

The \$65 million Northern Oil Refinery at Yarwun in central Queensland.



## NOR wants your waste lube oil

By Jacqueline Ong

THE heavy vehicles sector discards 60-70 million litres of lube oil a year, estimates Southern Oil managing director Tim Rose, oil that can be re-refined for use at no extra cost to the sector.

At present, Australia burns about 60% of its 350 million litres of waste lube oil annually and exports 24% overseas to be burnt. Meanwhile, 95% of the base oil required for lube oil is imported, mainly from the Middle East via Asian refineries. Simply put, the current lube oil cycle does not bode well for the environment.

Southern Oil and JJ Richards & Sons have joined forces, this year commissioning the \$65 million Northern Oil Refinery (NOR) near Gladstone in central Queensland.

Under the arrangement, JJ Richards collects waste oil from the generator's site and transports it to an aggregation facility for primary treatment, at no extra cost to current disposal and recycling methods.

At NOR, the treated oil undergoes Southern Oil's separation and extraction process, where the oil is pulled apart chemically to remove any contaminants, to emerge as manufactured base oil.

"Lubricating oil doesn't wear out. It just gets dirty and the additives in the oil lose effectiveness over time," Rose explained.

"The re-refining process removes all contaminants and restores the oil to its original condition. The contaminants, such as dirt, water, fuel and used additives, are removed through vacuum distillation.

"The oil is then further treated to remove any remaining chemicals

to provide consistent oil quality to international standards."

During this process, 99% of the lube oil component is recovered, creating a near perpetual cycle of use and reuse of a diminishing and finite resource.

The re-refined oil is then sold back to third parties or blenders at "the international price", meaning NOR's re-refined, environmentally friendly oil does not cost waste oil generators any more than they are already paying.

"Our oil is not distinguished in the Australian market because it's the same standard of a crude oil derived product. It goes into one big stock of oil ... so when people use the oil, it costs what it costs, just that a percentage of this has been re-refined," Rose said.

"If you think about it, crude oil is a natural product so there's a bit of variability. That's why it is refined - to reduce that variability. Well, our feedstock's already been through the refinery once so it's an incredibly consistent product and we're taking this refined product and refining it again."

Southern Oil is not new to the game. It has been processing waste lube oil at its re-refinery in Wagga Wagga, in the Riverina region of New South Wales, which has a capacity to re-refine about 30 million litres of oil a year.

However, Rose says NOR's Gladstone plant is really a step change in Australia's recycling industry, because it has the capacity to process 300,000 litres of waste lube oil a day, which adds up to 100 million litres of oil annually.

"The environmental benefit is significant," he said.

"With NOR at full operational capacity, Australia's greenhouse emissions are reduced by about 290,000 tonnes every year. That's three tonnes of carbon

dioxide equivalent emissions for every tonne of oil that is refined."

Now that NOR is open for business, Rose is encouraging the waste transportation sector to send their waste lube oil to be re-refined. After

all, it does not cost waste generators extra to do so.

Rose also believes that since there is a way to reuse the oil, there is no reason to burn the material.

"Burning a valuable commodity permanently removes lube oil from productive use. No other commodity - for example, paper, organic waste, chemical waste - considers burning to be recycling," he said.

"Waste lube oil is classified as a hazardous substance and, if unregulated or burned at low temperatures, can potentially release a range of these toxic compounds directly into the environment."

With the commissioning of NOR, Southern Oil can re-refine about 38% of Australia's waste lube oil and help the country lower its reliance on oil imports.

"NOR means Queensland and other regions of Australia now have a better option to re-refine waste oil and keep on using it and using it," Rose said.

"The facility, technology and supply chain are all in place. We just need more waste oil producers to pick up the phone and invest their waste lube oil in a re-refining future.

"The central message is: we're open for business and we want your oil."

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