

Roundhouse Notes

Milwaukee Road 261 All steamed up!
By Mark D of the
Antique Radio Forum

This month's feature is about Milwaukee Road 261 which completed the rebuild and had first steam up on Sept 29th 2012

Milwaukee Road 261 is under steam again. The Friends of the 261 have completed their rebuild of Milwaukee Road 4-8-4 Steam locomotive. The complete rebuild was started in 2009 and finished this past September. Below is the story related by one of the members of the Antique Radio Forum I am a member of, he is also a "friend" of the 261 and helped with the rebuild.

Friday, Sept. 28, 2012, saw the 261 boiler filled with water and being pre-heated with a propane heater stuck through the firebox door. This brings the water temperature up from whatever the city water temp is to around 100 degrees after a good full day. Sometime very early on Saturday, the pre-laid fire was lit with a bunch of oily rags and a flare or two tossed into the firebox. This pre-laid fire is special. When starting out from cold, you don't want to heat the boiler rapidly and you don't want a lot of cold air coming up through the grates at the floor of the firebox.

Heavy corrugated box material is laid on the entire grate area, sealing off as much air flow as possible. Upon that corrugate is laid about 6 inches of coal, scooped in by hand onto the 8 x 12 foot area. Above that is placed a layer of oily rags, and topped off with a bunch of scrap wood. A flare is tossed in the firebox. The oily rags ignite and in turn ignite the wood. The coal needs a higher temp to ignite, and will remain as it is for a long time. It will smoke and smolder for a while, but it won't burn for several hours. This gives more heat to the boiler than the propane heater could supply, and once the heater has done it's job, that's when the flare is tossed in.

The boiler continues to heat up, the progress monitored with an infrared temp reader.

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Eventually the coal ignites, and most of it within a short time frame. This is observable without opening the firebox door by watching for the black smoke that comes from the stack.

As the coal burns, the water in the boiler continues to heat up. Eventually, the corrugate below heats up and turns to ash, falling through the grates. This allows air to now enter the combustion area and the coal begins to burn cleanly. It is at this point where the hostler must maintain the fire.

Since steam is not being used, he will not need to add water. But as the pressure builds and the water heats, the volume of water in the boiler will increase. This will cause the level in the water glass to go beyond the top of the sight glass. The coal, burning down, needs to be replenished with the use of a coal scoop. Though there is a mechanical stoker, a very heavy duty auger that is articulated from the tender for feeding coal to the firebox when running, this is way overkill for standing idle. The work is done with a scoop, one scoop after another.

By the way, this whole process of bringing the boiler up to full pressure from cold takes over a day. After the fire is lit, it still takes the better part of a day. Heat it too fast is just as bad as cooling it too fast. It must be done gradually, very gradually. It takes a lot of balancing to keep the fire hot enough to keep the boiler at or just below MAWP, without going over MAWP and setting off the pops and without adding water to cool it down.

With the engine hot and impatient to do something with its steam, it was time to set the four safety valves. These are set to pop one at a time, sequentially. The first at something like 2# over MAWP, the next a couple pounds over that and the other two in the same way.

For some time during the afternoon on

Saturday, these pops were being tested and set. Lots of noise emanated from the engine. Along with that noise, there was the added sound of the blow-down valves being opened a number of times. These open a 3" valve from the bottom of the boiler (there are three of them) that basically opens a 3" hole in the boiler. This runs out through a 3" pipe to the ground, where it runs through what passes for a muffler, which also acts as a nozzle to distribute the steam. In reality, it does neither. The sound is deafening, and the steam blows straight out to one side or the other of the engine, depending on which valve was opened.

The white cloud blows a good 75 to 100 feet out to the side, with a huge roar. The engine was rolled outside before the fire was lit, and was only moved 50 to 100 feet back and forth testing things out. Most of the time was spent checking for leaks, activating and testing accessories such as the air pumps, whistles, air horn, bell, lights, stoker, etc. Everything worked well, fortunately. When the engine first had a good head of steam, the air lubricators had not yet been mounted on the twin cross-compound steam driven air pumps. That task fell to me. I had to clean them both, make new gaskets for the mounting surfaces, which have oil and air passages through them, mount them, and then try to find the copper lines that had been connected to them and re-connect them. I got that done, but each one weighs about 75 pounds, and trying to hold one in place, keeping gaskets aligned, and starting the first of four mounting bolts proved interesting. There is still stuff not done on the engine, but now we know that it's mechanically ready to go. The only thing left to test would be the running gear. It has major main driver bearing work and all rod bearings were replaced with new. The next step will be to get out on a test trip to someplace local where it can run long enough to check bearing temperatures. Not sure when that will happen. Maybe yet this fall, or more likely next spring.



The View from the Engineer's Window

By John Maxfield DSLE

This is a scene from my old job on the Evansville Terminal Railway back in 1999, a 20-mile fragment of what once was the mighty Indiana Hi-Rail empire. I'm running my favorite locomotive, a well traveled chop-nose Alco RS-11, IBCX 352 (Indiana Boxcar Corp.), originally SAL 952 (CSX). We are traversing (at the ponderous speed of 5-mph) former C&EI trackage in beautiful downtown Poseyville, Indiana. (No, the bystander isn't setting his watch by my passage – he's waiting impatiently for me to get clear of the Main Street crossing with my 25 loads of corn.) Abandoned and torn up during the summer of 2011, these tracks are now gone forever... (sigh).

The museum train simulator is my attempt to recreate the look and feel of what it was like to operate a road switcher. Here's how the project evolved:

In 2009, museum member John Diesel (what an appropriate name!) built a half-width cab to properly showcase the 1960's vintage EMD control stand owned by the museum. In addition, the cab was intended to be a memorial to deceased member and benefactor Claude White, a retired NYCS engineer.

However, working on a parallel track (pun intended) three years earlier in 2006, I had begun acquiring hardware and software to build a working locomotive simulator. Simulator design was not new to me as I had been working with computer simulation software for decades, both as a hobby and as a professional. By 2010, I had a working prototype locomotive simulator (sans cab) in my home workshop. To my surprise and delight in August 2011, I discovered the museum cab display. Now, instead of a private home simulator, there could be a public one to be shared with other rail fans!

With the permission of the museum board, I began a series of field trials to see what would be required to convert the non-functional static display to a fully operational simulator. In January 2012, construction began on a 3D video theater with a surround-sound system that fully enclosed the original cab. Floor space was at a premium, so a front-projection system with a special short-throw projector was chosen. This meant that the original "nose" of the cab had to be removed so that it would not obscure the optical system and cause shadows or undesirable reflections.

Originally very Spartan in looks when it was a static display, the cab today is dressed up with lots of "décor" salvaged from scrapped locomotives. I wish Claude White was alive to see it! (His ghost sometimes rides along with me if I turn out the overhead cab light.... It is Halloween time after all!)

The software is based very loosely upon Microsoft's Train Simulator (MSTS). I bought a copy back in 1999 or 2000 when it first came out, but I never installed it on my personal computer as the instructions said things like, "press D to speed up" and "press A to slow down." There was no option for using a joystick. You certainly cannot drive a train properly by using two fingers on a keyboard!

Then in 2006 I discovered a company (PI Engineering) that sold a half-scale sized throttle and brake controller (RailDriver) for MSTS, and an Internet site (TrainSim.com) that had updates and bug fixes along with lots of new trains and routes. PI Engineering also makes specialty keyboards and programmable USB interfaces. This meant that a simulator using real locomotive controls could be built and operated prototypically. I began digging through junk yards for locomotive parts....

MSTS was programmed by a British video game company who had excellent 3d graphics, but unfortunately they didn't fully comprehend train handling and signaling and were especially ignorant of US practices which are very different from those of European railroads. Their locomotives do not properly MU together, braking systems don't work quite right, and Absolute/Permissive block signaling for bi-directional running is impossible. Most of the original sound effects are terrible. So building a realistic simulator has proved to be a major challenge.

Over the years, I've added new sound effects and many special "fixes" and "patches" along with external hardware and software that layer over the MSTS kernel underneath. And now, thanks to the seat shakers and the 12-channel sound system, you can now feel every rail joint.

Please come to the museum and check it out.

Milwaukee Road 261 under steam
after rebuild Sept 29, 2012



Setting the Pop's. Otherwise referred to as safety valves or safeties. The boiler was designed with a safety factor of 7. I learned this during the time when all steam locomotive boilers had to have new certifications to meet new safety standards. Comforting to know, but it never runs over 250 psi anyway.



They are pneumatically operated valves. You just pull on the shiny little brass lever to open it, and release the lever to close it.



All steamed up, nowhere to go! Just sitting there cooking



The engine has just pulled into the shop like a minute before. The shop lo-fi is playing at full throttle in the background, but can't be heard from the escaping steam from the dynamo, the jet engine whine of the dynamo, the house cocks opened. etc



The left main rod was finally installed. We lowered it down to where it is with the use of the overhead crane. While it was hanging from the crane, the other end of the rod, the big end, was fitted to the crank pin. Then the small end, the visible end in the photo, was set down by the overhead crane and picked up with the portable winch that can be seen hanging if one looks closely. This picked the small end of the main rod up and it could be brought into place so the wrist pin could be shoved through. That part fell to me. Steve said, "Ok, we need a man to get under there and lift the wrist pin into place, who's going to do it?" I said, "Well, being the only man here, I guess it's me." And so it was. I need to learn to keep my big mouth shut.' It weighs about 75 pounds and has to be lifted above my head and then pushed through the hole. Not tough, really, but I like to complain.

NEWS AND VIEWS

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P&L: The numbers of the 16 SD 70 AC's that the P&L is to acquire from CSX have been revealed. For those interested they are: CSXT 4501, 4502, 4503, 4504, 4505, 4506, 4507, 4510, 4511, 4512, 4513, 4517, 4518, 4520, 4522, and 4523. Word is that they will retain the same numbers on the P&L. At the time this was written, P&L President Tom Garrett said that the final details of the transfer were in the hands of the CSX legal office. When asked about the status of the Bluegrass I, President Garrett said that they were waiting for the South Carolina company that is to do the renovation, to be able to make arrangements to come to Paducah, examine the car, and go over exactly what needs to be done.... During the week of October 22nd, a set of three DuPont Chemical training cars was in the yards; these cars move from railroad to railroad to provide up-to-date training for crews to response to hazardous material spills. Of course no one had any idea that such training would be tested so soon, as the following story relates.

P&L DERAILMENT DISASTER: On Monday, October 29th, around 6:30 a.m., PL-4 derailed 13 of its 57 cars in Jefferson County, next to U.S. 31W (Dixie Highway). The site is rough terrain, adjacent to a deep ditch and the Ohio and Salt Rivers. Several of the derailed cars were tankers enroute from Calvert to Rubertown in Louisville that contained various chemicals, the most dangerous of which were butadiene which is highly flammable and hydrogen fluoride (hf) which is corrosive. It was immediately classified by local emergency agencies as a Class 3 Hazmat event, the most dangerous rating, and a 1.2 mile radius was evacuated. The butadiene car was breached, but it was believed that it all evaporated into the atmosphere. P&L called in R. J. Corman's wreck division to do the clean-up, various other railroad, EPA, and hazmat emergency agencies assembled, and for a couple of days work proceeded routinely with hopes of clearing the tracks by November 1st(Thursday). Then about 1:30

p.m. on Halloween, disaster struck. The many experts on site, using sophisticated equipment apparently decided that all the butadiene was dissipated and it was safe to use a torch to separate the wreckage, but instead significant liquid was left and it exploded, severely burning two R. J. Corman and one P&L workers. It was decided to let the fire burn itself out because so much water had already been used to cool down the other tankers, and more would cause contaminated run-off into the two rivers. An earth dam was built to contain the water necessary for the cooling. The consequences have been considerable; mandatory evacuations, school closings, and aircraft and river transport restrictions, being only a few. The P&L set up an office near West Point to hear and pay claims of dislocated residents of the area. On Saturday the fire was still burning, but was considered to be under control; however, the 1.2 mile evacuation zone affecting 150 homes and 900 people remained in effect. Gerald Gupton, VP of Engineering for the P&L announced that specialized equipment was being brought in to move the two HF cars to level ground where they could be unloaded. On Sunday, as this story is being finalized, a five mile, "shelter in place," order was still in effect, meaning residents must remain in their homes until the two hf cars could be stabilized. Meanwhile, a detour route for the Paducah-Louisville trains has been established up the Edgewood Cutoff to Centralia (CN) and then over the NS to Louisville and return, of course, in reverse. No speculation has been made on the cause of the wreck, but the P&L is noted for the high maintenance of its tracks, and its over-the-road trains have a low to moderate speed limit to mitigate the consequences of derailment. The long term consequences to the railroad remain unknown, but its officials have been quick to try to listen to and address the needs of the dislocated local residents.

VMV: There have been no signs on the outside of the shops of any more Saudi engines, nor any from the previously announced contract for locomotives to go to

Cameroon in Africa.... One of the more interesting engines seen was GP 38 RRV&W 2194, in new dark red paint with gold trim and "Operation Lifesaver," and "25th Anniversary," lettering. The Red River Valley & Western is a 514 route mile railroad in North Dakota running over former BN rails, and in 1997 and 2005 was named Regional Railroad of the Year by "Railway Age.".....Also seen was GMTX 9041, a former SD 60, but *not* a former Oakway. According to railroad roster enthusiasts, there is another SD 60 9041 that *is* a former Oakway and is a test unit at the Pueblo, CO railroad testing facility. The one seen here was an original SD 60 demonstrator and is the only one with radial(steerable) trucks..... On October 29th, Canadian Pacific 3117, a GP 38-2 in new red paint was on the track into the machine shop.

PROGRESS RAIL-EMD: Progress Rail has a contract to convert former BNSF SD 45's to SD32ECO's and the first three are going out from Progress's Tacoma, WA plant. Canadian Pacific has an order for 500 ECO rebuilds; the first SD20ECO units will go out from the Muncie, IN plant in October, and the first SD30EOC'S are scheduled to ship from the Mayfield, KY plant in early November.

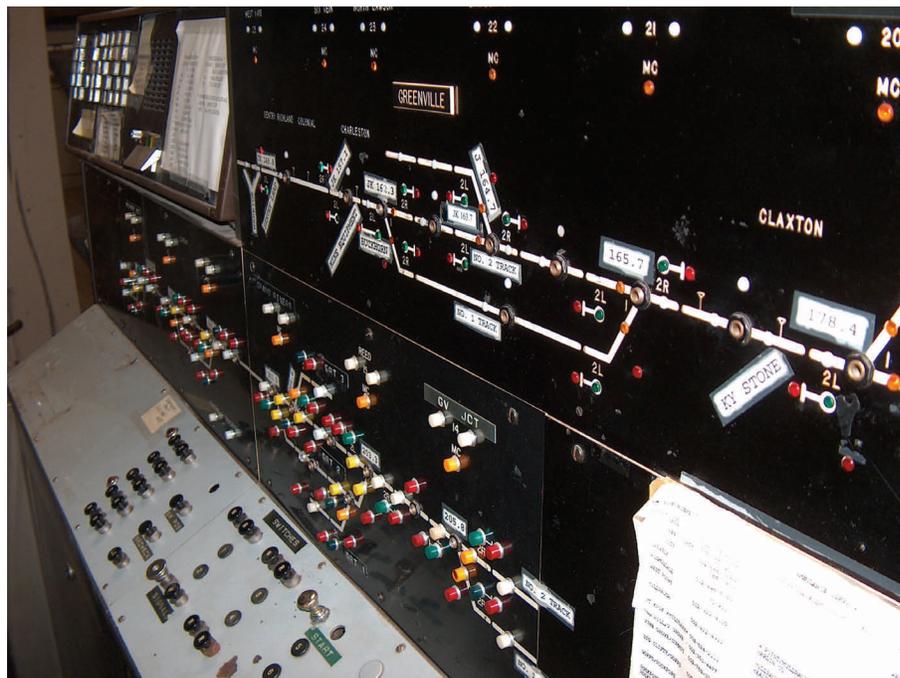
CHICAGO-NEW ORLEANS PULLMAN TRIPS: At the end of October, and during the first part of November, Pullman Rail Journeys, a Division of Iowa Interstate, will provide traditional First Class Pullman service in restored vintage cars, painted in Illinois Central chocolate and orange colors, on the City of New Orleans. The set includes three Pullmans, an ex-Santa Fe full length dining car, and a round end observation car. Despite not being billed as, "luxury," prices range from \$ 1950.00 to \$ 2850.00 for two and include all meals and beverages. Ed Ellis, President of Iowa Interstate, who is from Paducah, says that after the October-November trips are evaluated, additional dates will be announced.

REVENUE RESULTS: UP announced the 3rd quarter as its best in history, with net income of \$ 1 Billion, compared to \$ 904 million in that quarter in

2011....Canadian Pacific, already showing results under new CEO, and former Illinois Central and Canadian National Chief, Harrison Hunter, reported profits of CA \$ 225.89 million, up from CA 187 million in 2011.....In its fiscal year 2012, Amtrak reported the best ridership and ticketed revenue in its 41 year history with ticket revenue of \$ 2.02 Billion, up 6.8 per cent, and 31.2 million passengers, up 3.5 per cent. By the time you read this, the election will be over, and we will know whether Amtrak is likely to continue to exist.....Although all Class I railroads are profitable, the Surface Transportation Board says that only UP and NS meet its standards for cost of capital, which in 2011 was 11.57 per cent. UP performed at 13.11 and NS at 12.87. The other Class I's ranged from 7.13 (Soo) to 11.54(CSX).

BILL HUMM: I received an email from former member Bill Humm. He and Rosemarie had visited Abilene, TX, and attached interesting pictures of the restored Texas & Pacific Passenger station there (which is now convention and visitors center) as well as the Railway Express Building, and the T&P Freight House. The T&P was once an important southern link from west to east; it was absorbed by the Missouri Pacific, and now, of course, is part of mighty UP. Many years ago, Johnston Brokerage Company routed cars of Southern California lettuce via SP-TP-MOP-Memphis-N.C. & St. L. to Paducah, doubtlessly passing by these buildings in Abilene.

MUSEUM: We had 188 visitors in October, including 8 from the Sunrise-Genesis home for challenged teen-agers. This is down from 223 last October. However, in that month we had a bus tour group from Indiana, the Leadership Paducah Class, and a 5th Grade class from Fancy Farm Elementary School. Again, the importance of groups to museum attendance cannot be overstated..... Our curator, Amy Blewett, believes that some rotation of exhibits is necessary for a number of reasons including, maintain interest, lessen "wear and tear," make opportunities for publicity, and better maintain the physical plant, among others. At the committee meeting on October 27, there was considerable discussion about this, and it was tentatively planned to turn the CTS Console and place in in front of the switching panel, move the N Gauge (I.C. Kentucky Division) from the



The CTC May soon be moving



back to where the consoles are now sitting; move the Paducah Shops section to the rear where the N Gauge is now (the fire cart to be placed where it will not block LaVira's panel about the shop's operations). The space where the shops exhibit is now, is planned to be used to show work of various railroad employees including moving the conductor and engineer mannequins, and perhaps adding others. All of this work, of course, is to be done during the January-February closure.

PROGRAM: Dick Kastas will present a DVD on "Rails through the Rockies." I have not seen this presentation, but having ridden both Amtrak and VIA Rail through these mountains, know that it is some of the most spectacular scenery in North America, and much of it can only be seen by rail.

**Roundhouse
Notes**



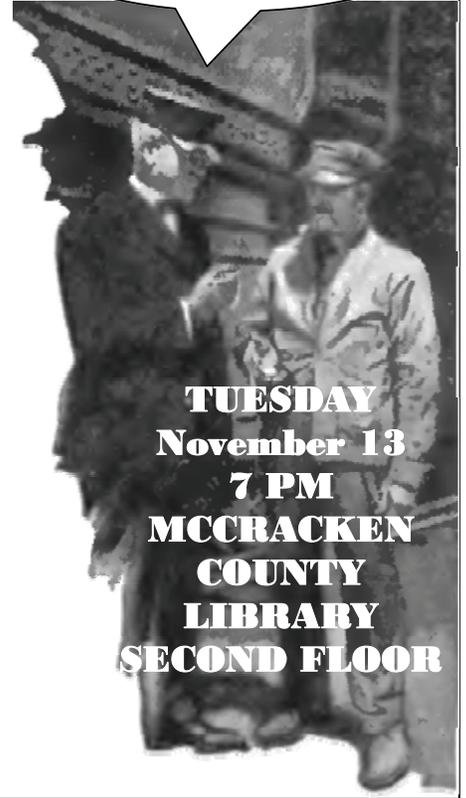
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Gosh! Its almost time for the meeting! We sure don't want to miss it.



**TUESDAY
November 13
7 PM
MCCRACKEN
COUNTY
LIBRARY
SECOND FLOOR**

Roundhouse Notes
& Charles Gibbons
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Paducah KY 42001