Oil Skimming: Go Green & Make Some Green

By Jim Petrucci

There is only one method proven to be continuous, efficient and economical in removing surface (free) oil. Oil skimmers are not only more effective in removing oil from wastewater, but they also reduce costs incurred from ineffective removal. Despite their capabilities, oil skimmers are not always used. Some plant managers and engineers do not realize the benefits of an oil skimmer and how easily they can be justified to management.

Whatever the application or industry, oil must be removed from wastewater. Below are comparisons of the most commonly used methods and the reasons why using an oil skimmer is more effective.

Absorbent Pads, Booms Or Pillows

One method a facility can use to remove waste oil is to use an absorbent pad. They are available in different shapes and sizes, and are made from a variety of synthetic materials. These are useful in an emergency-removing small amounts of oil or soaking up oil on plant floors.

However, at some point a facility should consider using an oil skimmer rather than absorbent material. If only a few pads or pillows are used per month, then they are most likely sufficient. But the cost associated with the purchase, disposal and deployment of these absorbents should be compared to the cost of an oil skimmer.

The results of using absorbents are not always environmentally sound either. Only a small amount of oil can be squeezed out of the pad for recycling. The remaining oil must be disposed of in a landfill or burned. This is not compliant with green guidelines.

An oil skimmer, on the other hand, efficiently removes oil from water continuously 24/7 and puts it into a collection tank, so it can then be recycled. Also, continuous removal eliminates oil buildup, greatly reducing evaporation loss and the likelihood of oil escaping. The use of an oil skimmer is more environmentally friendly, eliminates costs associated with absorbents and extracts a salvageable product.

Vacuum Trucks

Some facilities choose to hire a company to vacuum the oily layer from its wastewater, but this can often be expensive. Having the oil removed once a quarter may not be cost prohibitive, but frequent use of this service can drive up costs. The company is not only charged for the operator's time, but also by the number of gallons hauled away. Due to the nature of the process, large amounts of water are taken with the oil. This becomes a very expensive removal method.

Another drawback to the vacuuming process is randomness. Soon after the removal service drives away, the oil begins to build up on the surface again. This buildup leads to other problems, not the least of which is the potential for bacteria growth, which can give an unpleasant odor to the water. The chance of oil escaping is also increased.

The company should examine if it makes sense economically to install an oil skimmer rather than continue to vacuum. With an oil skimmer, the oil is constantly removed and is stored in a collection tank for recycling. Instead of paying someone to remove the oil, it can now be sold. In addition, the use of the oil skimmer continuously removes the oil, leaving the surface clean, thereby eliminating the problems associated with an oil layer buildup.

Water Treatment Plants

A facility's wastewater must be treated before it can be reused or disposed. This can be done internally with an on-site treatment plant, or the water can be sent to the local municipal treatment plant. While the process at the treatment plant can in most cases handle the oils, doing so may lead to additional costs. These can range from additional surcharges imposed by local authorities for excess oil to added costs of equipment to filters and chemicals at an on-site treatment plant.

Removing the oil continuously with an oil skimmer not only helps reduce the local surcharge, but it also assists the municipality in meeting environmental standards as it eventually discharges the treated water into local waterways.

The cost of internal treatment increases if the oil is not first removed. This can be seen in chemical and filter media costs. The use of an oil skimmer prior to this treatment not only reduces the costs and increases efficiency, but in many applications, it also gives a product with salvage value (skimmed oil).

Waste Oil

If the expense of existing methods of oil removal in a facility does not justify an oil skimmer installation, then the possibility of generating revenue from the skimmed oil may make one think differently. Companies can go green and make money by recycling their waste oil, or it can be reused in another industry. For example, the waste oil from the food processing industry can be recycled and turned into biodiesel, reducing America's reliance on petroleum. Think twice before burning off or hauling away waste oil: Go green and make some green.

Skim Oil & Costs

Oil skimming is more cost effective and efficient than many currently used methods for removing waste oil. It's more reliable because it can operate continuously, removing all of the oil from the water surface. Knowing the facts about oil skimming can make it easier to justify the initial investment in order to yield long-term benefits.

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Links:
[1] http://www.oilskim.com/