



D1 Oils plc

Cost effective conversion

When D1 Oils bought a redundant lubrication oil refinery to convert into a biofuel production facility it needed to do this cost effectively and so the company wanted to reuse as much of the equipment as possible.

This created a number of challenges because Health and Safety regulations now demanded that the pumps had to be ATEX compliant, but none of the original plant equipment was certified as such. In addition, the new plant would have a smaller throughput which meant that any existing equipment would require modification to work with the lower flows.

The existing Girdlestone pumps in the plant were not manufactured any more. Purchasing pumps from other suppliers was not an option because the changes that would be required to pipework and fittings would increase the cost of any new pump ten-fold.

D1 Oils therefore needed a company experienced in Girdlestone equipment to refurbish the pumps, modify them as needed for the new flow rates and bring them up to ATEX compliancy.

A comprehensive plan

A number of pump repairers were approached but none could offer the confidence that they could achieve the refurbishment and the ATEX compliancy within the required timescales of less than eight weeks.

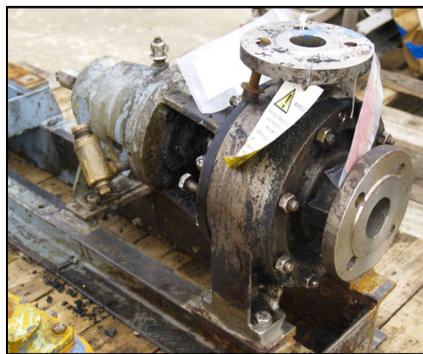
D1 Oils then turned to Amarinth. With its intimate knowledge of the Girdlestone range, ISO9001-2000 as well as the important ATEX certification, Amarinth quickly set about assessing the situation.

Amarinth reviewed the new process and advised D1 Oils on how each of the

existing pumps could be most effectively utilised. Amarinth then produced a comprehensive plan for the modification and refurbishment of 27 pumps within the desired timescales to ensure the pumps would meet their new duties and comply fully with ATEX requirements.

A complete refurbishment

The pumps returned by D1 Oils from the lubrication plant had all been well used during their long life. Amarinth set about decontaminating the pumps and refurbishing them with bearing isolators and new mechanical seals in order to make them ATEX compliant.



The pumps were re-sized for their new duties and in some cases mounted to new baseplates and fitted with new or refurbished motors. Finally each pump was performance tested before being despatched back to the plant for commissioning.

In addition, Amarinth were asked to supply four new pumps that were already ATEX compliant and dimensionally interchangeable with the old units.

Significant savings

The decision to refurbish the existing pumps rather than buy new pumps meant that no major civil engineering work had to be undertaken or any changes made to pipework and associated equipment.

D1 Oils were able to bring the plant on-line from being moth-balled in 25% of the time and at a cost saving of 90% over what would have been required had new pumps been used.



D1 Oils plc is a biofuels technology company. It was founded to design and build scalable biodiesel refineries for the UK road haulage industry.

The company's strategy is to develop new energy crops into sustainable commercial fuels. D1 Oils provides technology and services for the breeding, development, planting and harvesting of new varieties of commercial biofuel crops, focusing on alternative, sustainable feedstocks that are not subject to the same price pressures as food-grade crops.

D1 Oils has an established plant science and planting programme for *Jatropha curcas*, a robust, tropical oilseed bearing tree. *Jatropha* produces inedible oil feedstock for biodiesel and is able to make use of land not suitable for arable agriculture.

D1 Oils also has a 50:50 joint venture with BP for the global planting of *jatropha*.



Amarinth decontaminated the pumps and refurbished them with bearing isolators and new mechanical seals in order to make them ATEX compliant.