A 30 year upgrade for a tank lining system

Tank #4 is the largest tank at Enterprise’s Texas City Terminal. The 31 x 16m high (102 x 52ft) external floating roof tank was installed in 1979 with the AkzoNobel Matcote system and has been in service for 30 years without any failures.

Enterprise owns approximately 4,400 miles (7,100 km) of onshore crude oil pipelines and 10.5 MMbbls (million barrels) of above-ground storage tank capacity. Their onshore crude oil pipeline systems gather and transport crude oil primarily to refineries, centralized storage terminals and connecting pipelines in Oklahoma, New Mexico and Texas. The Texas City Terminal supplies crude oil to the refineries in the Houston area and is connected by a 335 mile (539 km) network pipeline called “The Seaway Crude Pipeline System”.

In 2009, an inspection of Tank #4 took place, and the coating system was found to be in good condition, however, due to the excellent proactive M&R programme at Enterprise, it was decided that a refurbishment of the tank floor would greatly extend the life of the tank, and also that the striker plates should be replaced. There were 280 striker plates, which are used to hold up a floating roof tank.

It was very important to Enterprise to have a tried and tested system installed that would allow the tank to operate for another 30 years without disruption. In general, the crude oil terminals are used to store crude oil volumes for Enterprise and other customers. Under their crude oil termining agreements, they charge customers for crude oil storage multiplied by a storage rate, meaning the larger the amount of volume and the longer Enterprise can hold crude oil, the more profitable it will be. AkzoNobel’s Protective Coatings, with over 150 years of R&D and unparalleled product portfolio, were the perfect choice.

For the tank floor, blasting was used to get the coating back to the glass fibre level and then gel coated with Interline® 985. The fiber glass was not removed, as it was in such good condition. The new striker plates were given a complete Matcote system, including the chopped glass fibre, to ensure that they were in premium condition before they were installed.

AkzoNobel was chosen for the project due to Enterprise’s past experience with other products, such as Interaline® 985, Intergard® 990 and Intermarine® 954, along with the excellent relationship with Enterprise and consistent, quality products for all applications.

“TANK #4 WAS THE LARGEST TANK AT ENTERPRISE’S TEXAS CITY TERMINAL. THE 31 X 16M HIGH (102 X 52FT) EXTERNAL FLOATING ROOF TANK WAS INSTALLED IN 1979 WITH THE AKZO NOBEL MATCOTE SYSTEM AND HAS BEEN IN SERVICE FOR 30 YEARS WITHOUT ANY FAILURES.”

“THE TANK WAS DESIGNATED AS NON-SWING STORAGE, MEANING UNDER THEIR CRUDE OIL TERMINING AGREEMENTS, THEY CHARGE CUSTOMERS FOR CRUDE OIL STORAGE MULTIPLIED BY A STORAGE RATE, MEANING THE LARGER THE AMOUNT OF VOLUME AND THE LONGER ENTERPRISE CAN HOLD CRUDE OIL, THE MORE PROFITABLE IT WILL BE.”

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The world’s largest Floating Production, Storage and Offloading (FPSO) facility, Pazflor FPSO, set sail for its final destination, Angola, on 15th January 2011.

Named after the crude oil field where it will be installed, the Daewoo Shipbuilding & Marine Engineering (DSME) built Pazflor FPSO measures up at 335m long, 61m wide and 32m tall. Weighing in at 120,000 tonnes. The largest FPSO ever built.

Pazflor FPSO will process the oil via 49 subsea wells, and will be producing up to 220,000 barrels of crude oil and 4.4 million cubic metres of natural gas per day, its storage capacity is 1.9 million barrels of crude oil, which is roughly equivalent to the nationwide daily consumption of South Korea.

At the Pazflor development is located 150km off the coast of Angola, and covers 600 square kilometres. It is classified as one of the harshest offshore environments in the world, and because of this, Total S.A., the company that ordered Pazflor FPSO, chose AkzoNobel, due to our excellent track record in offshore projects and our proven technology.

Several of our high performance brand names were chosen, including Interaline®, Intergard® and Intermarine® on topside module structures, and Intershield®. 300 was also used to provide long term barrier protection to the ballast and cargo tanks of the FPSO.

As well as this, over 650 tonnes of Chernex 7 and Intertherm 7500 were utilised to fill all of the fire protection requirements of the FPSO. As the leading and most recognized fire protection brand in the oil and gas industry, Chernex 7 offers excellent fire protection for steel structures.

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The technical service representatives worked very closely with the owner and shipyard and showed great dedication by inspecting the project day and night to ensure the earlier required date was achieved.

“AKZO NOBEL HAS PARTNERED WITH ENTERPRISE TO SUPPLY SUPERIOR COATINGS THAT RANGE FROM TANK LININGS TO EXTERIOR SYSTEMS THAT ARE SIMPLE TO APPLY. THEY HAVE MADE IT EASY FOR US TO ORDER PROTECTIVE COATINGS ONLINE OR OVER THE PHONE FOR OUR ‘TERMINAL IN TEXAS CITY’”

Enterprise Contract Project Manager

AkzoNobel