

# TOPICS OF DISCUSSION At The Symposium

Packed with information and activities, RTA's 2006 Symposium & Technical Conference has been highly regarded as a success. This year, topics addressed everything from research and development initiatives to supply issues to purchasing and engineering plans. Presenters' comments are excerpted below.

## HURRICANE KATRINA: REBUILDING THE INFRASTRUCTURE



**Don Bagley,**  
**CSX Transp.**

Aug. 29, 2005, is a date that all CSX employees will long remember. On this date, Mother Nature struck the Gulf Coast with the deadliest storm in modern times. Following the initial assessment by the engineering team, we estimated that it would take at least six months and possibly nine to rebuild the track structure between Pascagoula, Miss., and New Orleans. It didn't take long for me to understand that it probably wouldn't be nine months, or somebody else would be in my shoes. So, the engineering team developed a very aggressive schedule and reduced that timeframe to six months. We met adversity with hard work, dedication and, above all, a determination to succeed. And, only five months after this disaster, CSX officially reopened the mainline between Pascagoula and New Orleans on Jan. 31.



**Jeff McCracken,**  
**Norfolk Southern**

On the morning of the storm, we had our helicopters ready to go up and, as soon as we could get them in the air, we were surveying the damage. I was asked how long it would take to get the track back. I said that if everything went right, it would take about two weeks. I was wrong. It took us 15 days. We had quite a bit of damage, but good track structure is a whole lot easier to repair than sorry track structure. If we hadn't had good timber on that track, we never would have been able to fish those 4.8 miles of track out of Lake Pontchartrain.

## NOAA/STRATUS REPORT



**Dennis Hayward,** **Western Wood Preservers Institute**

The Stratus Report determined that treated wood has not generally been associated with significant biological effects except in close proximity to the treated wood structures in the water and that the duration of any biological effect appears to become attenuated within several months of construction. But the Stratus Report scientists are making recommendations to NOAA and, when you get to the bottom line, they reversed their position by saying that there are several factors that suggest precautionary principle might be applied in certain treated wood issues. We are responding to this by developing best management practices to make sure that treated wood products are used appropriately. We are also providing a detailed, 150-page response covering what we saw with the science. We also did a major analysis of treated wood in aquatic applications to determine the potential impact and came out with our own detailed recommendations.

The bad news is that when you're dealing with regulators—when science and perception meet—perception rules. Remember that most railroads run near or over water and, for your own preservation, you must be aware that aquatic issues have the potential of getting in your way.

## TIES & TRACK RESEARCH



**Greg Grissom,**  
**ZETA-TECH Associates**

The FRA/RTA research study on the use of GRMS track strength measurement to plan tie maintenance was a major effort to investigate GRMS (Gage Restraint Measurement System) and coordinate with RTA and CSX to optimize tie upgrade and maintenance methodologies using gage restraint measurement system data. We were looking specifically at wood tie replacement and degradation of track structure. More than 4,000 ties were installed in the study in order to show that strategic targeted replacement allows tie

purchases to go farther. We successfully located ties where they were needed based on an objective measurement rather than based on a subjective visual inspection. And, the results showed that using GRMS as a maintenance-planning tool could potentially minimize the installation on the order of magnitude of 9 to 10 percent annually, resulting in significant savings.



**Art Charrow,** **BNSF**

Obviously, we want to save as much money as possible and want to change out only those ties we believe are necessary to do the job. Our current philosophy uses ZETA-TECH's TieInspect model for our basis for tie installation and inspection. We opted to use the TieInspect program two cycles ago, and last year was the first year in which we prioritized ties being inserted according to the new algorithm, which calculates several indices that determine the tie block's position in the mechanized tie rating sheet, which is like our Bible. The key advantage of the system is that it considers all grading categories as opposed to our previous algorithm, which just took into consideration bad ties independently to what each tie on either side of it, or for that matter four ties on either side of it, how good or bad those ties happen to be.



**Dr. Allan Zarembski, Ph.D.,**  
**ZETA-TECH Associates**

The SelecTie Model is a mode that has been developed and distributed by RTA over the last 12 to 14 years and has gone through several generations of upgrades. It is an economics benefits model that looks at the economics of wood ties vs. all other tie configurations. It is a very detailed micro-level model that has been very widely distributed and used as a decision-making tool by railroads, transits and consultants. One of the major emphases of this upgrade in 2006 was to update all of the default values since they were last upgraded in 1997. ZETA-TECH worked with RTA and BNSF to input all the major default values in the model, which was a fairly extensive exercise to

upgrade equipment, labor and material costs; gang compositions; productivity rates; material requirements; etc.



**Carmen Trevizo,**  
**Transportation**  
**Technology Center Inc.**

It's great to hear in this conference that the technology we are now using in terms of tie replacement allows us to replace components when they are needed and not when they are scheduled and not just because the inspectors say they've always done it this way. There are a lot of tools out there that improve upon what the human eye sees, and it's good to hear that we are using these tools.

**STATE OF THE**  
**HARDWOOD INDUSTRY**



**George Barrett,**  
**Hardwood Market Review**

The hardwood industry has gone through downsizing many times through the years, but this time it's permanent. In 2000, we estimate that we produced about 14 billion board feet of lumber. It started to drop down, and in 2006 we estimate that we will only produce about 10.5 billion board feet in the United States. Next year, we'll lose another 10 percent of our business. But, at the same time that we've been declining in production, we've been making more railroad ties, which is good for you. Now, the big question in 2007 and beyond as we continue to restructure the industry is whether we will be able to produce 20 million railroad ties. And the answer is yes. As a result, the railroad industry has become one of the largest markets for hardwood lumber in the United States at about 10 percent of the market for hardwood lumber worldwide.

**LUNCHEON**



**David Pearce Snyder,**  
**The Futurist**

In the world of rapidly expanding knowledge, ongoing innovation and globalization, everyone has to be in tune to anticipating, detecting and responding to the consequences of change since...innovation and change occur in a world so complex today that the unexpected must be

expected. For example, we could have a pandemic that the Centers for Disease Control says would result in 40 percent absenteeism. How are you going to deal with this? And how will you plan for your technology needs as we enter the most productive time in our history? This is the future we are talking about. Living is time travel, and our common destination is the future. Everybody needs to be prepared to change.

**STATE OF THE**  
**RAILROAD INDUSTRY**



**Ed Hamberger, Association**  
**of American Railroads**

All told, we spend each year between \$15 billion and \$17 billion on capital expenditures and maintenance, and we are poised to spend even more. In 2006, the announcements of the Class 1 railroads on capital expenditures alone is \$8.3 billion, a real step-level increase from the \$6.6 billion of 2005. We are indeed the most capital intense industry in the country, and we continue to rely upon you not only for ties but also in helping us increase capacity.



**SHORT LINE**  
**RAILROAD SESSION**  
**Chris Dodge, AREMA**  
**President, OmniTRAX**

Our relationship with RTA is particularly strong, and one of our technical committees, Committee 30 – Ties, solely concentrates on ties and has tied its meetings into this meeting of RTA for years. AREMA and Committee 30 – Ties have a long history of cooperation with RTA, and the members of the two organizations freely intermix and promote the railroad tie industry. I would suggest that if you are interested in the work of this committee that you visit our website, [www.arena.org](http://www.arena.org), to see what it has to offer.



**Randy Henke, Cedar**  
**American Rail Holdings**

If you take the total gross summary of the Powder River Basin (PRB) project, we have a three-year schedule starting in March 2007, and we're scrambling to be ready. For a wood tie count, we're look-

ing at 1.1 to 1.2 million ties, and almost half of those would preferably be pre-plated due to the fact that we're building on new alignments or where track does not currently exist. If you consider what Cedar American Holdings would have bought under its normal program, we've bumped up our ties by about 630,000.

**CLASS 1 ENGINEERING FORUM**



**Craig Domski,**  
**Union Pacific**

Union Pacific's capital budget in 2006 was \$1.48 billion. In 2007 right now, which is not yet approved by our board, we're building a budget of about \$1.5 billion. Next year, we'll be spending \$507 million on ties, and rail will be a slight increase to about \$14 million. Our wood tie capital program in 2007 will be right at about 4 million ties. Our projection for 2006 was right at 3.6 million installed, which will be a little higher. The wood tie is the majority of our program, although we will use about 510,000 concrete ties and about 200,000 composite ties primarily in the Southern district.



**Tim Drake,**  
**Norfolk Southern**

While wood does remain our commodity of choice, we have adopted the use of steel ties in some of our newly constructed sidings. We are also continuing to test different composite ties at different locations throughout our system. We've also continued to increase our use of borate-treated ties predominantly aimed in the Southeastern region of our railroad. Probably, next year, our borates use will be in excess of 400,000.

**Don Bagley, CSX Transportation**

In our 2007 preliminary capital plan, we're looking at about 2.8 million wood ties, plus or minus; 75,000 switch ties; 15,000 bridge timbers; the same amount of road crossing work; and another 4,000 feet of concrete surface highway crossing material and about 25,000, plus or minus, concrete crossings most likely to be used in our capacity projects. We're dedicated basically to wood ties. While we are using some concrete, we are using less than we did several years ago. ►



**Roy McIlveen,  
Canadian Pacific**

The key word at CP is “fluidity,” which is often accompanied by the words “operational excellence.” This is a network philosophy that requires that we get the best from our assets. We are doing pretty well on our ties, which have an average life of 27 to 35 years due in part to the fact that we’ve gone into roll plates, e-clips and screw spikes in a big way in the last 15 years. It’s also a credit to the quality of product we’ve gotten from our suppliers.

**CLASS 1 PURCHASING STAFF**



**Gary Hunter, Union Pacific**

It’s a busy time for railroads right now—a good time. Our crosstie program for 2006 right now is at 3.76 million wood crossties. We figure there will be another 125,000 shipped in October, so we’re not going to miss 4 million ties by very much at all. In standing inventory right now, we have 3.6 million crossties, so we are positioned well for a 4 million wood tie program in 2007.



**Fritz Horn, CSX Transp.**

Certainly, creosote availability is a concern for us. Research is ongoing to try to find possible options should they become necessary for cost-effectiveness. It’s difficult to imagine something that could have a more profound effect on how we do business than uncertainty in creosote supply. Railroads cannot afford to be put into a position where over the long-term we have doubts as to whether we can maintain our physical plant. It’s our primary asset and our means to generate revenue to survive. However, we remain confident that options will be found if necessary and that wood will remain the crosstie of choice for CSX and others.



**Walt King,  
Norfolk Southern**

Our demand for 2007 will again be somewhere in the neighborhood of 2.6 million crossties for the fifth consecutive year. About 93 percent of our treated tie requirement had been produced by the end of September. The Norfolk Southern

capital program runs from Nov. 1 to Oct 31, and we anticipate fulfilling our requirements by the end of the month. And, by Nov. 1, we expect to begin shipment for our 2007 program.



**Bruce Emberly,  
Canadian National**

We are the only other borate-treating railroad besides Norfolk Southern. We’ve also accepted white oak now in deterioration zones 3 through 5 as long as they are pre-treated with borate. We have 200 white oak ties in track currently being tested.



**Rob Churma,  
Canadian Pacific**

Over the next four years, we’re looking at just over 4 million ties for maintenance, production crews, and special projects and spot replacement. We are very consistent in terms of the quantities we use. In 2007, we’ll be looking at just over a million ties. We’ll be using 90 percent wood—100 percent of our hardwood will be North American and 100 percent of our softwood will be from Canada. There will be no off-shore purchases.



**Mike Aarstad, BNSF**

We’ve already begun shipping 2007—two or three unit trains so far. And the plan for the next four or five years will be consistent. We do not like to jump in and out of the market. We’re going to be at about 2.8 million, plus about 10 percent casualties and operating. We like to have an air-dried inventory. We think that an air-dried tie is a better tie in the long run anyway. We think it has a lifecycle that is about 10 to 15 percent better than that of a bould-tonized tie.

**WOOD PRESERVING ISSUES**



**Dennis Ring, LSU,  
on the Formosan  
Subterranean Termite**

People are moving this termite. This picture is a railroad right here in the French Quarter that is damaged by FSTs. This is a picture of what FSTs do to railroad ties. They just kind of shred it. There’s not much left. Here is a picture of a saltwater dam in Lake Charles

made of wood that was treated to the highest retention of creosote possible. Nineteen years after it was built, 90 percent of the wood had to be replaced because of FSTs.



**Martin Rollins, HM  
Rollins Inc., on Industry  
Action on PAC Releases**

PACs are Polycyclic Aromatic Compounds, the simplest of which would be naphthalene. Why are we talking about PACs? Because they are significant constituents of creosote. And, while some of these compounds are categorized as carcinogens, not all of them are; but, we get the environmental scrutiny from EPA and others as if they all were. As a result, several initiatives have focused on the wood treating industry, particularly on the use of PACs in water and air.

To make sure that we have good data going forward, the creosote industry, including RTA, is funding an effort to help us put together some comprehensive guidelines for the wood treating industry for reporting creosote and PACs so that there is more accurate and consistent data from plant to plant.

**ALTERNATIVE WOOD PRESERVATIVES**



**Dave Glassel,  
CedarCide Industries Inc.**

We have successfully launched a line of safe, effective products currently used in today’s market for control of insects ranging from mosquitoes to termites. Our proprietary cedar oil blend, when linked with Dow-Corning’s silane technology, provides multiple benefits in treatment of wood cellulose by giving the wood dimensional stability, which eliminates the cracking and splitting; preserving its natural texture; giving the timber water repellency; resisting wood-eating insects and micro-organisms; reducing drying time; and reducing sap stain to expedite painting and finishing.



**Shane Kitchens, TASKPro**

The use of borates as a wood preservative has been commercialized. I hope that more railroads will come on line with us and move forward with the borate project because we really feel like we can decrease some creosote levels, thereby easing some of the pressures. And, most

importantly, we are increasing the tie life of difficult-to-treat species and utilizing our resource in a better way. Furthermore, we have successfully researched electrical impedance of borate pre-treated ties and are confident that they perform as equals to creosote-only ties.



**Gene Mall, BioPreserve**

BioPreserve will open/expand a bio-oil refining plant in 2007, and we are testing bio-based wood preservative

systems that primarily use soybean oil and other components.

**WOOD PRESERVATIVE SUPPLY**



**Bob Wombles, Koppers Inc.**

P2 is in short supply because of a reduction in the amount of coal tar produced. We've seen this due to coke oven

closures throughout the United States and Europe. The ovens have gotten old, maintenance and environmental costs have risen, and competition from cheap coke in other countries—particularly China—has resulted in the economic decisions to close ovens.

We've begun developing and producing a specially selected petroleum-blending component to make an effective wood preservative. We have received EPA pesticide registration for it, and we are continuing to prepare information packages to the AWPA to get acceptance for the material we call creosote petroleum solution.



**Tom Mitchell, KMG-Bernuth**

In 2006, there's no denying that the consolidation of U.S. coal tar distilleries along with

some other challenges caused some a short-term disruption in supply. But, what we saw was actually more of a tightness than a shortage. What I want to do today is report that my confidence in overcoming this tightness in 2007 and beyond, based on a 22 million tie demand annually, is virtually 100 percent. Creosote will be available. We bring material in by vessel from Europe and now elsewhere. In 2007, we will bring in a cargo of creosote every three weeks to the Port of New Orleans, where we have a 3 million gallon capacity. That means creosote will be flying in and flying out. §

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