

Unloading Modules for Malaysia

In line with many countries around the world, Malaysia has taken a progressive attitude towards the use of Bio-fuels.

Given Malaysia is the second largest supplier of palm oil in the world, government policy has sought to increase the use of palm oil domestically in fuels since 2005. One such initiative is through the subsidy of infrastructure that is directly related to Bio-fuels. As a result many of the fuel terminals in peninsular Malaysia have invested in infrastructure to integrate biofuels into their available drawer products.



Low slung bottom unload arm on Unloading Module

A first for the DKJ Group, was the sale, supply and commissioning of Unloading modules to local terminals in Malaysia. The Unloading modules are one such example of Bio-fuel infrastructure installed under the Malaysian government initiative. Given Bio-fuel has not previously been integrated into the supply chain the Unload module formed a vital piece of infrastructure to allow the use of Bio-Fuels.

Now that unloading modules are operational, unloading performance can achieve flow rates up to 1200L/m or put another way, unload a truck in 30 to 50 mins depending upon the volume the truck carries. To facilitate the unload process only the truck driver is required.

The unloading module itself, essentially comprises a few key components mounted on a single transportable structure. Components include a low slung bottom unload arm, de-aerator, pump, meter and control instrumentation. The tricky part is ensuring that

during unload any entrained air is removed prior to the metering as product moves from truck barrel to terminal tank. Equally important is shutting off the pumping system when the truck barrel runs dry to prevent any damage to either the unload module or truck barrel.

Manufacture of the unloading modules took place at DKJ – China. A first for the team there. Using a design basis from DKJ Australia, some modification was made to accommodate specific customer requirements and local Malaysian standards. Equipment was sourced from various international destinations meaning logistics formed a vital piece of the project management task. The De-aerator was made in Australia to meet customer specified pressure vessel standards (AS1210), bay controller from the USA, manufacturing drawings from DKJ Thailand and many items sourced locally in China. Truly, an international project.

In practice, the unloading operation is almost the exact opposite of the loading process. A truck parks at the unload bay and secures the earth and piping connections. The truck has an unload manifold, with single coupling connector, to which all truck compartments are directed. Initialisation of the unload is through the driver interface which automatically sequences valves and pump. As the unload takes place, the control system constantly monitors product levels and air/vapour flow rates. At completion of unload, the arm and earth are disconnected causing a Bill of Unload to be printed by the Omega TAS system.

All in all, although a first for the international team across DKJ, the project was delivered on time, on budget, in the agreed customer time frame resulting in a very satisfied customer.



Custody Approved unloading module at DKJ workshop.