

Field Inspection Report - Vesta_Energy 158226_06/03/2014_VT_Internal

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| Vessel Number | 158226 | Vessel Name | TREATER | Province | Alberta |
| District | CENTRAL | LSD | 06-17-040-27W4 | Location | JOFFRE |
| Method | VT | Access | Internal | Cleaning | Good |
| Inspection Date (mm/dd/yyyy) | 06/03/2014 | Inspection Interval (months) | 36 | Next Inspection (mm/dd/yyyy) | 06/03/2017 |
| CRN | D3401.2 | Skid Number | PKG63345 | Service | SWEET |
| Manway | Yes | Internal Coating | No | Status | In Service |
| MAWP (PSI) | 50 | MAWP (kPa) | 344.74 | Outstanding NCRs | 0 |
| MAWT (°C) | 65 | MAWT (°F) | 149 | | |
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General

The vessel was blinded, opened and cleaned for internal inspection as part of the 2014 T/A.

Vessel is outdoors, insulated and clad. Building on one side.

PSV protecting the vessel was serviced in 2014 during this T/A.

Ultrasonic corrosion survey was completed on this piece of pressure equipment in 2013 with no notable wall loss recorded.

All vessel thickness readings were found to be above ASME Section VIII, Div. 1 code requirements at time of inspection.

Vessel in sweet service.

RT- 3.

PWHT – No

CA = 0.0"

Pictures were taken. See attached.

Safety Valves

PSV P102326 Shell side. Set pressure: 50 PSI / 344.74 KPa. MAWP: 50 PSI / 344.74 KPa. Capacity: 474 SCFM / 13.42 m3/min.

External Condition

All visible shell surfaces and nozzles appear in good condition. Name plate is intact and legible. Vessel supports, foundation, electrical bonding, insulation and cladding appear good. Associated piping, supports and components appear in good condition and alignment with no signs of leaks or defects present at the time of inspection. No evidence of short studding or nut rounding at time of inspection.

Verify PSV protection and PSV's are properly installed with any block valves locked/sealed open. Verify vessel has Alberta CRN and A# stamping, PSV has correct code stamp, set pressure and MWS tagging, and was last serviced within the required interval guidelines.

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Internal Condition

Vessel is not internally coated.

Firetube section: Gasket faces are good. Firetube gaskets replaced.

Circs., longs and Cat. D welds appear in good order. Nozzles are clear.

Downcomers, spreaders, weir and firetube supports are all intact and sound. Fillet welds are good.

Demister removed - intact and clean.

Some scale buildup which when scraped revealed sound metal with no corrosion.

1 anode in firetube section - 60 % consumed. Supports and rollers are in good condition. Floats are clear and functioning.

Manway, cover, gasket faces and coating are in good order. Manway gasket replaced.

Center section: no access - visual over weir.

Approximately 1' of emulsion. All visible welds good. Float clear and free.

Oil end: no entry. All observations from manway.

Expanded metal top and bottom intact and in good condition. Bolting intact and appears tight.

Fillet welds are good.

1 anode in this section - 70 % consumed.

Circs, longs and Cat. D welds appear in good order. Nozzles are clear.

Manway, cover and gasket faces in good order. Manway gasket replaced.

Firetubes: 2 of. 18 diameter. Return bends are miter jointed. Removed and cleaned. Internal and external surfaces evidenced no dents, hot spots, deviations, corrosion or deterioration. Fillet welds through tubesheet and miter welds are in good order. Shoe is intact and sound. Tubesheet and gasket face in good order. Wet Black on White Magnetic Particle Examination was conducted on all tube through tubesheet fillet welds, miter welds and attachment welds.

Results: There were no rejectable indications located at time of examination, as indicated on MWS NDE report # C81043.

Random ultrasonic thickness readings were taken throughout both tubes straight runs and miter sections.

Nominal thickness appears to be .375". Average reading was .363". Lows of .360" recorded, with no evidence of thinning. All readings are within the 12.5% allowable mill undertolerance.

Burners: All components clean, intact and appear in good order.

Stacks: Evidenced no dents, deterioration or defects. Gasket faces are good. Gaskets replaced.

Recommendations

- Maintain "on stream" Ultrasonic Corrosion survey monitoring of the vessel components and associated piping.
- Replace all anodes.
- Remove isolation kits from anode flanges.
- Replace all firetube, manway, stack and burner gaskets..
- Internally inspect again in 3 years. MPI firetubes.

The above recommendations have been reviewed with operations prior to closure.

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| Suitable to be returned to Service | Yes | Repairs complete (AB-40 attached) | N/A |
| Repairs are still required | No | Suggested Inspection interval (Months) | 36 |
| Glen Boettger Cert 000345 Inspector | Signature | | 06/05/2014 Date (mm/dd/yyyy) |

Pictures

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| VST 158226 NAMEPLATE 06-03-14.JPG --- | VST 158226 TREATER A 06-03-14.JPG --- |
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| VST 158226 TREATER B 06-03-14.JPG - -- | VST 158226 TREATER C 06-03-14.JPG --- |