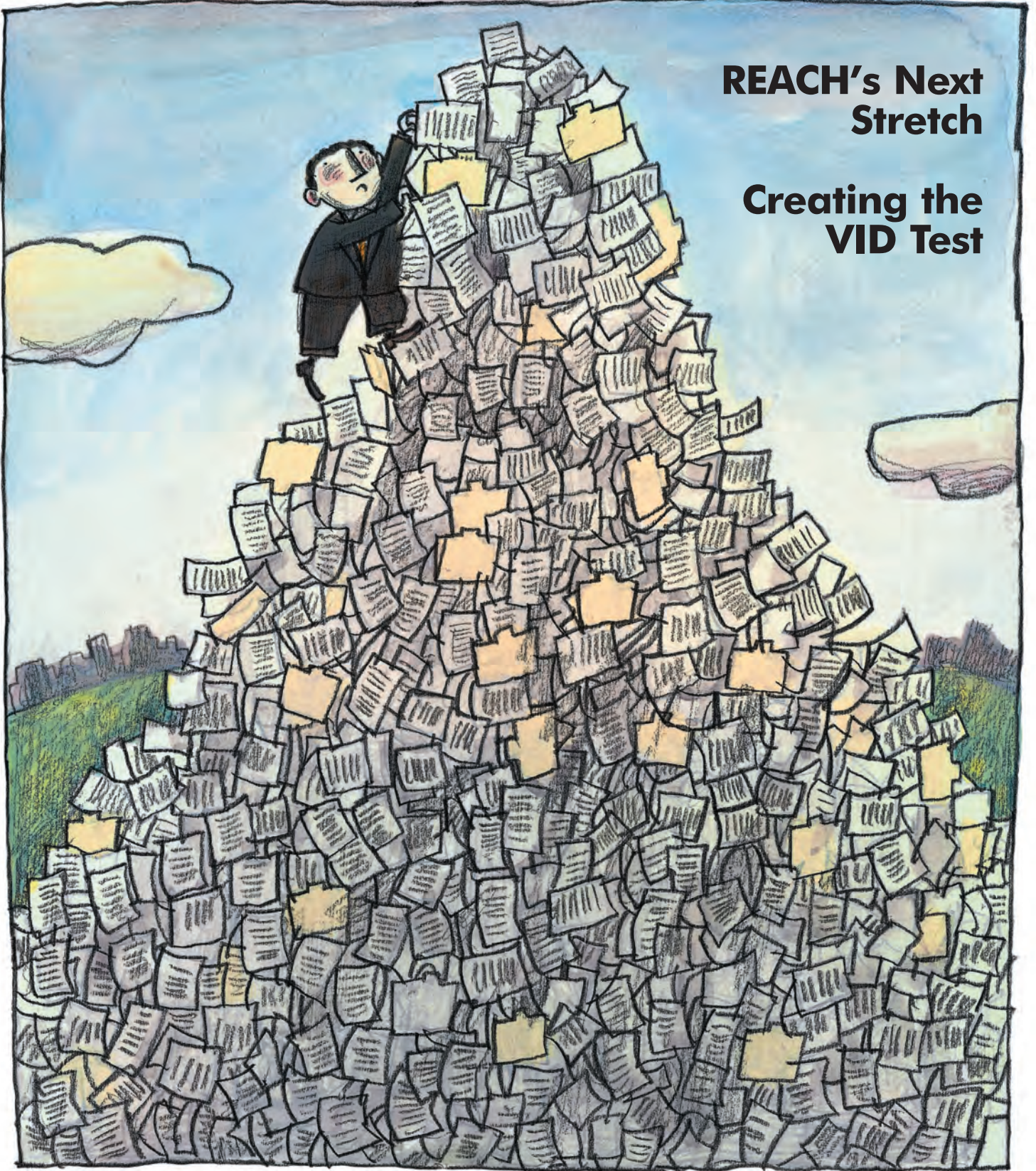


LUBES'N'GREASES

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Full Throttle at Royal Manufacturing



*Royal Manufacturing's Tulsa plant (shown here)
will also soon upgrade its grease capacity.*

This month will mark the opening of a new lubricating grease plant at Royal Manufacturing's subsidiary north of San Antonio. In addition to making mainstream products like lithium and lithium complex greases, Wright Oil Co. will produce specialties such as polyurea, calcium sulfonate and aluminum complex greases, and biobased, synthetic and food-grade varieties.

BY LISA TOCCI

Wright's \$3.5 million grease plant won't lack for bells and whistles. It has 14 greasemaking kettles, including a 1,200-gallon Stratco contactor that greatly speeds the reaction time needed to make grease soaps. All kettles are computer controlled and mounted on load cells to take the guesswork out of measuring in ingredients and adjusting blends. Homogenizers and mills will assure the most desirable texture for the finished greases, and storage tanks with over half a million pounds of capacity are waiting to be filled with finished products.

A global recession may not be the ideal time to open a new grease plant, concedes William R. Mallory Jr., CEO and owner of Royal Manufacturing. Yet he's certain the market will welcome the new capacity. After successful expansions into base oil terminalling, railroad engine oils, biobased lubricants and other markets, he has reason for confidence. And in further evidence of his driving ambition, another expansion is on the drawing boards for the company's Tulsa, Okla., facility.

Is there room in today's depressed grease market for more capacity? "Some majors dropped out, and some independents did too," Mallory replied. "Demand right now is at a plateau, but it will come back. As long as we have machinery, you've got to have lubes, so it will always be needed. And a grease plant is not like a blending plant, which can be added in a few weeks. You can't just throw up a grease system in a few weeks — it takes months."

"We expect to see growth for all our lithium-based greases, but it'll be even more rapid for our food-grade and biobased greases," he continued. "Going forward, we think there will be more and more demand for biobased lubricants. Another opportunity is in food-grade greases, which still are not used much in Asia, so there'll be growth there. In the U.S. too, especially with the nationwide peanut recall, food processing companies will use the correct food-grade lubricants to stay out of trouble."

"And part of our strategy," marketing and sales director Bret Plank added with a grin, "is to take market share, too."

The Goal: No Debt

Recently, *Lubes'n'Greases* visited Mallory and his team in Tulsa, where Royal Manufacturing's original grease plant shares an 18-acre site with its sister brand Troco, which makes engine oils, transmission fluids, gear oils, metalworking fluids, and other lubricants. President of the Tulsa plant is Mallory's daughter, Kari; her sister Kristi fills that role in San Antonio.

"Our goal as much as possible is to be debt-free," Kari Mallory said. "We withstood all of the pricing upheaval last year without borrowing additional funds. And we take the profits and put them back into the plant. It's definitely capital-intensive to be in this industry."

Snuggled against the Arkansas River, this facility has an annual capacity of over 30 million gallons of lubricants and 20 million pounds of grease. The grease plant here dates to about 1980, when Bill Mallory Jr. built the kettles. (Literally: A mechanical engineer, he welded the grease vessels himself.) It has 14 kettles for greasemaking, and also contract blends lubricants, serving customers with its own fleet of railcars and trucks.

"Private label is quite a bit of our business," said Mallory. "We keep building to have surplus capacity here, so

when customers ask us, we can take on new business when they want it. In a very short time, we'll overshoot our capacity here in Tulsa."

The new grease plant in San Antonio will ease some of that pressure, and the Stratco contactor will give it enormous flexibility. A contactor is a patented pressure vessel which uses a high-speed impeller instead of heavy, slow-moving paddles to stir the contents. Inside the closed vessel, fat and other raw materials are heated to make soap, the thickening agent for grease.

"We have had a contactor here in Tulsa for 15 years, and it greatly improved our greasemaking," Mallory declared. "Lithium and lithium complex greases are over 70 percent of the grease manufactured worldwide, and that's so for us too. To make lithium soap in an open kettle takes eight hours; the lithium com-

plex can take 20 hours. By using our contactors, it takes only one and a half to two hours maximum. So we're able to make the soap in 20 percent of the time." Once complete, the soap is moved into a grease finishing kettle for blending with base oil and additives, leaving the contactor free for the next reaction.

More Space Ahead

General manager Jim Gott explained that part of the Tulsa facility now is leased to another oil company as a storage depot, but he and Mallory have big plans for the space. "We have a new warehouse building nearby in Tulsa also under construction," Gott explained. "Our tenant will move there, while the space here will be taken over by Royal itself. That will add 30,000 square feet of contiguous warehouse space. We'll add food-grade, synthetic, biodegradable and blending

and packaging lines, in a segregated area for purity. Some of the space will become labs, and be used for technical support and research and development."

Anoop Kumar, a Ph.D. chemist who joined the company last year as grease R&D director, is clearly excited by Mallory's commitment to growth. "Grease is such a small volume for the majors," he observed. "Lubricants are only 2 to 3 percent of the oil industry, and grease is just 1 or 2 percent of that. So on their balance sheets, grease just disappears. It gets overlooked."

That leaves a vacuum just waiting to be filled, especially in high-value niches such as biobased and food-grade greases, Kumar added. "In the farm market in particular we have a growing chance. And now, we're making better food-grade products, too. They're almost as robust as regular mineral oil lubricants. We've learned more about additives to improve them. Our food-grade base oils are white mineral oils and polyalphaolefins, mostly." The new San Antonio plant also will produce clean, ultra-clean and noise-reducing greases, he said, ideal for sensitive electronic equipment.

"We're trying to establish our Royal brand in all these areas, while continuing to serve our private-label accounts," said quality manager Bruce Ramsey. "Most lube companies want to do fast, big runs. But we service the niches. When you want a specialized grease, we'll have a biodegradable or synthetic. We're making soy and canola-based greases now, with the canola coming mostly from Canada and the northern

U.S., while the soy comes from the bread-belt states like Iowa and South Dakota."

Vegetable oil based products are particularly popular with U.S. farmers, Ramsey added, but Royal is trying to export its biobased greases too. One hurdle, he admitted, has been the price volatility of the raw ingredients, as lubricants vie with biodiesel and food for vegetable oil material.

A Look Back

The Mallory family's involvement with Royal Manufacturing began in the Depression years. "In the late 1930s, my mother Lee started working for Royal Manufacturing, which at the time was a small specialty grease company serving the oil fields," related Bill Mallory. "They needed day laborers, so she went home at lunch and brought Dad back to work. Later, the company's owners went to serve during World War II, and the banks took over the company. Soon, my dad Dick Mallory was running it, and then he bought it from the banks."

Like his son, the senior Mallory had a passion for expansion, and in the 1950s he bought the remnants of Tulsa Refined Oil Co. (Tiroco), a lubricants compounder in business since 1914, and merged its operations into Royal's.

"Every year, we saw growth," Mallory Jr. went on, "and in 1976 we acquired Wright Oil down in San Antonio." Wright supplied the same "outside" businesses that were Royal's stronghold — off-highway, heavy equipment and farming — but it had been acquired by three investors who weren't

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Bill Mallory and daughter Kari Mallory

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up to the job of running a lubricants business. They gladly sold it to Bill Mallory Jr., who was able to build its volume by diversifying into new markets, such as railroad engine oil.

Railroad engine oil, Bruce Ramsey pointed out, requires building a segregated production line. Locomotive operators want no zinc in their oils, so to avoid contamination it cannot be made on equipment making automotive engine oils or other lubricants containing the antiwear additive ZDDP. The whole operation requires great efficiency, or it won't make money, Bill Mallory observed, but it also opens the door to supplying the railroads with lubricating greases and heavy oils that are higher-margin products.

The company also faced setbacks, one of the worst coming on Christmas night in



1983 when a fire destroyed the Troco plant in Tulsa. Tulsa rebuilt and rebounded, and has seen two expansions since; Wright Oil also has grown, moving into a new plant in 2007 with 10 million gallons of annual capacity.

Itching to Grow

Another diversification came in 1998, when Royal Manufacturing began selling base oil into Mexico and the Caribbean. "We had the supply ourselves, so it was a good business to add," noted Mallory. "By 2000, that business had built up so we built tanks in Brownsville. We added another 30,000-barrel tank last year." Subsidiary RTW Terminal in Brownsville, Texas, now has 36 tanks with 200,000 barrels of space, and truck, railcar and barge-loading capabilities.

Brownsville definitely increases Royal's buying power in the base oil market, Kari Mallory pointed out, and cushions the company when raw material prices are volatile. "Making money on the buying side and having capacity to store it has been an important strategy for us. We have found it to be cost effective to build tanks and buy products before the price goes up."

"We watch the markets sharply, and if we see a

shortage coming, we will build a tank right away and buy in advance," agreed her father. "Our experience has been that a tank can pay for itself by filling it up with cheaper oil, before the price goes up." In 2005, it meant the company could buy immediately ahead of Hurricane Katrina, and had storage space to keep it. "We always buy extra ahead of the hurricane season," Kari Mallory asserted.

Directly across the river from Royal's site lies Sun's Tulsa refinery and its Group I base oil plant, which had been threatened with closure. Locals were buoyed by the recent news that Holly Corp. is buying the facility and will keep it open.

Grease is 80 to 90 percent base oil, Bill Mallory noted, and this hometown source is a great advantage. Tulsa also gets base oil from elsewhere, and has room for up to seven rail cars, holding 20,000 to 26,000 gallons each. "When there's an opportunity to buy, we want to get it quick." ■



Anoop Kumar and Bruce Ramsey, in the Tulsa plant (top).