

What They Said...

RTA PRESENTERS DISCUSS CURRENT AND FUTURE CHALLENGES

Packed with information and activities, RTA's 2004 Convention has been highly regarded as a success. Part of what makes the event so successful is the presentations. This year, topics addressed everything from the latest engineering research efforts, to purchasing plans for the coming year, to grassroots campaigns designed to inform legislators of the importance of freight rail, to railroads' tie disposal efforts. While space would not allow for complete presentations to be published, what follows are excerpted comments from RTA convention presenters.

RESEARCH FORUM



Rafael Jimenez, Engineer, Transportation Technology Center, Inc. (TTCI): New HAL Fastener/Tie Testing Phase at FAST

The objective of the test is to evaluate the performance of crossties and fastening systems under 315,000-pound cars. The scope is to install new tests that were selected by the Heavy Axle Load Research Committee in December 2003 as a result of an industry survey that we conducted. It was also to install alternative treatment ties that were donated by the RTA; that installation is currently in progress. We monitor long-term evaluation components currently in track, and we are identifying new and improved ties and fastening systems.

In the future we'd like to continue monitoring the long-term evaluation components that are currently in track. We're going to continue industry scanning to identify new or improved ties and fastening systems. A technical digest summarizing the wood tie tests that we just removed will be published very soon.



Greg Grissom, Project Engineer, ZETA-TECH Associates Inc.: FRA/RTA High-Speed Tie Maintenance Optimization Project

This project represents a collaborative effort between the FRA, RTA, CSX Transportation and ZETA-TECH to optimize tie upgrade and maintenance methodologies utilizing gage restraint measurement system (GRMS) data. We are monitoring the rates of lateral track strength degradation, and we are investigating the economic implications of different maintenance strategies. This project has been going on for three years. The pre-upgrade GRMS run began in October 2001. The ties were spotted in July 2002, the production tie gang upgrade concluded in April 2003, and we just had the post-upgraded run in May 2004.

The future: tests five and six will continue. We will collect new GRMS data at each run approximately every six months. We are monitoring rates of lateral track strength degradation on the traffic within curves and on tangent stretches and within each maintenance strategy. The maintenance cycle for these miles is scheduled for the spring of 2005 where we'll perform maintenance on these miles. Lastly, test seven will be a lifecycle costing analysis where we look at the economic implications versus the relative effectiveness of each maintenance strategy.



Jim Gauntt, Railway Tie Association: Long Range Forecasting and Strategies Using "From Tree To Track"

We are getting better not only on the short term but also on the long term with our econometric modeling for what is going on in the railroad industry.

Freight that is traveling on rail has grown in a proportion that has been higher than what could have been expected two to three years ago. We are seeing that there are issues in terms of having enough cars and enough capacity. But one of the things that is interesting is that, over the last few years, our models have been predicting this. And we are also predicting that tie replacement by not only Class 1s but also short lines and regional railroads is going to continue to increase over the next three- to five-year period. As the price of oil has gone up, some of the material that would typically go on truck is now being put on rail because of rail's more efficient mechanism for carrying freight. The model shows that we will have a fairly bright future over the next few years.

RTA has a new literature piece that is a description of how we make crossties and get them to track. We've also put together a PowerPoint version of this piece so that it can be used in presentation format. The reason behind this piece is to educate new employees as to what is involved in producing wood crossties. Also, the railroad industry has asked us to produce this piece because there has been a bit of turnover in the railroad industry, and there is a lack of knowledge in some areas about how we do our job and some of the key points along the way where important decisions have to be made if the production of wood crossties is going to be timely and efficient.

PRESERVATIVES FORUM



Jeff Lloyd, Vice President of Business Development, Nisus Corporation: The Increasing Application of Borates in Railroad Timber Applications

Borates prevent incipient decay, corrosion and corrosion-induced spike kill. The leaching and decay testing and commercial experience show improvements of borate performance with secondary fungicides. So the absolute best ties out there, without a doubt, are ties that have been dual-treated. Proven borate tie remediation is also available, so after a 10- or 20-year period of time it is possible to go around and top up that original boron treatment with an in situ tie treatment. There are multiple borate suppliers to ensure fair competition. I would say that you must use a dual-treated tie, as even creosote alone is not good enough for this area down here (Livonia, La.). Currently, only dual-treated ties are being offered.



Terry Amburgey, TASKpro: Borate/Creosote Tie Treatment Implementation

We've been working as a company on commercializing borate tie treatments. As you recall, two years ago at this meeting I gave the results of the

in-track study that was co-sponsored by RTA and AAR. The study had been in for roughly 15 years at that point, and we had two basic hypotheses that we were trying to either prove or disprove. One was treatment of unseasoned ties with borates that would prevent deterioration during air-drying and protect the interior of ties subsequently treated with creosote.

What did we find with the borate pre-treated ties? We cut them after 15 years right through the inner spike holes, and there is no deterioration of those spikes. Those spikes were not only tight but they were also clean and bright. We found no spike kill. We found no spike deterioration. Boron is a known corrosion inhibitor, and this certainly verified it at the treatment levels we were using. We think that in that area (South Georgia) we could get, conservatively, 25 years of service and maybe more. After 15 years we had tight spikes—no decay and no termites. And, termites are heavy in that area.



Jim Brient, Chemical Products Technology Manager, Merichem Corp.: Update on Copper Naphthenate for Railroad Use

Copper naphthenate is an environmentally friendly preservative with an extremely low mammalian toxicity by any means of exposure. Being an oil system, it is non-corrosive even to mild steel. It is insoluble in water so there are demonstrated low leaching rates. Copper naphthenate-treated wood is considered non-hazardous waste by the Environmental Protection Agency.

Copper naphthenate has been used for more than 100 years in wood, textiles and cordages. It got quite a bit of use during World War II as an extender for creosote when there were shortages. Right now its predominant usage is in utility poles and fence posts. Copper naphthenate is used for bridge timbers, particularly in areas where there is an environmental consideration for drippage into the water beneath them.



Mel Pine: Creosote Council National and State Efforts

The major issue this year, other than the ongoing re-registration efforts, has been the New York State legislation. The bill was an effort to please one small union, the Dockbuilders Local 1456 of the New York City District of Carpenters. Railroads and utilities were exempted entirely, and the ban would not take effect for marine pilings until Jan. 1, 2006, with marinas being exempt for another two years. Even with all those exemptions, the enactment of this legislation would have been a blow to the entire treated wood industry. It would be the first state legislation of its type to make it into the law books, giving encouragement to the industry's critics.

Although we believed approval by New York Gov. George Pataki was highly likely, we provided him with scientific information and encouraged letters from affected businesses in order to build a file that might help us overturn the bill in the future. The response was gratifying, and we were elated when Pataki did in fact veto the bill. Having seen the precedent that could have been set, we hope that we all could work together from the beginning to defeat a bill like this if it comes up again.

NRC FORUM AND LEGISLATIVE UPDATE



Jim Daloisio, President, Railroad Construction Company of South Jersey Inc.: Challenges for Contractors

Some business concerns are the availability and cost of materials. Ties are a critical part of our work. And I think you'll find a lot of support in our organization supporting your issues on creosote.

The challenges facing contractors today include competition, safety and personnel. They make it difficult for us all to continue in business. But we also have a great chance not only to survive in business but also to prosper. To me and to many of my competitors, the best part of being a contractor is that after you've done a job and you see this job being used, you can with pride point to it and say, "We did that."



Larry Laurello, Vice President, Delta Railroad Construction Inc.: Contractor's New Technology in Handling Ties

My father's mantra at Delta is to find a piece of equipment that can do the job and make it easier on a person's back because everything we do is hard. Ties are probably the number-one most difficult product to handle because they are still light enough for a man to handle but can also cause injuries to his back when lifted. When you are dealing with rail and other track components, you automatically determine it should be moved by machine. But when it comes to a tie, it's just too easy to tell four guys to grab it and move it over there. Trying to find a piece of equipment that can do the job and do it right is probably the hardest thing for us to do.



Scott Brace, Vice President, RailWorks Track Services: Continuing Growth of Nontraditional Contractor Tie Customers

Short lines have been one of our biggest customers over the years, and we are seeing more and more contracting from these railroads take place. A lot of short lines over the years have performed their own maintenance work themselves but are now finding that there are some very qualified contractors out there and are asking themselves why they should invest the capital to purchase tie changing and surfacing equipment, train their employees to operate the equipment, etc. These are issues that we as contractors have to deal with on a daily basis, so we're seeing continued growth in the short line market.

All railroads are realizing that the maintenance work associated with the moving of freight is a kind of necessary evil that may be better left to contractors who make a living doing track construction, maintenance, rehabilitation, etc., every day. As a result, I believe we are going to see a continuing trend in that direction.

ENGINEERING FORUM: Class I Engineers and Special Presentations and Addresses



Walt Heide, Director of Business Operations Engineering, Amtrak and President-Elect of AREMA

On Amtrak: Most of you realize that when you let maintenance lapse it takes a lot, a big effort, to get it back to a normal state. At Amtrak we struggle,

as most companies do, in trying to get funding for both operating and capital expenses.

Although Amtrak is pretty much a concrete tie railroad, we do a lot of work with wood ties and will have a pretty good wood tie program of about 40,000 ties for 2004, which is not a lot for a major railroad. But we normally only install about 250,000 ties a year. So we do have a good bridge tie program and a switch tie program.



John Bosshart, Director of Track Standards and Procedures, Burlington Northern Santa Fe

Last year, I stood before you and said that BNSF was going to put in about 2.6 million crossties during the next year. Well, the plans changed, and it's a little bit better than what we thought before. The plan currently is to go up to about 2.8 million wood ties between 2005 and 2008.

In terms of delivery, a year and a half ago we started doing some testing on sending out unit trains of treated ties. It's grown. And, because of our increased programs, we're also going to be increasing the shipping of green ties. We didn't ship green ties on unit trains before. We're going to start doing that now, but we're going to increase the volume because, obviously, if we are increasing to 300,000 a year on the treated side, we are going to have a similar demand. We have not increased the size of our car fleet, so we're going to have to get a lot better at it, or we'll have to get another solution. But we plan to use unit trains as a solution.



Craig Domski, Chief Engineer Track Programs, Union Pacific Railroad

We've taken a number of small steps to improve productivity and quality on our tie operations. One is the use of GPS technology for tie distribution. We used to spot the ties a year in advance. Then, just prior to unloading, we'd mark the ties in 15 bundle spots, placing flags for the unloaders. We now take GPS coordinates every 15 ties as we mark them. Unloaders then simply unload a bundle of 15 ties. The GPS system gives an audible beep at each coordinate. This saves manpower and creates a more accurate unloading process. We are currently looking at load cells on our unloaders to eliminate the bundling process and further save on costs.



Dale Ophardt, Chief Engineer Maintenance of Way Capital Projects, CSX Transportation

We know that safety comes from making observations. We now have our contract assistant and assistant foreman looking for processes, procedures and rules compliance to improve our safety rating. Accidents occur because the rules of how to work and how to take precautions aren't followed.

We have also had our share of vehicle accidents, and everyone experiences traffic congestion. So, we are putting everyone through the Smith Defensive Driving class, which is also used by UPS. We have also upgraded to quarterly training sessions for our production teams rather than annual training. In these sessions, we provide a topic and take them off the track to spend time with them working on safety and attitude toward following work rules.



Tim Drake, Chief Engineer Line Maintenance, Norfolk Southern Corporation

Our operation at Norfolk Southern continues to steadily improve after the takeover of our portion of Conrail and the introduction of our thoroughbred operating plan. Our operating ratio has now dipped into the upper 70s, which is one of the goals declared by our chairman. Our total cars online is at 190,000, which is below our goal of 200,000. Terminal dwell time is at 21 hours, which is better than goal. Average train speed is about 23 mph, which is also better than goal. Our weekly loading, which is loads originated plus those received, is 150,000, which is well above 2002 and 2003 levels. And the most important result of the takeover is that our stock is up.

Our top management remains steadfast in its plans to maintain a strong physical plant and to improve service reliability and capacity. To maintain a strong physical plant, the use of wooden crossties has become one of the key ingredients in this formula. In 2004, Norfolk Southern purchased nearly 2.6 million ties. We project, pending board approval, the purchase of about 2.6 million ties in 2005.



Dave Lowe, Division Engineer, Canadian National Railway

One thing I enjoy doing is walking track behind a tie gang and looking at ties. Part of the reason I like doing this is that I can look at the end of the tie where the old stamp was and tell whether it is good or bad. But I really have no idea about the history of the tie. If you look at a piece of rail, it has a brand on it, you know who made it, and you know when it was made. But with a crosstie, unless you start digging in the ballast, you don't know this information.

Ties are a big investment, and, unlike rail or any other engineering materials, there is really no uniform means of knowing the age of a tie when you are out walking. You don't know who treated it or where it was treated. I'd love to see us as a group of engineers get together and come up with an industry standard for stamping ties so that every railroad is the same. Something that's visible, something you can see, something that will give a treatment date, treatment plant or company, how the tie was dried, and the name of the railroad that purchased the tie.

PURCHASERS FORUM: Class I Purchasers and Special Presentations



Mike Aarstad, Manager Supply Agreements, Burlington Northern Santa Fe

2004 has been a pretty good year for the BNSF; we are making money. There are good things that come out of a railroad making money. One is that you don't have as many questions to answer when everyone is happy with the money that is coming in. Second is that it makes more money available for more projects and allows us to put more ties in the ground, which is good for the railroad and most of the people in this crowd.

We are still feeling the effects of losing two of our producers/treaters, and we've been scrambling to keep up with everything. We are going to try to put in about 500,000 more ties next year, and suppliers are trying to improve production capacity so that we can get the ties treated and into the field. We lost about a mil-

lion-tie production when Kerr-McGee closed up a couple years ago, so we're still feeling the effects of that. We put in about 300,000 more ties in 2004 than in the previous year. We didn't know if we could do all of this out of just two plants, but so far we've been able to meet that challenge.



Gary Hunter, Director of Forest Products, Union Pacific Railroad

Our green tie suppliers have stepped up. We have nine suppliers, and even though some treating plants closed, the trees are still growing and the sawmills are still cutting ties. Behind this green tie production are many sawmills that are out there cutting ties daily.

We expect 3.9 million wood ties in 2005. The numbers for 2006 and 2007 are pretty hazy right now, but we expect a slight decrease. We don't know how big that decrease will be, but there will be fewer wood ties in 2006 and 2007. Concrete ties for 2005 will be right about 700,000, and that number could increase to 1 million concrete ties per year in 2006 and 2007. Composite ties in 2005 will be about 200,000, and that number could grow to 250,000 in 2006 and 300,000 in 2007. So the total tie commitment on the Union Pacific in future years is going to be about 4.8 or 4.9 million crosssties.



Fritz Horn, Manager Infrastructure Services, CSX Transportation

If we look at the number of carloads that are involved in moving both green and black ties, we are a pretty significant customer for CSX Transportation. Unfortunately this isn't a sign of

prestige with our transportation department since all of these cars move in a non-revenue weigh bill. So we are under pressure to improve our car turns, move more material in fewer cars because, in fact, they are removing cars from our maintenance-of-way fleet. The upshot of this is a reevaluation of where we source green ties, which plants we move them to, and how we manage the coordination of black tie shipping to our tie unloaders.

We haven't reached the level of sophistication yet where we can buy green ties and then know which ties we should send for particular tie lots from those ties throughout the next year. And, even if we did, usually we ship large tie lots from multiple plants because of capacity issues. In a lot of cases, we'll schedule multiple tie teams working in close proximity to each other. What we ultimately end up using right now is a combination of historical data and trending. With all that said, we are looking to increase our car turns through better coordination on a couple of fronts.



Bill Rousis, Director of Purchasing - Engineering, Norfolk Southern Corporation

On the cost side, as we all know, a shortage inevitably means higher prices for materials. NS saw an increase of more than 10 percent on the average treated tie price from 2002 until early 2004. Most of this was a result of rising prices in the green tie market. We attributed this primarily to increased demand for ties east of the Mississippi River and a surging demand from pulp and paper industries to replace their inventories. In addition, a general strengthening in both the U.S. manufacturing sector and hous-

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ing markets over the same period placed burdens on a sluggish supply. Everyone was competing for a scarce resource, which resulted in strengthening of prices in all sectors of the market. But, finally, toward the second quarter of 2004, we experienced some price relief. Since then, prices have remained relatively stable. We attribute the price relief to the supply side ramping up to meet the now somewhat steady heavy demand.



Bruce Emberly, Supply Manager Forest Products Ballasts, Canadian National Railway

We've kind of drawn a line in the sand. When it comes to treatment, we want to use a borate/creosote combination for all ties south of Memphis, Tenn. We are working with suppliers and have endorsed a technique that we believe will reduce decay and increase the service life of ties in high-decay areas. The decisive factors were the 15-year-plus findings of the Cordele, Ga., study, which Amburgey and the RTA were heavily involved in, the long-term savings to the CN from not changing out ties every six to 10 years, and also the disposal costs. I'd like to say a special thanks to those responsible for seeing this process through to success. I think it's a big step in the right direction for the wood preserving industry.



Rob Churma, Sourcing Specialist Ties and Ballasts, Canadian Pacific Railway

Back in 1987 less than 10 percent of our Canadian requirements were hardwoods, with the balance being softwoods. Throughout the years, we've basically reversed that. In Canada, we're now 80 percent hardwood and 20 percent softwood. The primary reason is that we're moving more tons of traffic over less track, and the hardwood tie meets the requirements that our engineering department needs in a crosstie system.

CP is consistent in its overall demand of approximately 1.1 million ties per year. We've pretty much leveled off in terms of hardwood versus softwood requirements. The softwoods have found a home in secondary lines and branch lines and yards and some sidings. Secondary suppliers will continue to support the primary suppliers since we've gone to 100 percent black tie procurement.

MINI-SYMPOSIUM ON TIE DISPOSAL, RECYCLING AND REUSE



Jim Gauntt, RTA Executive Director

About 10 years ago, we had a special session on tie disposal and the issues surrounding that, and we found out quite a few things at that time, especially that we as an industry were not as far along as we needed to be. We have come much farther in the last decade, but we still have a long way to go.

I put out a draft piece for you called, "Creating A Brighter Shade Of Green," which we intend to put into circulation soon. Our purpose with this piece is to make sure that every state lobbyist for every railroad that is active in legislative lobbying will have a piece that outlines clearly how good treated wood is in terms of a biomass fuel source.



Bob Fronczak, Assistant Vice President for Environment and HAZMAT, Association of American Railroads

We do a survey of our members every year about various disposal practices, crossties being one of them. We landscape a lot of them, cogenerate a lot them, and cascade some of them down to less severe service. We also chip some ties for other uses and try to avoid landfills as much as possible. In 2002, we had zero landfilled ties and 100 percent recycled ties. In 2003, we had to landfill some because one of our members cleaned up some stockpiled ties by landfilling them. Transportation costs really drive up the cost of disposal and recycling, so this member found that landfilling was a cheaper alternative than sending the ties to a cogeneration plant. Generally speaking, however, our members prefer cogeneration or cascading.



Henry Walthert, Executive Director, Canadian Institute of Treated Wood, on an ongoing discussion over the transport of treated wood to disposal sites and Environment Canada's desire to label these products as hazardous waste, which he believes would lead to massive waste

problems for the nation.

Here's the definition of products that can be considered hazardous waste if a portion of a new Strategic Options Process is passed: treated wood, wood or a wood product that has on its surface or contains a pest control product registered under the Pest Control Products Act. I don't have to tell you that that's a pretty broad brush. That covers everything. Whether it's treated with DEET or copper naphthenate or borates or ACQ or creosote or penta, all of those things will fall under this category.

Understand that the definition is the biggest problem right here. Under the new Strategic Options Process from 1999, any definition that is carried in a regulation under that act is automatically carried over to any of the other regulations. So that very same definition will end up applying to inter-provincial transport and will probably be adopted by the provinces themselves in their own provincial regulations and possibly with trans-border transport. That's our biggest concern. We've got to get this thing off the boards.



Jim Roewer, Executive Director, Utility Solid Waste Activities Group

We decided to wrap all that the utility industry is doing into a treated wood guidance document that addresses, from a life-cycle perspective, treated wood management practices. They are really common sense practices, sound business decisions that represent sound environmental management and product stewardship.

One guideline component is cascading or reusing treated wood products within the utility system. We want to try to extend the life of these treated wood products to delay the generation of a material that has to be managed either as a waste or in some secondary use, which is very important for my members. We did an informal survey that showed that around 66 percent of the treated wood poles that are removed from service are

provided to secondary users either through a sale or a donation program. We determined that we really need to encourage our members to ensure that the secondary user of the treated wood product is informed with regard to the nature of the material, how they should and shouldn't be used, where they should and shouldn't be used, and how they should be disposed of. Secondary use conserves natural resources and landfill space, and I think it is an effective management program for the products.



**Judson Waters, Operations Director,
National Salvage**

We manage multiple crews across the country. We travel to sites where change-out ties are deposited along the right of way, pick up ties and move them to central locations, provide the resources to grade and sort the ties into sellable ties, and grade and bundle the ties right there. Through our marketing and sales efforts, we sell the bundled ties directly to our network of customers, a turnkey approach that adds significant value to both railroads and our end-use customers.

We have several capabilities that are important to the management of this process. One is the ability of moving ties from the site to the customer. Our ability to dispatch trucks and manage truck lines and railcar traffic is important in terms of reducing costs and ensuring that turns are at a high level to move ties and clean up the sites. We manage the rail lines' cars that are dedicated to tie disposal as well as our own fleet of railcars.

In terms of scrap tie disposal, efforts are being made to recycle crossties into energy as fuel for boiler systems or power generation. It is an ultimate method of disposal and can be cost effective.



Dave Runge, Sales, Continental Biomass Industries

The most important thing in processing railroad ties is the material size. I find that most of my problem in getting ties ground around the United States is that some antiquated burning facilities are not made to burn, for instance, 3.5-inch material. Most cogen facilities do grind that. Other facilities that would like to use this product have to have the product down to one inch or, in some cases, a half-inch in size. We can do that, but the problem is that it increases the cost of the production of the fuel. We all know that people consider wood waste as waste and that you are getting paid to take it and process it so you shouldn't get anything for the final product. There needs to be some way of aligning the value of this material based upon BTU value.



Rob Matthews, President, RailWorks Rail Services

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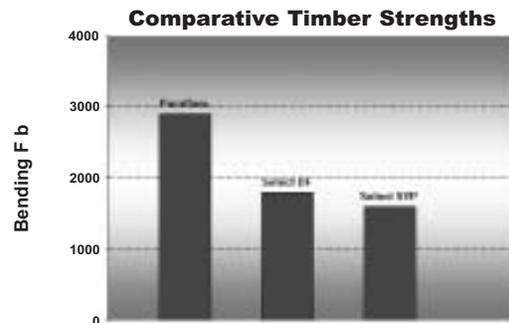
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offset disposal and handling costs. However, in most cases, as with most recycling operations in general, fuel sales don't pay enough to carry the cost of the whole process; they only help subsidize it. Typically, the railroad has to subsidize this thing to make it worthwhile for somebody. We just haven't gotten the fuel users yet to recognize the true value of this fuel.



Don Johnston, System Material Manager - Projects, Burlington Northern Santa Fe

BNSF has taken a conservative approach to landfilling in that we try not to do it. When I go out and establish projects and contracts, it is written into contracts that scrap ties can be landscaped, but we also want to define how they may be disposed of. We have material waste streams established with different landfills that have been permitted by our environmental group.

One of the issues we've been hedging on and looking at is that we have people on our property and whenever someone comes to us and says "you have all these ties out there," we say "yes, we know they are there and have a plan for them." But the other issue we have to get across to our contractors is that we need to move those ties.



Dave Steinacher, Manager Material Support, Union Pacific Railroad, on UP's tie disposal practices

In 1997, our environmental group decided that we should get into cogeneration. They drafted our first contract, and, believe me, we've been learning a lot as we've gone through from 1997 to today. The key is to put what

you need to happen in the contracts. If you do a lot of planning on the front end, you'll have a good shot at being successful.

For example, we put out a bid to contractors for help with tie disposal. To be fair, the bid called for a five-year contract that would allow the contractors plenty of time to invest money in their assets and hopefully allow them to do the work the right way. Although upper management didn't think long-term contracts were the way to go, we finally convinced them that in this particular case it was the right thing to do, and I think that's been a success. We've seen a lot of consistency in the last couple of years with a lot of the contractors that are working with our tie gangs.



Peter Conlon, Consultant to Kansas City Southern Railroad

The KCSR removes about 300,000 ties a year. The primary method of disposal that the KCSR uses now is landfills when they do dispose of ties. And the disposal costs, excluding the transportation and removal, are around \$25 per ton. The major goal that we are looking at is energy recovery through cogeneration, the beneficial re-use.

We are examining a variety of proposals for tie disposal and reuse, including using a tie plant in Louisiana, and we will be making recommendations to the vice president of engineering soon. I believe there are other opportunities to consider in terms of tie disposal for KCSR, but burning the material as a fuel, replacing natural gas, presents a pretty good business opportunity.



Dennis Hayward, Executive Director, Western Wood Preservers Institute, on the political struggles in getting the right to dispose of treated wood in municipal landfills in California

We went through many years of back and forth. When Arnold Schwarzenegger was elected governor in the California recall election, he immediately put a business-friendly administration in place, offsetting that liberal balance of power that we had been dealing with. As a result, we had people in the agencies who were willing to listen and work out reasonable solutions. We developed new legislation approaching the issue head on to allow treated wood to be disposed of in lined municipal landfills.

Then we had Dr. Diana Graham do a study in which she went in to the landfills in the state that had been receiving treated wood, took the state's data on the leachates and found that the treated wood components that were found in the leachates were at a level generally below a drinking water standard. We won the fact battle first thing out of the chute. The environmentalists and the legislators had to concede that these landfills were working. We were then able to work with the department of toxics, the water board, the waste boards and the other agencies to modify our bill to fit their needs and requirements. Then we negotiated with the liberal legislators and the environmental community to secure passage of the bill.

The good news is that we achieved our primary objectives for treated wood waste to be disposed of in municipal landfills with linings and leachate collection, that the utility exemption that was a part of the law remains untouched and in place, that the reuse of treated wood was not impacted, nor were the alternatives, such as burning for cogeneration. §

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