



The  
PLS GAZETTE

P.O. Box 26202  
Collegeville, PA 19426-0202

# The PLS GAZETTE

A newsletter of the Pennsylvania Live Steamers, Inc.

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## FIRST CLASS



### Along the Main Line

**S**hiny rails reflect the extensive traffic that was present at this year's Spring Meet. Great weather, good food and wonderful times were had by everyone who attended. This year's cul-de-sac of campers offered late night conversation and friendly interaction that makes our hobby so much of a family event.

A well-attended and successful pot luck dinner was largely due to the efforts of Jay Shupard and his family and enhanced by all who brought a variety of great side dishes. The Wednesday work crew put in an extra effort to ready the property, with some working until 7 P.M. trimming tree limbs and clearing debris.

Special thanks goes to many including Al Hein who comes from Mary-

land at 5 A.M. to clean the kitchen and bathrooms before each meet weekend and then starts the coffee and prepares food. Thanks also to Tom Tucker who provided some unexpected emergency janitorial services and to Alan Hansen who discreetly keeps the clubhouse and bathrooms spic and span between meets.

Kathy Parris is there as always with her great attitude to run the kitchen as a tight ship with terrific efficiency and care for which PLS is always grateful.

We now look forward to the June run day and the ever-popular club picnic to be held on July 16<sup>th</sup>.

The May meeting of the Board of Directors addressed, among other things, the alleviation of the rough terrain for wheelchairs between the ramp and the clubhouse. This issue was brought to the board's attention late

last year and we hope to have a solution soon.

The Board and membership approved the construction of a new coal bin to be located along building 3. The bin will be placed close to the steaming bays to allow members the purchase of both soft and hard coal. One phase of the project, the laying of block, will be outsourced to prevent undue "heavy lifting" by members. Members will perform the finish work and the outfitting of bins.

"Imagineering" and design continue on the Perkiomen branch starting with the passing siding for the 1 1/2" track. We hope to have a near-final version at either the July or August meeting for membership review and approval. I hope that a review and update of the

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*If you liked the Spring Meet Pot Luck — you're gonna love the Picnic!*

**July 16<sup>th</sup>, 5:30 P.M.**

We supply the Hotdogs, Burgers & Ice Cream ...

You bring a Favorite Dish & Beverages.

Donations Accepted.

### Turntable Requires Emergency Repairs for Spring Meet

**A**ll four wheels on the PLS turntable seized after the grease in the supporting bearings hardened, just in time for the Spring Meet. Club members removed the bridge for service on Friday evening, May 27 and heated the bearings until the old lubricant gave way. Re-greasing the cleaned wheels got it back in business again.

— Bruce Saylor



## Along the Main Line

(Continued from page 1)

5-year plan can also be reviewed at the July meeting.

There has been much discussion and directive of late with regards to incentives or punitive actions for regular members to come out and help on work days. I for one do not feel comfortable about these directives but am working towards a proposal that better reflects the type of member who typically joins our club these days for activities and hobby outlet. I hope this can be discussed at the July meeting.

I wish you a safe and happy summer.

See you at the track.

Pat Murphy, President, PLS

## Board News

Your Board of Directors now meets at 9:30 A.M. on the third Saturday of each month, the same day as the general membership meeting in the afternoon. During the meetings in April and May, the Board has approved purchases of new equipment, formulated measures for presentation to the regular members for action, and addressed topics of concern. A few of the latter items will remain on the agenda for future meetings.

Because a couple older mowers had seen better days, the Board approved the purchase of two new John Deere lawn mowers that are now on the property. In May the Board learned

## Donation Acknowledgements

PLS wishes to thank the following members for donations received during April and May: Paul Nichini, John Lukasavage Sr, Daniel S. Kluz, Barry Shapin, Jim Barker, Allen Underkofler, George A. Spohrer, Robert Andorn, Kyle Sanders, and Nicholas Nichini. Thanks also to the Questors.

## Spring Meet Thanks

Walt Mensch and Kathy Parris wish to acknowledge those who helped from set up to clean up of the Sales Table,

that the refrigerator in the shop area was malfunctioning and authorized the purchase of a new, larger refrigerator for the kitchen in time for the Memorial Day Meet. The former kitchen unit was moved to the shop area.

For presentation to the regular members for action, the Board developed a policy governing periodicals for the PLS library and proposals for a new coal bin adjacent to Building 3, a blacktop handicap path from the ramp to the clubhouse, and repair of the hard crossing to the infield. The regular members approved the four items. The Board also offered a plan consisting of several phases to develop the East Rahns area between the tunnel and Mercer Bridge. The first phase, which is now being prepared for final

Kitchen, and Snack Areas. Long hours were worked and delicious baked goods provided. We thank, among others: Catherine Barker, Bruce Barrett, Nancy Blackson, Alysia Brown, Pete Brown, Charlie Chermak, Sharon Connelly, George Cooper, Mary Lou Delp, Lee Hart, Al Hein, Pat Heller, Julia Kiefer, Jane McDevitt, Don Maleta, Barb Miller, Carol Quirk, Bruce Saylor, Mary Saylor, Barry Shapin, Dave Taylor, Judy Taylor, Tom Tucker, Rose Ann Wagner, and Sue Webb. Special mention also of continued support by Redner's Warehouse Markets.

And a very grateful thanks to Bruce and Mary Saylor for the pickled eggs and macaroni salad, plus Barry Shapin for the baked beans. Those 3 items have been a very popular part of the kitchen menu for the past few years—and always sell out quickly.

consideration by the regular members, is a passing siding between the tunnel and Mercer Bridge.

The Board is seriously concerned about the lack of participation by too many regular members on workdays and about the number of regular members who are on the waiting list for storage space in Building 3. The Board rejected the concept of including a workday requirement in the lease for on-site storage because there are other ways to address the storage problem. Both topics, workday participation and on-site storage, will certainly remain on the agenda for future meetings.

Minutes of the meetings of April 16 and May 21 are posted on the bulletin board in the meeting room in the clubhouse.



**Top Row:** Visitor Ron "Harvey" Vertrees of Maryland uses radio control on his 2-6-0 British Lynton & Barnstable Railway model while his red LMS model (above) built from an Aster kit runs on manual control. **Second Row:** Connecticut visitor Scott Kluz checks Ken Chermack's Southern PS-4 which pulled an oak pickle car Scott built. Young Kaeden Peffel gets a ride during a night run. **Third Row:** The Pot Luck Supper was a highlight of Saturday; **Bottom Row:** Night running on Saturday.



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# Images of the Spring Meet

Photographs by Allen Underkofler

The 2011 Spring Meet, which ran from Friday, May 27th through Sunday May 29th, was again favored with fantastic weather. Members, visitors and guests enjoyed many runs and a popular pot luck supper.

When rider demand increased on Saturday, Adam Madlinger operating his AC&G 0-6-0 doubleheaded with Jay Forsythe operating the Gilbertville Rahns & Eastern 0-6-0 to pull 25 passengers!

Many stayed for night runs. 🍷



**Clockwise from Above:** Al Hein checks his messages while Kathy Parris waves to riders; George Hoopes-built Reading Pacific 179 (ex-176) owned by Steve Gilbert pulls cars on loan from the Pennsylvania Transportation Museum; Doubleheader pulls 25 riders on Saturday afternoon; Tom Tucker gives the club's new Pennsy diesel a run on the track.



## Club Membership News

PLS welcomes new Associate members Gerald O'Donnell, Christopher S. Kovacs, Elaine V. Linkewich, Sandy Guinan, James R. Bailey, Daniel S. Kluz, Marco Capelli, Scott Spencer, David Hill, Edward Rodrigo, Fred Schuster, Robert T. Lomas, Brian Hornberger, Guanglei Cui, Lamar Schlotterer, and Paul Harland, plus new Minor members Gage Guinan and Nicholas Nichini. John Rogers is a new probationary Regular member.

## Membership Gauge Wanted

As of May 31, PLS has:

- 100 Regular Members**
- 274 Associate Members**
- 8 Honorary Members**

I recently purchased a 3 1/2" gauge Juliet. Are any of PLS members or other readers selling machined trucks, cars, etc. for 3/4" scale 3 1/2" gauge?

Bryan Del Monte  
[bryandelmonte@comcast.net](mailto:bryandelmonte@comcast.net)  
 (610) 247-2088

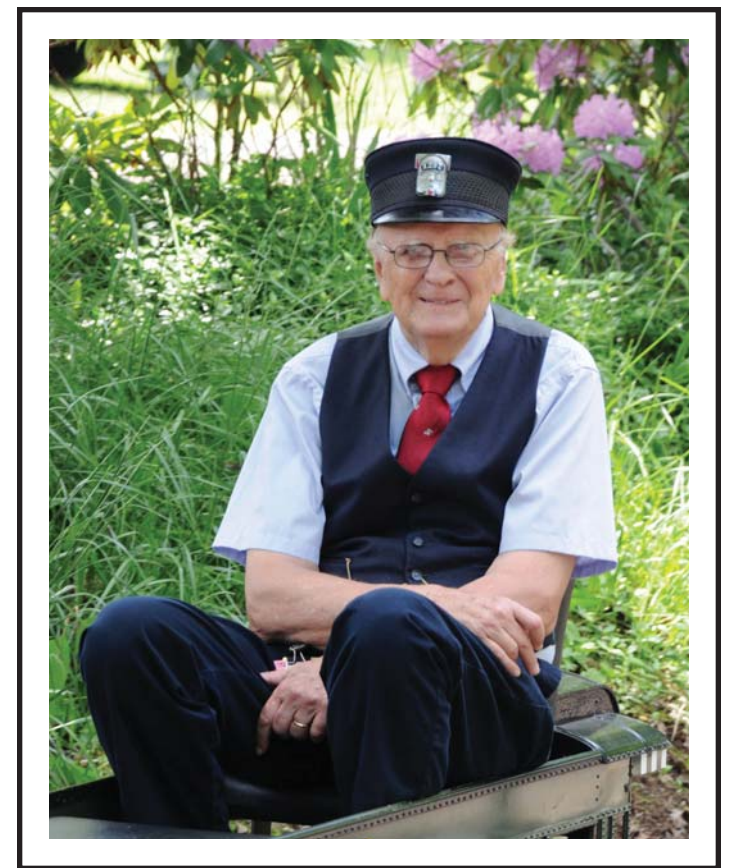


## Frank Edward Wilus

A dear friend of many has passed. Frank Edward Wilus was 75 years old when he lost a brave battle against stage IV pancreatic cancer on May 26th, 2011. During his last peaceful moments, Mr. Wilus was surrounded by his loving family.

Born May 23rd, 1936, Frank grew up in Northeast Philadelphia and raised his family there. His interest in locomotives began in his early childhood when his father (Frank) bought him his first Lionel set. This interest continued on throughout his life. Frank passed on his love of locomotives to his grandson, John Kane. Frank was also deeply interested in restoring trolley cars at Buckingham Valley Car Shops, located along the New Hope & Ivyland Railroad. His dentist first introduced him to the Pennsylvania Live Steamers. Frank took this as an opportunity to spend quality time with his young grandson, John, attending our public days. He applied for associate membership August 30th, 2006. Once he had purchased his own engine, Frank applied for a regular membership. He met Gloria, his wife of 48 years, while working as a Real Estate Agent. Together they had a son, Frank G. Wilus, and two daughters, Lori and Barbara. Frank will be well remembered and truly missed.

— Julia Kiefer and John Kane



# Richard M. Dilworth

By Bob Thomas

## Architect of Modern Diesel Locomotives



*A few years ago Bob Freer lent me a copy of The Dilworth Story<sup>1</sup>. I had not heard of Richard Dilworth (left), nor had anyone I knew who called themselves a Diesel expert. Even as a “steam man,” I was so impressed reading the accomplishments of the remarkable man in Bob’s book, now out of print, I bought a used copy to read again and keep in my library. That book and some internet resources are the bases of this article.*

Richard M. Dilworth was born in Seattle, Territory of Washington in 1885 when it was still a pioneer settlement. That was a place we call “The Wild West,” where skill with a six-shooter or knuckles trumped morals or intelligence. Dick’s father was an itinerant preacher who ran a tugboat during the week, and his mother had been a teacher in Kansas. He was educated at home except for a half-day in a public school, which he left at lunchtime the first day he attended, and never returned. A strapping lad who had “been around,” Dilworth left home when he was only twelve years old!

Dick wandered around the country enjoying a vagabond life riding the rods and working in a variety of machine shops, on a windjammer; in a circus; as a telephone lineman; and finally as an electrician on a U.S. Navy battleship. With no prior experience, he faked his way into every one of those jobs but immediately learned what to do by watching experienced men going about their work and by devouring every technical book he could lay his hands on. His life finally became focused when he became employed as a machinist/electrician by General Electric.

GE recognized the need in 1910 for economical transportation on railroad branch lines. Many branches were unwisely over-built extensions of main-line railroads and were unable to sustain profitability. GE responded with

development of the “gas-electric” car, a conventional heavyweight combine powered by a gasoline engine driving a generator with DC output power to truck-mounted motors. Dilworth was a natural candidate to accompany new vehicles into the field to train operators, who were former steam locomotive engineers with no knowledge of gas engines or electrical propulsion. It enabled Dick not only to sharpen his basic skills, but to acquire intimate knowledge of railroad operations.

When the market for Doodlebugs dwindled, GE directed effort to a new field — development of Diesel engines. Dilworth was a perfect fit, and again immersed himself in every technical reference he could find. With that new knowledge to supplement his practical background, he was involved in every phase of Diesel engine development. But then GE suddenly changed direction again, toward steam turbines, where Dick worked for a few years until 1923, when GE and other companies revived manufacture of gas-electric cars. The need for those vehicles soared; railroads were in even worse financial straits, but perhaps more noteworthy, the ascent of automobiles spawned a new generation of energetic young men who understood operation and maintenance of I.C. engines. Dick transferred back to gas-electrics and before long he met Hal Hamilton, head of Electro-Motive Engineering Corporation.

Dick joined Electro-Motive in 1923 as Chief Engineer. The company had improved their gas-electric product, a 57-foot car powered by a standard 175 HP Winton gasoline engine, but railroads demanded more power to cope with heavier loads, including trailer cars, and they also needed lower operating costs. Gasoline was expensive and gas-powered engines had reached the limit of their capabilities at about 400 HP. Electro-Motive and Winton Engine Company, under Dick’s leadership, developed a 900 HP V-12 engine of 9-inch bore and 12-inch stroke that ran on “distillate” fuel. Distillate a byproduct of the petroleum cracking process after other volatiles had been extracted, cost one-fifth the price of gasoline. On the downside, distillate was so reluctant to burn, the engine required a large carburetor for each pair of cylinders and four spark plugs per cylinder to ensure ignition! The engine and generator were so large they took away valuable space for baggage and required a reinforced car body. The answer lay in articulation, with a 22-foot power/baggage unit sharing its rear truck with a 60-foot passenger car. However, there was so much equipment under the power unit’s floor there was no room for a brake cylinder. That’s when Dilworth shocked the railroad industry by abandoning a single under-car brake cylinder, placing individual cylinders on each truck frame. That brilliant concept, now accepted as normal, was greeted with derision by railroaders resistant to change, but it



Classic Trains

The two trains in the station are Union Pacific M10000 (left) and Burlington “City of Salina,” the first Diesel-electric powered train (right).

was the way Electro-Motive Engineering built their first articulated trainset for Santa Fe in 1931 and, as we know today, it became standard practice. Next was the lightweight UP M-10000 train using a distillate engine, shortly followed by Burlington’s Diesel-powered *Zephyr*. Both trains broke speed records and attracted patronage, but they shared the disadvantage of all articulated trains, which have to be withdrawn from service if any car of their fixed consist develops trouble.

General Motors acquired Winton and Electro-Motive in 1934 and consolidated them in the Electro-Motive Division of GM. Dilworth and two draftsmen immediately began to design the first Diesel-electric locomotive, which consisted of two Winton 900 HP Diesel engines in a glorified boxcar. The goal for the design was for two units to equal performance of the NYC J-3 *Hudson*. They achieved that goal and then some! First revenue service of the new engine was on B&O’s *Royal Blue*, and two additional sets with cast steel frames later hauled the Santa Fe *Super Chief*, to spectacular new speed records.

Early “boxcar” locomotives had teething problems, and elicited negative comments from engineers, who were vulnerable in their front end cabs.

Also, an unanticipated problem, called “sleeper flicker,” caused a hypnotic effect as ties whizzed by directly under the engineman. Customer comments and field problems were resolved in a drastically revised design where the engineman sat in a capacious cab high above the track, protected by a reinforced streamlined nose. This was the EMD E Class, arguably the most aesthetically pleasing of all Diesel locomotives. Relocating the cab required moving engines from above the bolsters, where they had been in the “box car” version, to the center of the car body. That necessitated truss side frames with diagonal strengthening members. There was insufficient room for rectangular windows in the triangular spaces of side trusses so EMD incorporated round “portholes” to fit in available areas.

Railroads were accepting Diesel-electrics for passenger service but were averse to using them on low-speed freight drags. Dilworth’s answer was a layout, initially made on wrapping paper, for the EMD FT freight locomotive. It consisted of two permanently-coupled 1350 HP units, or 5400 HP from four units that handily replaced a 2-10-2 steam locomotive. Although permanently-coupled units turned out to be a *faux pas* that prevented break-

ing the pairs apart for light duty, nothing could be done because the war had started and EMD development was diverted to military projects. The FT was just in time, however, to eliminate water stops and locomotive changes on the broad expanse of desert terrain traversed by the Santa Fe.

“Super Power” steam locomotives had become a staple of many railroads since introduction of Lima’s *Berkshires* in the late 1920s. Railroad management wanted the same thing in a single 9000 HP Diesel-electric, failing to recognize the flexibility of moderate-power modular units that could be combined in various combinations for a variety of manifests. Dick came under immense pressure from both outside and within EMD to design a single-unit high power Diesel, but he prevailed and the company continued, to everyone’s benefit, with the unit concept we see today.

Stressed by declining rail traffic after the war, railroads looked for less expensive locomotives with more versatility than the elaborate E- and F-units then used on passenger and freight trains. The EMD engineering department was overloaded with other projects, so the task of designing an all-purpose diesel-electric locomotive was handed off to Dick who, by then, had his own Advanced Engineering “playground.” He threw aside everything formerly associated with main-line Diesels: high cab, streamlining, and predominantly single-direction operation. In his innovative new design the engineer was in a low cab behind the engine with good visibility forward and rearward; convenient access to machinery was from adjacent high level running boards; and there were footboards on both ends for the brakeman. This was Dick Dilworth’s crowning glory before he finally retired from EMD. It was the epitome of a general purpose (GP) diesel-electric locomotive: It was the *Geep*.

In his twenty-seven years of influence, Richard Dilworth shaped the form of Diesel-electric locomotives for decades to come! 🚂

<sup>1</sup> Reck, Franklin M. *The Dilworth Story*. New York: McGraw-Hill Book Company, 1954.