



934 Royal Court, Canonsburg, PA 15317 Office: 724-873-7333 Fax: 724-873-5733
Cell: 973-222-1300 — E-mail: zuspan@trackguy.com — Website: www.trackguy.com
by: John Zuspan, Track Guy Consultants



NEWSLETTER

Some Bid Results

Track Rehab, Mehoopany, PA

- | | | |
|----|-------------------|---------|
| 1. | G.W. Peoples | 271,500 |
| 2. | W.E. Yoder Inc. | 300,000 |
| 3. | Cranemasters Inc. | 303,800 |

Storage Loop Track, Council Bluffs, IA

- | | | |
|----|---------------------|-----------|
| 1. | L.A. Colo & Sons | 4,795,200 |
| 2. | Balfour Beatty Rail | 5,122,900 |
| 3. | Kelly-Hill Co. | 5,212,000 |

Harold Interlocking, New York, NY

- | | | |
|----|----------------------|-------------|
| 1. | Perini Corp. | 139,238,000 |
| 2. | Tully/Ferreira J/V | 165,937,000 |
| 3. | Granite Construction | 174,235,000 |

Track Rehab, Sodus, NY

- | | | |
|----|-----------------|-----------|
| 1. | Frank Tartaglia | 1,060,800 |
| 2. | Atlas RR Const. | 1,169,800 |
| 3. | G.W. Peoples | 1,190,300 |



Track Guy Consultants

We are getting ready for our 2007 Training Tour. Total attendees for all 3 cities so far are 178 including 3 custom seminars along the way. The 9 classes in Chicago, San Francisco and Dallas are filling up but there are still seats left so if you want to register, please do it soon. Our average per class is 18. Last year a comment from an attendee mentioned that it would be nice to see video clips while explaining certain topics. We have learned how to do that and now embed short video clips into our Power Point Presentations. We have completed a couple secret projects and are moving into a couple more. We have volunteered to help with the AREMA/APTA standards writing committee for embedded track. Our friend Bill Moorhead is heading up the working group along with very well known and distinguished track engineers. We have submitted a Training proposal to the Rapid Transit Agency in Dubai and are awaiting an answer. At the end of this year we will be rolling out a Training Curriculum specifically for Transit and Light Rail Agencies. We have completed it and will be sending out the outline when we get back from our tour. It is based on 4 levels of education that requires tests to be passed and verbal interviews in order to graduate from each level with the ultimate goal to gain the title of "Master Track Guy". We are offering both field and classroom instruction.

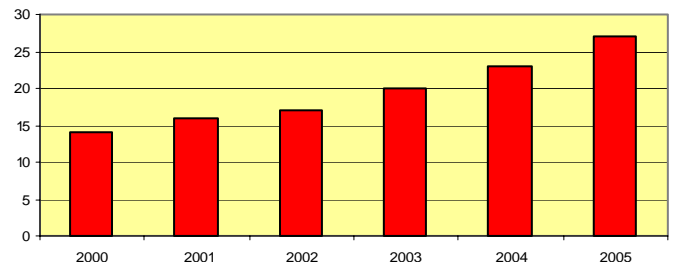


Spotlight: Ethanol

The Ethanol boom is gaining strength and recognition as an alternate energy source. The focus is to get more ethanol mixed in with our gasoline to ease the nation's dependence on foreign oil. It seems to be a fairly simple process where corn is brought in and ground to a powder, then mixed with water and other stuff. It then breaks down to sugar and yeast is added. The fermenting process begins and out comes 200-proof ethanol. This is sounding like a brew I made in college to help support myself both mentally and financially. Oh those nights making moon shine watching the early Saturday Night Live with Chevy Chase. However now some chemicals are added to make it poisonous, so don't go out high jacking ethanol tank cars. There are some bi-products from this process that add rail traffic



to the whole scheme of things. Ethanol plants are sprouting up all over the country. There are about 116 operating ethanol plants in the US and about 64 under construction right now. About 90% are in the Midwest; Iowa, Southern Minnesota, Eastern South Dakota and Nebraska. The other 10% slips into Illinois, Indiana, Wisconsin, Kansas and Michigan. A high yield ethanol plant produces 100 million gallons per year. The government in 2005 expected 7.5 billion gallons per year is achieved by 2012. The industry is almost there now. The goal for ethanol plants is to produce unit trains for more cost effective rates. This requires more track to store the tank cars. Many rail contractors are poised to accept this challenge as well as the opportunities. Ethanol can not run in a pipeline due to water infiltration which destroys the ethanol. A water separation system is costly and not cost effective until volumes become too large. Today almost all pipelines start at the oceans and flow towards the center of the country. Ethanol is a reverse movement from the inside branching outward. The graph below shows the increase in millions of rail car loads from 2000 to 2006 I wonder how many people would put their own personal tap in the line and figure out what chemical needs to be added to take it back to 200-proof?





ASK THE TRACK



THIS IS WHERE YOU, THE READER GET TO ASK QUESTIONS ABOUT RAILROAD TRACK ENGINEERING, DESIGN, CONSTRUCTION, MAINTENANCE OR ANYTHING TO DO WITH TRACKWORK. SIMPLY WRITE OR E-MAIL A QUESTION AND WE WILL ANSWER IN A TIMELY MANNER. SOME QUESTIONS

Who are you Training?

We have trained over 1,000 people since we started in the fall of 2005 and have given 52 seminars. We are coming up on our 2007 tour in October. On the Contractor side, we get a wide range of people. We really enjoy talking to the Foremans,



Operators and Laborers. It brings me back to my roots. We get a lot of Superintendents, Project Managers and Estimators as well as a few Presidents and Marketing people also. The Contractors represent 48% of the total trained. The split amongst the contractors is 47% labor and 53% management. Owners now represent 27% of the total and also range the full gamut of titles. Many Short Lines have asked us to do Custom programs for them. The vendors are 13% of the total and it is a pleasure having them in class to help the attendees with new products. The networking during the coffee breaks is a feature that just happens. Designers are the last 12% of the total. They are usually engineers in training, design engineers and planners. We get some great questions and the audience gains tremendous insight into the rail industry due to the diversity of the crowd. We always have fun learning.

.....

How was the AREMA Conference?

The conference was a tremendous success. Over 1,200 railroaders converged on Chicago



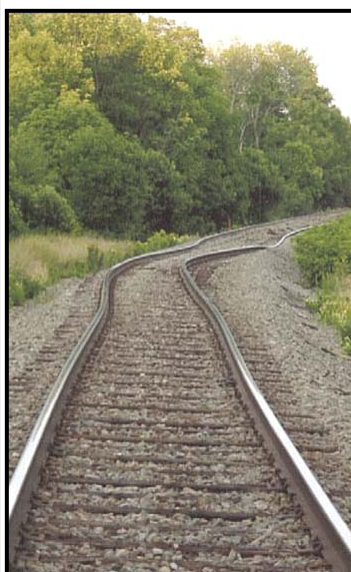
last week. Joe Boardman, the FRA administrator led off with an emotional recollection of September 11th and said that the FRA will conform to AREMA principles. We heard from Doctor Railroad (Allan Zarembski) about broken rail risk management where 350+ derailments occur every year from this defect. Track geometry is attributed to 400 derailments per year. Allan also told us that 180+ derailments occur due to track buckles and another 1,800 incidents occur per year where they were caught before a train derailed. There were some other great presentations on the build out of the Sunset route by the UP and a couple on sub structure maintenance. We learned about a study that predicts rail temperature based on weather data. We do know that neutral temperature equalizes over time and we learned how much time based on one set of conditions. The trade show was a wonderful time to meet new people and get reacquainted with old friends and colleagues. Good times.

We had a fantastic experience as we always do. I have only missed about 3 conferences since 1987. That is a lot of trips to Chicago.



Can you predict a Sun Kink?

We can not predict a sun kink yet but we can prioritize the risk using a number of indicators and maintenance activities. We have written about this subject many times. The winter, 2007 newsletter talks about how lining track affects the neutral temperature. Spring 2006: what affects neutral temperature. Winter 2006: determining neutral temperature and the stresses in the rail. Winter 2005: where do the forces go. July 2004: what is



a sun kink and how to determine the change in length. As you can see, we treat a sun kink as a life threatening occurrence. Trains do not get by a sun kink, they fall on the ground. The industry is much closer to predicting a sun kink then it was 20 years ago or even 10 years ago. We are not talking about a track buckle which is any sharpness in track alignment, we are talking about how heat causes the track to buckle. It all has to do with rail temperature and internal forces in the rail. If we know these two numbers, we can calculate the neutral

temperature of the rail. Then we can determine the RISK of a sun kink based on the type of track structure and its condition. Maintenance factors also play a very important role in the risk assessment. Let's remember one thing, that people have died due to a sun kink and it usually is traced to maintenance activities that occurred in the winter time. I will predict one thing: Within 5 years someone will develop a laser gun that you point at the rail and it will determine the internal stress of the rail and calculate when and where a sun kink will occur. Just imagine the value of that gadget. I can further say with 99% certainty that a sun kink will not occur in slab track as long as reasonable care was taken to thermal adjust the rail.

