



Railway & Locomotive Historical Society, Inc. Southeast Chapter

Newsletter No. 112 – April, 2009

The Ethanol Boom: Good or Bad for the Railroads?

By Larry Shugart

Ethanol is a growing rail market, based largely on mandates in the 2005 Energy Bill which requires 4.0 billion gallons of renewable fuel (mostly corn-based ethanol) be added to the gasoline supply in 2006. The requirement rises to 4.7 billion gallons for 2007 and 7.5 billion in 2012. Ethanol is produced primarily where corn is grown. The largest ethanol-producing states are Iowa, Nebraska, Illinois and Minnesota; taken together, they account for almost 60% of national capacity. Transportation of ethanol has shifted from being shared almost equally between truck, rail and barge, to being dominated by rail with over 75% of ethanol now moved in tank cars. It is currently uneconomical to move ethanol in pipelines because it absorbs water and impurities normally found in pipelines and thus contaminates the fuel mixture it is eventually used in.

Consequently, over the last few years railroads have transported a rapidly increasing volume of ethanol from plants in the mid-west to markets in California and New York. At the same time, shippers and leasing companies have invested heavily in new tank car purchases. Investors are very excited about the positive impact this new business is having on railroads and on railcar manufacturers. But, how much of the current railroad renaissance is due to Ethanol? And how much more growth can we expect in the future? The impact of ethanol on grain markets and the demand for covered hopper cars is a matter of some debate. Our view is that while increased ethanol production will have a positive impact on tank car markets, the ethanol boom is having a negative impact on the rail grain markets. (Continued inside)



TILX AAR type T-108 carbon steel tank car, used to ship ethanol. Photo by and courtesy of Jeff Eggert. Jeff's website is <http://www.jeffeggert.com>

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Ethanol Continued IMPACT ON TANK CARS

The most common tank cars are AAR types T104 through T108. These carbon steel cars holding 12,000 – 31,000 gallons comprise 70% of the tank car fleet. The T108 type is the most commonly produced new tank car design and the preferred style for ethanol transportation. Investors like the T108 because it is fungible and can be readily deployed to other commodity markets if the current ethanol boom were to end. We estimate about 22,100 tank cars were used in ethanol service in 2005.

Future ethanol growth is not a sure thing and investments in this market are at some risk. The U.S. government currently protects domestic ethanol production with a 56 cent per gallon import tariff on ethanol. Some agricultural economists are worried that rising corn prices may impede ethanol expansion or even that there will be insufficient corn volumes to support new production capacity. And of course, in the event oil prices fall, ethanol will no longer be an economical substitute even with existing subsidies.

IMPACT ON COVERED HOPPER CARS

While corn plantings are up 19% in 2007 over 2006, export corn volumes, traditionally long haul rail traffic, are going down as farmers send more of their product to domestic ethanol plants. Since ethanol plants are located near fields, much of the inbound volume is trucked not railed, shortening the average rail haul as compared to historical figures. Trucks used to move the grain from fields to elevators (say 50 to 150 miles away) where the grain is transferred to rail. Now, more and more trucks are moving grain from fields to ethanol plants (say 50 to 300 miles away) where the grain is processed and transferred into rail cars in the form of ethanol and the by-product Distillers' Dried Grains (DDGs). Each inbound bushel of corn produces 2.7 gallons of ethanol and creates almost 7 lbs of DDGs. An ethanol plant with 100 million gallons per year capacity, operating on a 24/7 basis, produces the equivalent of about nine rail cars of ethanol and an additional nine rail cars of DDGs per day. Thus, about a third of the volume of corn going into an ethanol plant comes back out as DDGs. Instead of moving 10 cars of grain as in the past, railroads will now only move 3 to 4 cars of DDGs. Therefore, we conclude that longer truck hauls at origin combined with the dramatic reduction in volume as the market goes from transporting unprocessed corn to processed DDGs will have a negative impact on covered hopper demand.



Larry Shughart is Senior Program Manager Infrastructure and Environment at Worley Parsons, a global engineering and consulting firm focused on the transportation, mining, and energy sectors. Mr. Shughart is a member of the engineering department advisory board at University of Florida. He holds a BS in Chemistry and Business from University of Pittsburgh and an MS in Transportation from Massachusetts Institute of Technology. Larry is a Southeast Chapter

Southeast Chapter Officer Note: Our newly elected chairman, Reid Adams, PE, Professional Civil Engineer, has been assigned to a large highway reconstruction project in Seattle, Washington, lasting about 10 months. In his absence, Vice Chairman John Leynes will fill in for Reid as acting Chairman.

Announcements:

(Our regular meetings are the 2nd Thursday of the month @ 6:30 PM, in the CSX Bldg., 500 Water St. Downtown Jacksonville, FL)
Next Regular Meeting is May 14th

June 18-21st, 2009 - R&LHS Convention, Portland, Maine

SOUTHEAST CHAPTER OFFICERS

W. Reid Adams,	Chairman	904-400-4680
John A. Leynes	Vice-Chairman	904-287-1044
Paul Newton	Secretary	
Robert Van Nest	Treasurer	

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Meeting of March 12, 2009

There were 9 members present.

Treasurers Report: There is \$2,805 in the balance. 40 members have currently renewed out of 62 members in the Chapter. The CD has made \$106 since August 2008. We are taking care of a sales tax forms/issue regarding the chapter, due to recent officer changes. Also, we will inform members to renew chapter dues via a note on their newsletter.

Committee Reports:

- Trip Committee: Paul Newton passed out a trip committee vote on three locations for a potential trip. This will help the trip committee evaluate member needs.
- Website Committee: Larry Shugart & Reid Adams have re-written the Southeast Chapter's section for the national website. Larry is looking into reserving a domain name for a chapter website.

New Business:

- Preservation: The group discussed undertaking a preservation project, to support, provide backing, and put time into. Larry Shugart recommended we take ownership of the plaque for the ACL 1504.
- A motion was passed for the Chapter to join the North Florida Railway Museum at the \$100 sponsorship level for the next year. A motion was passed to donate \$100 to the West Nassau Historical Society. A motion was passed to donate \$100 to the Archer Historical Society.
- Upcoming Programs: Other program ideas included, railroad bridges, railroad law, locomotive identification, annual report interpretation, operating timetables.

Meeting of April 9, 2009

There were 8 members present.

Treasurer's Report: There is \$2,419 in the balance. 52 members have currently renewed out of 60 members in the Chapter. The CD has made \$122 since August 2008. Donation has been made to the West Nassau Historical Society. Donation forthcoming to Archer Historical Society and North Florida Railway Museum. Discussion centered around re-filing of our Florida Division of Corporation documentation.

Committee Reports:

- Trip Committee: Voting on destination of next trip reflected that Miami is the majority choice.
- Website Committee: Larry Shugart suggested contracting with Anita Smith to publish our website and presented a proposal. Cost: \$375 to get it online. \$60/hour maintenance. The committee will continue to discuss and make further proposals.

New Business:

- A motion was passed to donate \$100 to the Cedar Key Historical Society, for continuing railroad historical efforts and for hospitality shown to members participating on the Tracing the Florida Railroad trip, as was also provided for the West Nassau (Callahan), and Archer Historical Societies.
- An idea was discussed to create a "donation" budget to best decide how to donate monies to other various historical agencies.
- Upcoming Programs
 - May 14: 15-minute locomotive – John Leynes. John Leynes will present in May.
 - June 11: 15-minute locomotive - ? Larry Shugart on locomotives.
 - July 9: 15-locomotive – Chris Frank. Chris Frank will also present.
- Next Meeting May 14.

North Florida Railway Museum update from our railroad friends in Green Cove Springs, Florida



Southern Caboose Update **William Billy, Jr.**

Restoration of the Southern Bay window caboose continues to progress slowly. A big thanks to members Larry Willhide and Mark Weston for their hard work on the cab. Both of the end doors and all of the associated hardware have now been installed and primed. We are still trying to figure out how to redo the side windows and end porthole windows but overall the whole thing is looking real nice. It still needs another coat of red paint on the roof and sides as well as the exterior lettering. We have a friend in North Carolina that may be able to help us out with that one. After that we will finish up the exterior with a coat or two of clear sealer. THEN we will start on the inside. The NFRM website is: <http://www.nfrm.org>

G.E. 44 tonner Update **Jay Boggs**

Work continues on returning the 44 tonner to operation. To date one power meter has been removed for repair and the replacement reverser drum is partially installed but some segments and all contacts will need to be adjusted eventually. This will complete most of the electrical work for now. Control wiring will eventually need replacement too. Next up I need to change the oil filter and check coolant before the next start up and we are also waiting for the brake parts which were removed several months ago to be returned.



Thanks to Spencer Upchurch for submitting these NFRM articles!