Creosote Supply A Year Later

Optimism Replaces Worry Over Supply Of Venerable Material

From Staff Reports

About this time last year, questions about the short- and long-term supply of creosote began to move to the forefront in wood crosstie producers' and users' minds. Considering that creosote plays an integral role in railroad maintenance-of-way as the most cost-effective crosstie preservative available today, worry about supply is no small thing.

Factors at the time playing into concerns included unprecedented demand for tar distillate products here and abroad, Koppers Inc.'s acquisition of certain assets of Reilly Industries, constraints in the actual production of coal tar in North America, uneven tie buying/production patterns during certain months of the year, and distillation capacity and supply logistics in the United States.

In the ensuing months, spot shortages of creosote materialized. At times there was even a note of panic expressed by tie producers with questions swirling during the time creosote suppliers ramped up supply capability.

But by the end of the year, North American creosote suppliers found optimism for the future. Furthermore, as 2007 unfolded, creosote inventories increased and imports of creosote became abundant.

In the face of this optimism comes another supplier of coal tar, the 98-year-old Citizens plant in Indiana, announcing closure of a facility that produced approximately 5 million gallons of coal tar annually. If all of this coal tar was distilled and refined to produce creosote, this is the equivalent of 1.5 million gallons of creosote.

With this development, what is the status of the industry and how does the supply of this critical material appear as producers gaze into the future?

We asked KMG-Bernuth, Koppers Inc., and others to share their thoughts with Railway Tie Association (RTA) members. In the materials supplied by all respondents, the attitude remains positive. But first a little more background.

Since 1990, air quality legislation enacted in the United States began to sow the seeds that would result in closure of several decades-old coke batteries. The effect of this was the reduction of North American-produced coke to the tune of several million metric tons. Since 2001 alone, 3 million metric tons of domestically produced coke has disappeared through closures of aging facilities. This represents an almost 20 percent decline in just the last six years.

It is important to understand the significance of this when talking about creosote supply issues. In the steel industry, coking (baking) coal at 1,100 degrees Centigrade yields coal tar as a by-product that is later distilled into binder pitch used in aluminum production and numerous other by-products. One of these orphan distillates is a liquid tar that can be further refined to produce creosote (used in wood preserving) or carbon black (used primarily in the production of tires, rubber goods, and pigments).

Advancements in the steel industry have also had an impact on creosote supply. As steel producers invested in new technologies, such as pulverized coal injection and non-recovery coke ovens, the result was further reduction in the feed stocks used to produce creosote. Furthermore, with the high cost of natural gas, coal-tar has been used as a fuel supplement in blast furnaces, putting additional pressure on coal tar resources.

However, several factors make all of these developments less negative than it would seem on the surface.

First of all, even though the current production of North American creosote-treated wood products, in particular crossties, remains at record levels, the wood preserving industry only uses a fraction of the coal tar distillate products that exist around the globe. In fact, estimates are that the worldwide availability of coal tar distillate that could be used to produce creosote is five times larger than the actual North American demand for the product.

A creosote bulk tanker heads to the U.S. shore from Europe.

Secondly, Koppers has extended U.S.-produced creosote by employing a petroleum product with near identical chemistry to other creosote components to supplement P2 creosote production. This blended material, called creosote petroleum solution, has been researched utilizing standard decay tests and has shown excellent efficacy in these independent laboratory evaluations.

Thirdly, for the past year KMG-Bernuth has been aggressively seeking relationships with new worldwide tar distillers. Following last year's International Tar Association meeting where RTA Executive Director Jim Gauntt made a presentation outlining the U.S. creosote supply issues, KMG has been able to identify multiple new sources on multiple continents for importing creosote on a larger scale.

Finally, in the domestic tie market several modest yet significant things are starting to unfold such as the use of copper naphthenate and borate pre-treatments for protecting wood ties. All of these factors have had an effect to extend the supply of available creosote.

So what do the current suppliers of creosote have to say about the short- and long-term trends for supply?

"Creosote supply utilizing 'creosote petroleum solution' was stable through the first quarter of 2007," said Koppers' Mike Mancione, adding that treating plants are now ramping up production, though, and inventories are beginning to reduce to normal operating levels.

"But, at the current pace, the supply should remain stable with the continued use of petroleum," he said. Mancione cautioned, though, that logistics could delay receipt of creosote during summer peak months. Railcar "turns" and truck availability during these times could disrupt consistent delivery. This could require some "off-line shipping in order to maintain consistent overall supply."

As for KMG, the picture for supplies of AWPA-standard creosote is quite optimistic. KMG's Tom Mitchell said that expanded historic relationships with world distillers and newly identified ones assure that enough creosote will be available to support North American producers. "KMG has embraced the responsibility of maintaining and grow- ▶

ing creosote supplies as well as expanding the production of alternative wood preservatives such as pentachlorophenol [which is the most commonly used preservative in wood utility pole production and could be used to produce wood ties under AWPA standards]."

"The key for creosote is that when we compete in the world market for creosote we are competing for the same distillate by-product that is used to produce carbon black. That means that carbon black demand injects pricing pressures in the marketplace that cannot be ignored if you want to ask tar distillers to produce creosote rather than carbon black."

Mitchell added, though, that international distillers of tar now have the North American market firmly in their sights. He said that KMG has even had to turn down several cargos in 2007 because all of their storage tanks and their customers' production tanks are now so adequately stocked.

What does the long term hold? Unfortunately, no one can predict the twists and turns that will confront tie producers in an outlook for something that is "only" produced as a double by-product of another process. That is one reason why the wood tie industry continues to seek and research alternatives to creosote so that at least the supply can be extended if another problem with supply occurs.

But, for the moment, suppliers are on the optimistic side of the equation. For users there are two additional points to be made. KMG and its predecessor companies have been reliably importing creosote to the U.S. for over 100 years. And, Koppers continues to not only shore up and increase efficiency in its domestic production capacity, but also continues to research mechanisms to extend creosote in effectively.

Mitchell summed it up this way. "I think I can speak confidently for the industry," he said, "in that we are in a better position now than we have been in a long time to assure stable supplies for the marketplace. With proper logistics planning and commitments from users there are no constraints to supply of creosote for wood tie production now or for the long term." §

RTA Finalizing Plans For 2007 Symposium & Technical Conference

By Kristen McIntosh

The Railway Tie Association (RTA) is finalizing the agenda for its 2007 Symposium & Technical Conference to be held Monday, Oct. 15 through Thursday, Oct. 18, at the beautiful Sanibel Harbour Resort and Spa in Fort Myers, Fla.

This year's conference will continue to follow the guidelines issued by the RTA Executive Committee to be very technical and timely in nature, according to George Caric of Tangent Rail Corp., RTA president. "Plus, this year we will have several presentations on the subject of capacity increase projects for the railroads," Caric said. "The conference has been revamped in this way to appeal to a wider audience."

RTA Executive Director Jim Gauntt said the topics of the RTA general business session, plus the purchasing and the wood preserving research sessions, will address current and future legislation, short line tax credits, engineering issues, supply issues and more. "Issues such as capacity increase are a subject on everyone's mind," he said. "Railroads can continue to grow traffic and revenue as capacity constraints are removed with new construction. This is a direct benefit to all railroad suppliers. Plus, updates on new wood preserving technologies and creosote supply issues are very important at this time."

The speakers lined up for the conference will be industry leaders. "We have railroad vice presidents, the most influential people in Washington, D.C., who lobby for railroads, and top officials in the hardwood industry," Gauntt said. "Together, they will make the content of this event most valuable to anyone concerned with tie supply and railroad maintenance of way issues."

The site of the symposium, the Sanibel Harbour Resort and Spa, is an 85-acre seaside resort overlooking Sanibel Island. Located 19 miles from the airport, the resort offers five outdoor pools, one indoor pool, a bayside beach, a championship tennis complex, a private fishing pier, private yacht and catamaran cruises, on-site dining, and a 40,000-square-foot spa. "We could not be more pleased with the Sanibel Harbour Resort and Spa," Caric said. "Virtually every sleeping room has a balcony that overlooks the harbor, and the meeting space is some of the finest I've ever seen. The sunsets are spectacular and only outmatched by the service of this Four-Diamond property."

Gauntt said the symposium's extracurricular activities will also be outstanding. "Of course, we'll have a great golf outing as usual, but this year we're adding a fishing derby as well," he said. "Spouses and guests will cruise the harbor during their hospitality-provided Continental breakfast. And, as usual, we'll have a superb banquet with great entertainment. This year's banquet will have a beach-fest theme, so everyone will have a fun evening of food and fellowship with a tropical island feel."

Caric and Gauntt both encouraged RTA members to make plans now to attend the symposium. "If you are interested in how railroads think about the future and how research is changing the face of tie production, this event is a must-attend," Gauntt said. §