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TPT FUEL FACILITY GAP ANALYSIS

SITES **DCT PIER 2 TPT DIESEL DEPOT**

PURPOSE: **MAINTENANCE AND HOUSEKEEPING**

PURPOSE

1. To provide feedback with the status of the TPT fuel depots with regard to their conditions with regard to maintenance and housekeeping. A request was made by the energy managers at TPT to have the fuel facilities fixed so as to reduce environmental pollution through leaks and worn out equipment

BACKGROUND

2. DCT Pier 2 is a fuel depot, located at the port of Durban. The original installation was by the oil company and managed by them. The requirement and need for the facility was to assist a few diesel run equipment and vehicles so as not to take them off the property for fuel. Due to the lack of maintenance by the oil company Transnet took a business decision to buy back all the facilities and maintain them.

   Transnet Fuel Solutions (TFS) assisted with managing the Fuel Facilities for the group and that included TPT.

DEPOT ASSETS

The site comprises of the following assets

1. 4 x 83 000lt vertical diesel tanks
2. 4 x Prowalco double hose pump on islands
3. Forecourt with forecourt canopy
4. Receiving pump set
5. Decanting pump set
6. Decanting coupling
7. Refueling hose with Wiggins nozzle
8. Bund wall around the tank
9. Operator office with power
10. ATG

DEPOT REPORT

The depot orders approx. 7 x 40 000lt diesel every week. Currently refueling takes place only in the in the day. There is one operator that work at the fuel depot. The depot refuels forklifts, generators and mobile bowsers. These mobile bowsers go to the machines and refuel them so as to optimize operations.

The site has not been upgraded lately. The tanks are in fairly good condition. There are signs of rust forming. It is still early stages if not attended to could cause major damage. The upgrade was only done to the tanks as they were in a very bad condition and was about to rupture. The kerb side pumps need attention. The canopy has a major dent in it and requires repairs. There are rust build up due to neglect. No major maintenance has been done on the site in the last 2 years. Repairs are done if something breaks.

The pumps and flowmeters have not been calibrated in the last year. I found diesel in the receiving hatch for diesel. A pressure test would need to be done to identify a leak. This is a high volume site and a lot more emphasis has to be made on scheduled maintenance and housekeeping.

The pump islands are cracking badly, this could be related to the heavy vehicles fueling. The new islands must be specked to accommodate these bigger heavier vehicles. The tanks over filling is due to faulty ATG probes in the tanks. The current system is very old and outdated it is basically a legacy system that would not be able to service the current demand.

The pump sets need to be serviced as it is visible that they are extremely strained as some have small leaks others have excessive sweat. Due to lack of housekeeping the site looks worse than what it really is. There is a firefighting

system installed however nobody on site is trained to use it nor has the system ever been tested since installation.

The oil separator pit needs constant draining and staff need to be trained at monitoring this unit. In the event of overfilling the oil separator the run off can go into the ocean.

Recommendations

The site personnel requires training on the Standard Operating Procedure of working at a fuel facility. The importance of housekeeping must be stressed as this helps with the life span of the equipment. The following maintenance actions need to be implemented

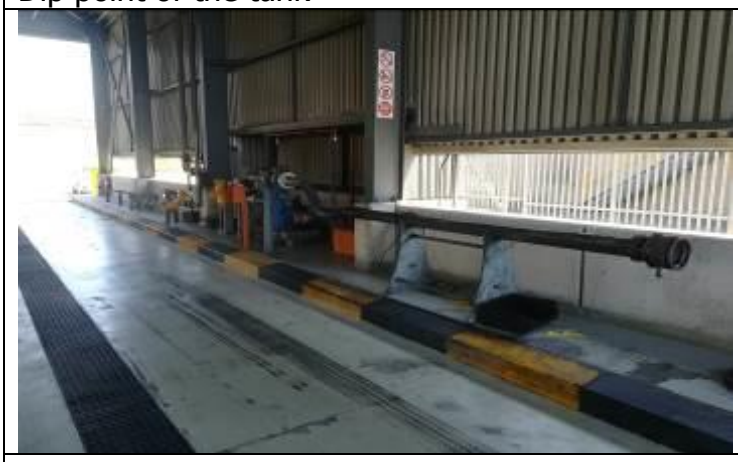
1. Calibration of the pumps and flowmeters
2. Calibration of the pressure gauges
3. New tank strapping done
4. Tank refurbishments. (Good practice at the ports is every 2 years this in return keeps the maintenance cost down on tank maintenance and increases the life of the tanks).
5. The spill drains are blocked these need to be unblocked and kept clean
6. Repair the fuel line where the leaks are taking place.
7. Replace all flange gaskets
8. Pressure test the lines and tanks

The fire system be handed to the ports local Hazmet to manage and test. The fuel operator should be trained on the basics to start the system in case of fire and to stop the system in case of accidental start.

The oil separator needs to be upgraded to a closed system. This system separates the oil and water faster than the current installed system. The water is than clean enough to be sent to storm water. The water may need to be tested before discharging into storm drains.

For improved management of fuel stock I recommend an improved fuel automation that would connect as follows

1. Record fuel received
2. Record fuel in the tank
3. Identify vehicles with driver and fuel attendant
4. Record KM's and liters received into vehicles
5. Same technology must be fitted onto the mobile bowser
6. This information should be visible by all stakeholders of the depot via a dashboard
7. This information must be captured by SAP

	
Site pic	Site pic
	
Dip point of the tank	Some rust starting to form
	
Refueling and decanting of large vehicles	Valves need attention

	
Valve and filter	Pump sets need service
	
Tank 1 visible spillage	Tank 1
	
Tank 2 spillage	Condition of valves on the tanks

	
Water bottom valve with hose	Rusted tank anchor
	
Rusted thermal relief plinth	Valves and strainer
	
Tank thermal relief	Rusted manhole bolts

[redacted]

[redacted]

Oil separator pit needs clean up

Tank farm view

Pumps and filters

Pump station in relation to the tanks

	
Prowalco Kerb side pump 2 hose	Pump spec
	
Pump island view	Rust forming on pumps
	
Pump islands badly cracked	Forecourt canopy rusting

	
ATG printer	Nozzle leaking needs repairs
[redacted]	
	Condition of canopy
[redacted]	
	Diesel in the receiving line (Leaks)

Compiled by:

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