2 Previous Grade 1 (if Assigned Grade differs from Previous Grade explain in **Notes** section below)

Activity Required	Yes	No	Interval (years)	Due Date (dd / mmm / yy)	Comments / Justification
Offline Internal Visual	<input checked="" type="checkbox"/>	<input type="checkbox"/>	5	/ /	Firetube crack inspection
UT Inspection	<input checked="" type="checkbox"/>	<input type="checkbox"/>	5	12 / Jun / 18	
Crack Inspection	<input type="checkbox"/>	<input checked="" type="checkbox"/>		/ /	
Additional Inspection(s)	<input type="checkbox"/>	<input checked="" type="checkbox"/>		/ /	
External Visual			5	12 / Oct / 22	
PRV service interval				/ /	

Notes

Complete if Assessor is different than Inspector

Assessor Name: _____ Company: _____

Assessor Signature: _____ Assessment Date: _____

Report Certification

Report Certified By (signature): Certificate No: 64230 API