Fleet Optimization at Cliffe Hill

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The progress made to date is a clear indication that many quarry operators are responding positively to the current economic and regulatory challenges. The constant need to measure performance and the effective implementation of systematic energy-saving and cost-reduction initiatives are now at the heart of a majority of corporate strategies.

MQP, the UK’s sixth-largest producer of aggregates and asphalt, are fully committed to sustainability and have demonstrated an ongoing strategic approach to energy management. This ‘greener’ way of operational best practice has led to savings in many different forms for the company. MQP recognized that by taking a different approach to operating equipment, the significance of the savings were equal to those achieved by the replacement of their heavy mobile plant at Cliffe Hill Quarry, in Leicestershire.

The task of moving 4 million tonnes of aggregates a year at the operator’s flagship hard rock operation had been contracted out to Carillion. When the phased contract ended, MQP decided to look at other fleet-management options that could provide the lowest cost-per-tonne productivity for the business.

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savings by self-operating and integrating the process into the Cliffe Hill operations team,’ explained Simon Willis, managing director of MQP. ‘Given the current economic climate, a key challenge for suppliers, such as ourselves, is delivering the lowest-cost-per-tonne productivity. This means getting the best return from our machines by maximizing fuel savings, cutting downtime and reducing overall running costs.’

For many quarry fleet operators, fuel consumption is a significant business overhead and Mr Willis recognized that when it came to fleet management more could be done to control and cut costs to ensure operations were being run as efficiently and cost-effectively as possible.

‘It’s not just about having the most energy-efficient machines operating at Cliffe Hill, but also the need to have the backup to address any process-critical equipment-related issues,’ he continued. ‘The maintenance and product support services, therefore, played a key role in deciding what we wanted to do next with our mobile plant fleet.’

Having looked at the alternatives, including the use of other contractors, MQP chose to carry out their earthmoving operations in house and invested in new Caterpillar equipment from Finning. As part of the equipment strategy, it was important for MQP to tailor the size of their new fleet and types of machines to the operational activities and tonnage levels at Cliffe Hill and find areas where the fleet could be reduced or the vehicles downsized.

Following detailed site surveys, Finning played a key part in assisting the plant selection decisions, and the newly modified mobile fleet now includes: four Cat 775F off-highway trucks; a 988H wheel loader; a 385C excavator; and a 992K high-lift loader, the first such model to be delivered in the UK.

MQP were won over by Finning as the Caterpillar distributor offered a ‘total equipment solutions package’ designed to help preserve the integrity of the machine-owner’s business, ie reducing operating costs for the customer by shifting the responsibility of maintenance and repair to the dealers.

Ultimately, the new partnership with Finning has marked a step change for MQP in that there is now an even greater emphasis on after-sales care, unlike before, when the entire fleet management was undertaken solely by a contractor.

Both Caterpillar and Finning understand that customers in the marketplace now want a lot more than just a product with proven reliability, capability and eco-friendly performance. Customer and product support, including servicing, repair and maintenance, has increasingly become a key driver for all new construction equipment purchases. With this mind, Finning’s stimulus package of combined products and services has been specially tailored to set the industry benchmark in terms of customer service and added value.

‘We wanted a partner who could deliver significant efficiency gains in all areas of our fleet and Finning has been highly successful in understanding these requirements by offering a flexible package of services and work tools to help increase our productivity and operational efficiency,’ explained Mr Willis.

To ensure the lowest production cost per tonne from the Cat machines, it was also important for MQP, with the help of Finning, to implement a policy of sustained improvement. The recent sharp increase in fuel costs...
has made quarry/fleet operators more aware than ever of the implications of the vehicles they run and how they operate them.

MQP’s customer-support agreement with Finning means the maintenance, servicing, repair and lifetime costs of the Caterpillar plant are all taken care of by Finning. This, essentially, gives the fleet manager peace of mind on a range of equipment-related issues, from engine management and fuel efficiency to machine safety and operator training.

Many plant operators strive for reduced maintenance costs and improved vehicle uptime. Finning offer a number of maintenance options which are tailored to fit the customer’s specific needs and are flexible both in cost (eg fixed costs or fees based on accumulated hours) and in application (single machine or entire fleet).

With the demand for aggregates fluctuating in the marketplace, MQP opted for a ‘multi-flex’ maintenance agreement with Finning in which the operator was allowed to calculate each machine’s maintenance cost by estimating the number of operational hours at Cliff Hill. This cost-effective vehicle maintenance approach simplifies MQP’s budgeting and, in the long term, will help the business plan ahead and manage its operating expenses efficiently.

The contract also has a ‘pain and gain’ element ➤
Partnering with Finning has ensured that there is now greater emphasis on backup and customer support for MQP to it with the Finning and MQP teams working in partnership to drive the behaviour of both parties to save cost. Preventative measures designed to minimize the serviceability of the machines include: auto tyre pressure monitoring; tracking the number of hours each vehicle performs; regular servicing updates; and taking regular oil samples to monitor and assess the engine condition of the mobile plant.

The decision to invest in Caterpillar machinery for MQP and having Finning as a working partner has clearly paid dividends for the quarry operator, most notably in its fuel consumption.

‘Fuel burn has been the real big winner for us – last year we reduced our fuel consumption by 26% across the entire plant fleet, including the load and haul and stockyard Caterpillar units at Cliffe Hill,’ said Mr Willis. ‘This saved the business 600,000 litres of fuel, which amounted to a financial saving of around £400,000.’

One of the key contributing factors to the improved fuel economy across MQP’s mobile fleet has been Finning’s Eco-Drive initiative – a driver-awareness programme that teaches fuel-efficient and eco-friendly methods of operating machinery.

‘With sustainability at the core of our business growth strategy, we saw the training as an ideal opportunity to get the employees together and help them to understand that in order to reduce our carbon footprint and deliver efficiency savings in both fuel consumption and operational costs, we have to work together and fully embrace the ethos,’ added Mr Willis.

MQP mobile plant operators were invited by Finning/Caterpillar to attend a series of Eco-Drive training and equipment-management seminars in Malaga, Spain, where they were taught operating techniques that could help reduce fuel consumption by up to 15%, as well as cutting carbon emissions, minimizing wear and tear on the machines and reducing physical and mental fatigue. This was followed up on site with further retraining, feedback and assessment of operator performance with recommendations to enhance productivity.

According to Mr Willis, the company’s aim to be a low-carbon aggregates producer is just as important as being a reliable, efficient supplier. MQP were recently praised for their performance in the Environment Agency’s 2010/11 Carbon Reduction Commitment scheme, having demonstrated ‘early action’ and been proactive in developing and implementing sustainable methods to reduce their fuel/energy usage.

‘Part of our success has been a continued emphasis on raising the awareness of sustainability and carbon management across all levels of the business,’ he explained. ‘It is vitally important that everyone within the organization communicates with, and encourages each other, on being environmentally responsible. And the working culture at MQP has certainly changed for the better, as employees are more engaged in making a difference. For example, we now have a scheme in place that rewards trained drivers with bonuses for meeting carbon-reduction targets.’

By giving mobile plant operators an incentive to be environmentally focused, eg measuring fuel burn, monitoring tyre pressure and damage, and recording vehicle tonnes per hour etc, MQP are ensuring that their workforce is making a positive contribution towards cutting carbon emissions and, subsequently, reducing operating costs at Cliffe Hill.

Managing MQP’s fleet efficiently, improving safety and minimizing costs has become a very important ongoing challenge for Finning. The company has enjoyed great success working in partnerships and integrated teamwork with Cat customers, and the product-support agreement with MQP demonstrates the ethos of Finning’s ‘Lastability’ programme.

Given the present financial climate, a stronger commitment to energy efficiency and cost-saving initiatives is fast becoming a major consideration for many aggregate suppliers. Whether it is helping companies to reduce their operational costs, make efficiency gains, increase productivity or deliver energy cost savings, Finning have shown that a combination of Caterpillar equipment’s quality and performance, and the ability to service and support the customers needs, can help improve business operations and reduce the associated costs.