

# What RTA's Presenters Said

Packed with information and activities, RTA's 2008 Symposium & Technical Conference was the most well attended RTA event in recent history. This year, topics addressed everything from research and development initiatives to supply issues to purchasing and engineering plans. Presenters' comments are excerpted below.

## TRACK RESEARCH SESSION



**Dr. Allan Zaremski, Zeta-Tech, RTA Initiatives In Tie Life Research**

The first study is a comparison of tie requirements as a function of inspection techniques. Specifically, what we did is look at how many ties would need to be replaced per mile based on traditional visual inspection versus GRMS-type track strength inspection. We also overlaid the two, looking at the combination of the two inspection techniques. We found that the visual inspection technique identifies most of the ties, but does miss some bad and failed ties that are track-strength related. GRMS alone does not find maintenance ties in the quantities railroads are used to replacing to maintain their railroads on an ongoing basis, but they do find those track strength ties that a visual inspector doesn't find. Overlaying the two and doing a combined analysis gives you the best of both worlds, i.e., it identifies the maintenance ties that require replacement to maintain the track in good condition and it also identifies the "weak" lateral-strength related ties that a visual inspection often overlooks. As such it identifies a few extra replacement ties in the bad and failed categories that are pinpointed more specifically toward "weak" lateral strength condition. From a numerical impact perspective, there were approximately 11,000 extra bad and failed ties out of a million ties identified by this overlay of visual inspection and GRMS-type track strength inspection, whose replacement provides additional protection in terms of overall track strength.

## HARDWOOD INDUSTRY SESSION



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

What's happened to the hardwood lumber industry is that our lumber production has gone down significantly. Since 2000, we've gone down 50 percent and in the last four years we've gone down more than 40 percent to an anticipated level of 6.7 billion feet of production in 2009.

As we get to this 6.7 billion production level, we're now getting down to where demand and supply are going to be in balance. As we move into the latter half of next year, we're going to see things look a lot better and lumber prices go up for items other than railroad ties.

The lumber supply imbalance is going to be the most important thing for the hardwood lumber industry and for the railroad tie industry over the next year and a half. We can continue to supply you with 18 to 20 million ties per year, but only if we have a viable industry that's profitable across the board.



**Mike Snow, American Hardwood Export Council, Hardwood Export Opportunities**

Exports have been growing very steadily over the past few years. The United States is by far the largest exporter of hardwood lumber around the world, and we're actually increasing our lead over the rest of the countries. The exports are becoming a very important component of the profitability of the hardwood sawmills in the United States. The export markets are clearly a very important component of the profitability of the guys that are supplying you with your wood ties. While it has increased over the past several years, where that wood is going has changed dramatically in the last decade or so.

**Urs Buehlmann, Virginia Tech, Research and Industry Activities and Hardwood Lumber Industries Report**

The challenge, if you ask me, is how we



can improve and modernize our existing industries.

If you ask me to reverse this trend of shipping more and more of our wood fiber outside the country, we have to figure out how we can do a better job manufacturing those products at home that the importers of our hardwood logs are making out of wood fiber. Now, having said that, you see that happening on a small scale. If you go to the small shops in towns, very few of them do something where you can go up and say 'I need this' and 'could you make it a little bit longer or a little bit higher' or 'could you give me this color.' So, mass customization could be a very good way that we could capture more of that value that the customer is willing to pay.



**Shawn Gruschecky, West Virginia University, Appalachian Hardwood Center Research Programs**

What we're trying to do is show these guys how to evaluate logs quickly, efficiently and dynamically—to try to make the most of each log and to make sure that every log is seen as a profit center.

The main part of it now (sawmill assistance program) is getting to the point where we are allowing the industry to benchmark their production against other competitors. Basically, we go into a mill in one day and the mill will lay out 100 logs that they are most interested in. We go through and scale it, weigh it, and measure the mill. The next day we go through and enumerate and track individual boards through the mill. They receive analysis of their logs.



**Wilson Jones, Mackeys Ferry Sawmill, The Star Program**

Basically, what we did is took part in what they call Students Achieving Results (Star Program) with the University of North Carolina Kenan-Flagler College of

Business. The team consisted of a team of seven MBAs and a faculty advisor. This faculty advisor happened to be the former president of Asian operations for Coca-Cola. They came down and looked at the mill, went through everything, looked at our financials, and developed a list of things we wanted to look at. We came out with a series of different options. Basically, they examined our sawmill, our different markets, who we were selling to, what we were cutting and our different products.

One of the big things we learned was who the profitable customers are and who are not.



**Skipper Beal, In the Trenches With Beal Lumber Company**

It's a very challenging time in our industry. It's changing rapidly. We're seeing a

lot of production exit the marketplace in our state. One of the things that has been a problem for sawmill people, and a lot of this has been hashed over this morning, is timber. We have a declining timber base. What I try to do to position my mill competitively is to try to buy the best timber. We learned a long time ago it costs more money to process a low-grade log than it does to process a high-grade log. And, there is absolutely no margin in it. We also must manufacture as efficiently as possible. If we don't do that and make quality lumber or cut, our competitors will steal our business.



**Judd Johnson, Editor, Hardwood Market Report, Changes In The North American Hardwood Marketplace**

There are three basic forms of change that can alter our business. One is economic change. Another is market cycle change. We've all experienced that before. The third one is fundamental change. We know softer economic conditions, inflationary pressures, and an anemic housing market have affected our business and have overshadowed our business all this year.

Furniture was 20 percent of the hardwood market consumption in 1999; cabinet and exports were about 9 percent each; flooring

was 11 percent; and ties were about 5 percent. Since 1999, hardwood consumption by primary U.S. hardwood markets has declined. As of 2007, the furniture industry was only 10 percent of market consumption compared to 20 percent in 1999. Flooring gained a percentage point. Pallets gave up two percentage points. Cabinets and exports each grew three percentage points to 12 percent each. But, ties doubled the percentage footprint to 10 percent.

The railroad tie industry is about, at our estimate, 1 billion board feet in 2007, and we think 2008 would be about the same. Historically, this is a high number by the tie industry.



**Railroad Energy Alternatives Commission For Tomorrow (REACT) Tom Judge, Editor, Railroad Track & Structures**

Freight and passenger railroads have an unprecedented opportunity to make enormous contributions to the greening of American society. No other mode of transportation is as environmentally friendly and as fuel efficient. The mission of REACT is to expand, support and promote the railroad industry's intelligent solutions to the nation's urgent energy and environmental problems. The next presidential administration and Congress will be faced with moving a national energy policy forward, one that lessens America's dependence on foreign sources of fossil fuels and concentrates on alternative forms of energy. The railroad industry must be proactive in ensuring that its role in this initiative is a major one and that its involvement will be long term.



**Ray Chambers, Chambers, Ray B. Chambers & Associates**

The Energy Independence and Security Act of 2007 put in a specific class two and class three railroad project believing that railroads are in the public benefit to move more freight by rail. They created a grant program with up to \$50 million a year for class two and three railroads. The grants can be used primarily for the rehabilitation, preservation of track structure, and so on. They have energy

goals and such things as facilitating the continued or greater use of railroad transportation for freight shipments. That's a good national goal stated in legislation if you start to talk about rebalancing freight from highway to rail to reduce the use of less fuel-efficient modes of transportation in the transportation of such shipments and to promote technologies and advancement in research and development to increase fuel economy and reduce greenhouse gas effects.



**David Lahaie, President, Evergreen Recycling Inc.**

We decided to take a look at the number of ties that are produced on the disposal side in a year and some of the technologies that can be used for, in a sense, a stewardship program for reuse of the ties in some beneficial way.

There are a lot of options for what could ultimately be done with a railroad tie and so the decision-making process on the committee was formed around how many ties are out there actually in terms of annual tonnage that are disposed of and how geographically distributed they are. The committee is putting that information together and trying to make decisions about three things. One is the supply of ties, one is the technology that would be used to process them, and the third would be whatever off takes there would be for whatever products were actually created from those.



**Jim Gauntt, Executive Director, Railway Tie Association**

We were able to account for approximately 17.1 million wood ties that were

removed from active and inactive track applications in the last 12 months and these are the percentages of how they are reused or disposed of. About 5 percent, roughly, are reused in tie applications for relay ties in railroad situations. We had about 14 percent reused in commercial landscaping. A little over 5 percent are used for commercial farm applications such as fence post. About 14 percent are used for residential landscaping. About 5 percent are disposed of in approved or permitted landfills. And, ►

roughly 54 percent are going to co-generation facilities currently. We also have a couple of percentage points of ties going to gasification facilities.

We made the case to the Environmental Protection Agency (EPA) that were you to eliminate landscaping ties or any of these other disposal options and only allow landfills to be used for disposal, that if you could only imagine a football field in terms of its size and then make it a hundred feet tall or a 10-story building that had the footprint of a football field, that would be the amount of additional landfill space required each year if you were just going to landfill used crossties.



**Kim Sigurdson,**  
**Aboriginal Cogeneration Corporation (ACC)**

The benefits of the ACC gasification system are that they are small, modular and expandable. We can put a number of units—three, four, five or six—in a complex. It helps a lot if you put these things side by side, if you can. It builds a lot of redundancy. If one is down, you can use the other way. In our case up in Canada, if one is down we don't need two chippers to supply these gasification units, you need one, and we can supply all of them. ACC diverts potentially hazardous-waste railway ties from landfills and incinerators.



**Bob Boileau, 2008 AREMA President, Burlington Northern Santa Fe**

A couple of studies have shown significant growth over the next many years coming up to the rail industry, as much as 67 percent over the next 15 years. The commission that the Department of Transportation (DOT) put together showed even greater growth through 2035 of course, which dictates the need for major growth and expansion in order to keep up with the volumes that are wanting to come to the railroads and the railroad industry.

Investment tax credit. This industry has not or will not be able to, at least at current investment levels, be able to keep up with the growth that's coming to the rails. So, one way to encourage additional investment is the investment tax credit. The study that

was done by DOT highlighted this. This is a bill that has been proposed to Congress for the last three years or so. We'll see where it goes. It's hard to say, but this would be very beneficial. It would be more private investment generating capacity improvements versus the taxpayer. It's good public policy. It's good for the public. It's good for the taxpayer. The message for this group would be to talk to your congressman, write to your congressman, and lobby on the Hill to see if we can get this passed.



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

As the technology improves and we have the opportunity to turn [scrap ties] into energy and energy becomes more valuable, we're certainly going to be looking at sharing a little more of the liability or more of the profits should we get to the point where we can start making some money on cogen-ing the ties. Right now in the Union Pacific, 90 percent or our ties are cogen-ed; only 10 percent are allowed to go into landscaping purposes. We want that to be 100 percent for the legacy reason and, like Jim (Gauntt) said, the Environmental Protection Agency (EPA) is not going to give up. Once one person somewhere gets the idea that it is a hazardous waste, they aren't going to let it go. So, we really need to figure out long term how we're going to get rid of the scrap ties permanently.



**John Bosshart, BNSF**

Obviously, the growth [of ethanol production] has been tremendous since 1996, 12 years. It's grown from a very small business into an extremely large business for us. Roughly 10 times its size. The growth shows the number of different locations where we operate the shuttles to move the ethanol. I'll also point out that I was actually surprised that we're moving them to destinations in Mexico as well. Where do those unit trains originate? I don't know if this is exactly true, but it looks like the centroid might be Omaha, Nebraska. What happens when you start taking a look at putting a circle out from that location? It seems to be concentrated in that area. It's hard to believe, but 4.4 billion gallons origi-

nate in this area that BSNF is able to serve. We've got just 350 million gallons that are produced on the Texas panhandle. On the BNSF network we got the opportunity to move about an additional 1.4 billion gallons potentially on unit train producers in 2008 to 2009. Well what does this mean in exact numbers? 52 is the number of locations that can currently load the ethanol express trains for us, and by the end of this year we'll have the ability to accept over 6.4 billion gallons of ethanol.



**Ray Zenisek,**  
**CSX Transportation**

These are our projections, but again, this is just preliminary. We're looking at 3.3 million crossties, 75,000 switch ties, 20,000 bridge timbers and 85,000 linear feet of crossing timber. This year we'll wind up with about right at 3 million crossties this year. We're going up a little for next year.

We did a study a few years back on road crossings. We were using the rubber rail seal only on road crossings. We found that the crossings were failing prematurely. We looked at all different types of crossings, including composite, rubber and wood. We went back to wood in all of our applications now because it gives us a stronger structure.



**Jeff McCracken,**  
**Norfolk Southern Corp.**

We're noticing premature rot on our bridge timbers. We found some old bridge timbers that still had a tar and chip coating on them and they weren't rotting yet, even though they had been on the track for years and years. So, Jim Carter, our chief engineer for bridges, and I both independently through different means began exploring what could we do about this situation to try to recover some of this lost art.

Willamette Valley developed a spray we could put on the ties that would fill the voids and would also be able to expand and contract with the temperatures and not crack up. Then we put a little sand on there as well.

Our next move in this manner is to encapsulate the entire crosstie in this manner, with the bridge ties, thinking that if we could keep moisture and air and fungus and

termites completely out of the ties, the wood will last until it's mechanically worn out. In most applications that will be two to four or maybe five times longer than we're getting out of them now. We need to explore some new ways to preserve our ties and make them last longer because we're getting too much rot in some areas and not enough mechanical wear.



**Larry Anderson,  
Canadian National**

We're also borate tie treatment territory. Everything we buy on our railroad south of Memphis we take borate tie treatments in. For 2009, as of right now, the program looks about 175,000 7x9s and 7,000 switch ties in that area. We do use alternative ties. We have tried plastic. We also have the rot problems on the Gulf Coast on our territory. We put some in Louisiana. We've got a little over 10,000 in the track. We've had some problems with them. We've had some break right off the bat. TTCI has indicated there has been some breakage in the fasteners in the ties so we've kind of mandated that the track inspectors do a walking inspection of the ties on a monthly basis. I think that one of our concerns is that the fasteners would be broken down in the ties and we would have problems before we could actually see it from the high rail. We thought we reinvented the wheel with our concrete ties in 2003. We caste a steel plate into the concrete tie thinking the steel would take care of our rail seat abrasion problem we had. It didn't.

**INDUSTRY COMPLIANCE SESSION**



**Dave Webb, Creosote Council, Creosote Re-registration Compliance**

So what does it (re-registration document) actually say? The benefits of creosote-treated wood are significant, so it will be re-registered if certain risk mitigation measures are implemented. A new creosote label to include those risk mitigation measures is needed. There will be additional data requirements for both human and ecological environments.

Ecological risk mitigation is another area of concern from EPA. It took a lot of negotiations to get them to focus on AWWA and

the fact that they need to focus on those specific standards that focus on creosote treated wood products. There will be a double vacuum for those things that are going to be used in marine or aquatic and other sensitive environments, which means a mandatory use of the BMPs that were put to together by WWPI and supported by a number of organizations within the industry.

Initially, creosote, as well as the other wood preservatives, had to perform as a part of this data call in for the current re-registration—a worker exposure study. After all of the engineering controls have been put into place, we have to conduct another study to be able to show what effect has occurred as in terms of improvement in reducing the exposure.

In addition, for years, Creosote Council has been trying to convince them (EPA) that creosote-treated wood is not harmful to the environment. Dr. Kenn Brooks conducted several years ago a study in a pristine environment in Canada. Results did not show not a significant amount of creosote moving into the water column or in the bottom sediment around the creosote piling.

EPA is not satisfied with the data from the northern climate; they want a field study to be conducted in a warmer area such as along the Carolina or Florida coast. Creosote Council has concerns about developing the protocol for this field study. However, if it is not possible to agree with EPA on a protocol for the field study, we will have to probably conduct a mesocosm study that could cost up to \$2 million.



**Martin Rollins,  
HM Rollins,  
TRI Reporting Compliance**

The issue we're going to talk about today is compliance actions that were started by Environmental Protection Agency (EPA) Region 6, which is in Dallas, having to do with allegations of failure to properly report at a number of plants, in particular at treating plants, where they were making the claims that we should be reporting emissions from our finished products and our storage yard, and reporting those emissions to all media in our Form R reports.

The debate with EPA, which was whether

or not our finished products were indeed articles, was that treated wood products were not articles. So, if these materials were not articles, then everybody who used these products down the commercial chain could be potentially subject to reporting of releases from these non-article entities. I'm talking about the millions of crossties that may be on track across the country. How would we go out and quantify the air releases from in-service crossties, the release to storm water from in service crossties and those types of things?



**Hans Ward, Kop-Coat,  
Management Of  
Untreated Railway Ties  
To Reduce The Spread Of  
Ambrosia Beetles &  
Other Pests**

Obviously, inspection is very important. If you're going to ship interstate, again it's really important to know the state you are going to ship to doesn't have regulations and, if they do, you have to comply with them. Otherwise we'll end up being just like international shipments. It's good to be ahead of the curve, and ahead of your competitors that don't know about these things, so you can ship your ties wherever you can to enjoy business.

The key thing for the work on ties, just like anything else, is that it's got to be based on good logs. If you're dealing with pre-infected wood, whether or not its beetles or fungus, you're not going to do much about it with a surface treatment. You've got to be starting with good wood and keep it good throughout the process.

In the future, unfortunately, even with the big global committees that are out there, they are now arguing about whether or not heat treatment is really doing the job. There have been a number of cases with things that were supposed to be heat treated either weren't or they were not effective, although heat treatments are being looked at again, along with other fumigations.



**RTA Wood  
Preservative Research  
Michael Sanders,  
Mississippi State  
University, Update On  
RTA-AWPRP**

When we started this project we had two primary goals. We wanted to assess the ►

competency of new preservatives systems in comparison with creosote and creosote borate systems, and we wanted to look at this in both refractory and non-refractory species. So, we're constantly looking for a better mousetrap. We wanted to duplicate the study in locations with both Formosan Subterranean termites and one with our Reticulitermes. We had other goals. We wanted to look at non-indigenous species evaluations. We wanted to look at corrosion evaluations of spikes, plates. We also wanted to look at dimensional stability, to see if anything we were coming up with was a better stabilizing agent than perhaps something we've used in the past.

We're looking for our first inspection. We'll be looking for signs of biological degradation as a result of decay, termite damage. We'll inspect for signs of iron degradation or corrosion of spikes.

**CLASS I PURCHASING STAFF**



**Chad Rolstad, BNSF**  
2006 was a big procurement year, and we've fallen a little bit short in 2007 and 2008. 2008 is a projection, and we're looking to come in at about 2.9 million. And, with the additional tie gang that went on this year and the additional tie gag going on next year, we're expecting to put out about 3.1 million in the ground, as well as about 100,000 composites.

Looking at 2009 and beyond, we're expecting our wood tie program to remain strong and remain over 3 million a year. Concrete maintenance ties are steady at about 150,000 a year. We're going to continue to test and install composites in our high rot zones, as well as borate ties.

So, our challenges moving forward. I think our first one is the really most critical. We have some pretty serious problems in the hardwood supply industry. Looking at production going from just over 13 billion board feet less than 10 years ago to possibly 6 or 7 billion board feet next year. Looking at revenue streams for grade lumber that have decreased 40 to 50 percent over the last three years. Meanwhile their raw material costs haven't gone down and their operating costs have gone up and in some cases their logs have gone up. It's a very real issue we need to keep focused on.



**Gary Hunter, Union Pacific Railroad**  
Our black crosstie shipments for program year 2008. Our program year starts Nov. 1 of every year

and goes through the end of October the next year. So, these numbers are through September. So far, we have shipped 3.7 million wood ties to our using locations. Now, in October, that number will add probably about 100,000 to 125,000, so we're pushing that 3.9-4million tie program on an annual basis.

Of course, the key to a 4 million tie program is to have air-dried treated ties. Our customer wants air dry-treated material, and this year we've had a boltonizing rate of about 1.2 percent. So, we haven't reached the 100 percent goal yet, but we've come real close.



**Lisa Benz, CSX Transportation**  
We're looking at borates. We're using our rail pick-up company to help us do a study on tie life. We've

all heard what tie life is; it ranges from 14 to 68 years. We don't know what our years are at CSX, but we know it ranges probably from within those years going from south to north. So, we need to figure out if the borates are good for us, and if they are, where are they. Fritz has already done the species separation step, so we are only getting the mixed hardwoods down South and we're hoping that's helping already.

So, looking ahead, we want to develop new production. We want to explore new treatment options. Another thing that has happened since I got this job is that we get calls from all kinds of people with all kinds of ideas. "They're the new creosote—better than creosote." One thing that Norfolk Southern said yesterday, when the cost of the crosstie continues to go up, we don't mind taking a look at some of these other options.



**Walt King, Norfolk Southern Corp.**  
In 2008, our capital budget was \$1.4 billion, including labor. Norfolk Southern's crosstie program represents 15 percent of that \$1.4 billion budget. Now,

the budget is expected to stay the same in 2009. But, during this time of rapidly increasing green tie prices and pending significant creosote prices we have a philosophy in our department. It's called "the nail that sticks up gets hammered."

Creosote pricing continues upward and in an unprecedented manner. We are quickly approaching a point where economic treatment alternatives must be found for the wood tie if it's going to maintain its dominance as the tie of choice in North America.



**Bruce Emberly, Canadian National**  
We're putting in about 1.9 million ties and 50,000 switch ties, with the exception of about 60,000 soft-

woods mostly for the MK&R and industrial applications all of our ties are purchased hardwoods.

We started the year with 1.9 million in 2008 and we ended up shifting 2.4 million ties in 2008, so we did a lot of scrambling.

Here's something about the dual treatments we have been putting in. We started in 2004 kind of slow and grew up to a regular pace in 2006. And, at of the end of 2008, we have over half a million ties in track dual treated with borate. The program is the same for next year.



**Rob Churma, Canadian Pacific**  
Projected for 2009 are 900,000 ties for protection crews, 70,000 for maintenance and projects, and

30,000 preplated ties for projects for a total of 1 million wood ties. This does not include DME numbers, and they're projected to be 106,000 grade fives and 44,000 grade fours for 2009. So, we're showing a modest steady increase in tie requirements over the next three years.

Broken down percentage wise over the next three years, looking forward is primarily 80 percent hardwood and 20 percent softwood. Since 2004, we've been 100 percent black tie rail, and that is the way we want to do it going forward. §

For copies of speakers' PowerPoint presentations, a CD is available for \$10 plus shipping & handling by calling RTA offices at (770) 460-5553.