

# RTA Addresses AWPA On Advancements In Dual-Treated Ties

## From Staff Reports

Railway Tie Association (RTA) Executive Director Jim Gauntt provided a technical presentation on dual-treatment technology at the American Wood-Preservers' Association (AWPA) conference held in Austin, Texas, in April. The presentation, called "Decay for Wood Ties—Problem Solved," focused on the background research that led to the ongoing efforts to commercialize borate pre-treatments for wood crossties.

In 1987, a cooperative research project of RTA, the Association of American Railroads, Mississippi State University (MSU) and the Class I railroads was initiated to determine how borate wood preservative technology could be used to enhance wood tie life in high-decay areas. Ties were installed in AWPA decay hazard zones 4 and 5 on mainline signaled track and subsequently monitored over the ensuing years.

At the last evaluation in 2003, Terry Amburgey of MSU and Jimmy Watt of The Crosstie Connection removed ties from the test and determined that pre-treatments had indeed worked and were still providing protection against rot and termites after 17 years of service.

From that point, two railroads began the

process of commercializing borate pre-treatments at servicing treating plants. The first effort was by Norfolk Southern (NS) at the Seaman Timber Company plant in Montevallo, Ala. Canadian National (CN) followed suit shortly thereafter at the Burke-Parsons-Bowlby plant in Stanton, Ky.

At first, the goal for NS was to pre-treat refractory tie species like white oak to provide protection. Borates are unique in their ability to move through cell walls to treat all of the wood, including the heartwood. This osmotic ability is what makes borates so important to tie life. Wherever moisture is present, borates mobilize through this diffusion process to that site and provide the protection necessary to prevent decay and termite attack.

"It sounds like magic, but the science behind how and why borates work in this way is irrefutable," Gauntt told attendees. "It has been documented by research over many decades, and now the science is available to help railroads address high-decay area tie usage."

The key to the dual-treatment process is high-quality control standards. There must be a measurable way to determine how much borates are loaded-in in the pre-treatment process. Then steps must be taken to

ensure that the diffusion takes place at the right rate for the appropriate period of time.

"But the key to the whole thing is using a heavy oil-borne primary treatment, such as creosote, to provide weathering protection," Gauntt said. "The property that makes borates so effective is the thing that we control with creosote treating. Since borates remain soluble in water, without a primary treatment like creosote, they would gradually leach out of ties. The primary treatment controls moisture movement and also adds a synergistic preservative effect that makes the whole thing work."

NS and CN have embraced the process and are rapidly ramping up production to meet maintenance of way and construction needs in the Southeast. NS's annual productive capacity will approach a rate of 400,000 dual-treated ties in the next several months. And CN will reach close to 200,000 dual-treated ties. Also, both railroads have changed their specification to allow white oak in Southern locales because of this.

NS has a goal of installing up to 1 million dual-treated ties per year. CN and others are using the ties on a location-by-location and situational basis.

The next steps are to continue data collection for commercializing non-refractory and mixed hardwood species. Following this, the data and standard specifications will be written and presented to AWPA technical committees for review. TASKpro/Osmose personnel are currently preparing an article for publication in *Crossties* that outlines the commercialization process and standard specifications used at Seaman Timber Company.

"The most important thing is that the quality control is in place to make sure it is done right. Change of this magnitude is always hard, and maintaining momentum is important. Not having high quality control standards that reflect all of the factors that go into this and the importance of the synergy of the primary treatment could derail the tremendous benefit this technology offers." §

## AWPA Meeting Brings Together Members Of Wood Preservation Industry

The American Wood-Preservers' Association's (AWPA) 102nd annual meeting, held April 9-11 in Austin, Texas, drew more than 300 attendees and guests who represented the treating industry, wood preservatives industry, utilities, railroads, academia, treating equipment manufacturers, government agencies, and members of related associations.

Railway Tie Association (RTA) members were on hand at the meeting, including Executive Director Jim Gauntt, who delivered a presentation entitled "Decay In Wood

Ties—Problem Solved" as part of a technical session on industrial products.

AWPA Executive Director Colin McCown said the annual meeting heavily emphasizes the educational component of the programming as well as standards writing, but attendees were also treated to numerous networking opportunities as well as receptions and a banquet.

For more information on AWPA activities, log on to [www.awpa.com](http://www.awpa.com), or call (205) 733-4077. §