

PGRS TRACKIN'

Newsletter of the Piedmont Garden Railway Society

March 2022

Editor: Scott Williams

Rolling in to Springtime !



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Been super busy lately at work and with chores but did get some time to enjoy some of this awesome warm spring weather we've had the last day or two. I hope you all have been well and able to get outside and enjoy same. Spring is rolling this way!!

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I was unable to attend the Asheville Train Show because of work schedule so I asked Doc to give me a report and maybe a photo. He and Bill H. and Tim W. had tables there. Apparently, they were too busy selling to snap a photo which is good for them!

Doc Watson wrote this report:

“Here’s a little write up for the newsletter.

The train show on February 25th and 26th at the NC Ag Center was pretty successful considering everything that’s going on. Club members Tim Wagner, Bill Huntman and Don Watson had a decent 2 days selling a few thousand dollars worth of their train collections. There’s still plenty items left if you’re interested.

Fran and Jim set up the club’s layout and had many interested attendees during both days. They had over 20 individuals sign up for our membership application. It appears that interest in large scale trains is still there considering only a very small fraction of the attendees probably had any interest at all.”

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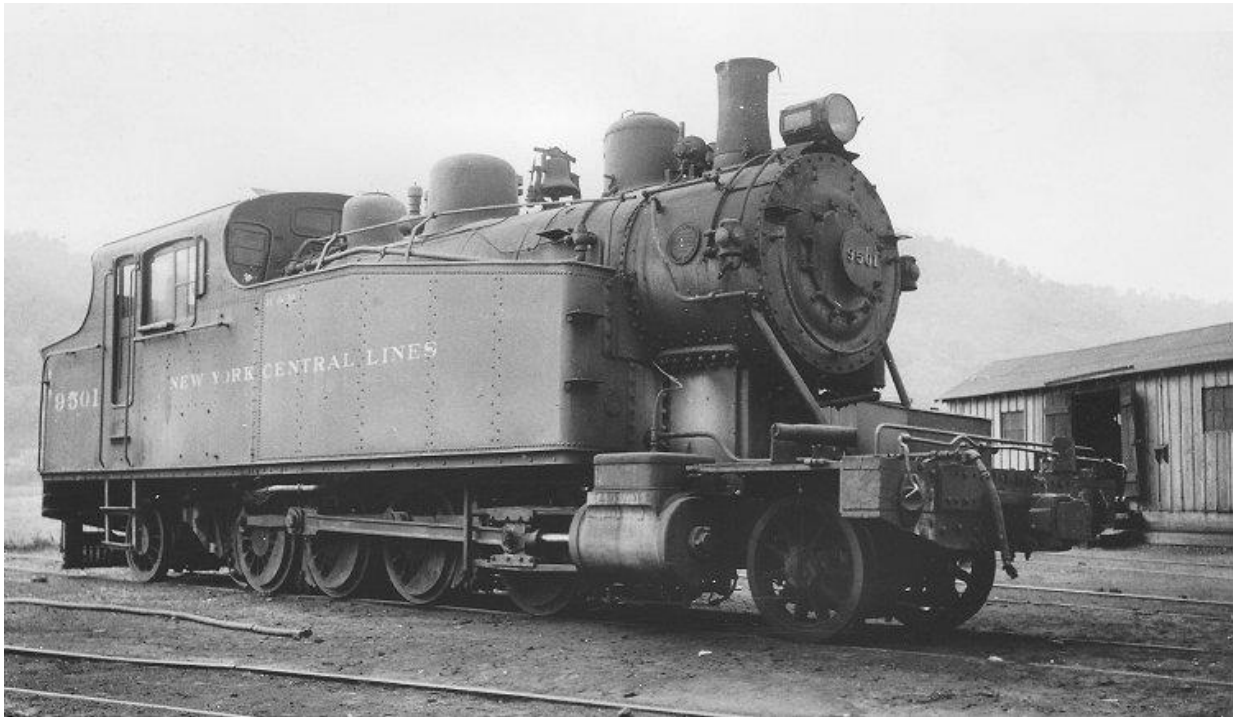
When club member Tony Potter passed away a few years ago and J.R. Snider sold off his collection for Tony’s family I drove east to purchase a few items. One of them was an LGB Mogul that I had been wanting in my collection. It is an early model and runs great but I needed to replace the hand rails along the boiler with metal wire because the original plastic ones ‘drooped’ with age and looked like limp pasta and it needed a replacement set of traction tires which was easy to fix. The only other thing that has always bugged me was **why on Earth** did LGB make this model with a red boiler jacket?? I meant to repaint it more accurately for the DSP & P but the few times I ran it at Apple Valley the kids really liked the bright red color so...I left it. But, recently I saw a photo where someone had put some work in to weathering and detailing one of these locos and I just had to head down that road. First step, paint red boiler....



I plan to tarnish down the brass details or paint flat black over some of them all together. Then reassemble and spray a clear dull coat/matte finish over the whole loco. I will work on air pumps, bell, etc. and maybe add an air tank, etc and add a little soil and grime. No moose antlers though, not my style. This will be my earliest 19th century loco so I'm excited to make it look a bit more accurate and less like a circus train.

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Kanahwa & Michigan Mikado tank engine.



Not Thomas the tank engine, but close. The Kanawha and Michigan Railroad completed its rail line between Point Pleasant, WV and Charleston in Kanawha County, WV in 1892. A year later the K&M completed an extension of its rail line to Gauley Bridge, WV. The completion of a bridge in 1893 by the Chesapeake & Ohio Railway across the New River, at Gauley, provided the K&M a link with the C&O, at K&M Junction, near Gauley Bridge, WV.

In 1910, the C&O bought control interest of the K&M, planning to use it to connect the C&O with the Great Lakes area, but anti-trust laws soon forced the C&O to abandon its K&M interests. In 1922, the K&M leased its line to the New York Central System, and eventually it became a part of the NYC.

When the Kanawha & Michigan Railroad decided to buy, 2-8-2, "Mikado" type locomotives it decided to use tank type locomotives because it had no turning facilities and would operate in both directions. The first to arrive were a pair built by the American Locomotive Company and delivered in 1902. They were assigned road numbers 555 & 556. These locomotives had 49" diameter drivers, 19"x 26" cylinders, a 200 psi boiler pressure, they exerted 32,564 pounds of tractive effort and each weighed 216,000 pounds. The firebox was 165 square feet, and the evaporative heating surface was

2,493 square feet. In 1907, another ALCO-built tank locomotive of the same design of the 1902 locomotives was delivered and given road number 557.

In 1912, another two tank "Mikados" were delivered by ALCO and were given road number 558 & 559. These locomotives had 49" diameter drivers, 19"x 26" cylinders, a 200 psi boiler pressure, they exerted 32,564 pounds of tractive effort and each weighed 234,000 pounds. The firebox was 165 square feet, and the evaporative heating surface was 2,493 square feet.

There are no surviving K&M 2-8-2T "Mikado" type locomotives as they were all scrapped by 1937.

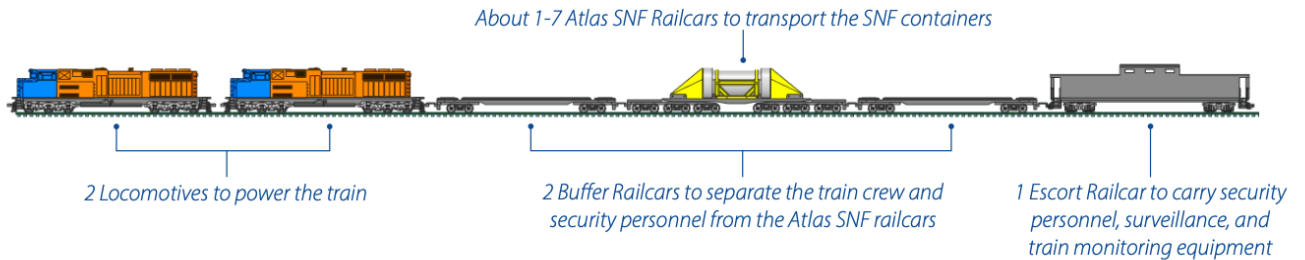
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THE NAVY'S NEW TRAIN CAR HAS ALL THE FIREPOWER AND TECH YOU NEED FOR NUCLEAR SECURITY

Hope Seck | January 27, 2022

Major train heists aren't as common now as they were in the Wild West, but railways still carry some highly sensitive cargo that demands heavy-duty, specialized protection. That's why the U.S. Navy, better known for aircraft carriers, submarines and fighter jets, is adding a sleek new armored train caboose to its arsenal, designed to protect shipments of radioactive waste and house mission-relevant security personnel.

The slate-blue Rail Escort Vehicle, or REV, a collaboration between the Navy and the U.S. Department of Energy, departed its assembly site at Vigor Industrial in Portland, Oregon this month for a testing location at the Transportation Technology Center, Inc. in Pueblo, Colorado, where it will undergo a final slate of tests. When it enters service as soon as 2024, REV will get hooked up to DoE's new Atlas railcar, built to hold hundreds of tons of spent nuclear fuel. For the Navy, the trains will carry spent fuel rods from shipyards and propulsion facilities on the East and West Coasts to the Naval Reactors Facility in Idaho Falls, Idaho, for inspection and temporary storage before final disposal in dry casks underground.



Atlas Railcar (Dept. of Energy)

Many details about the new caboose are classified, but DoE says it will provide “enhanced security, communication and surveillance capabilities,” compared with the smaller yellow escort cabooses currently used for the mission.

A spokesman for the Navy Nuclear Propulsion Program (NNPP), Lee Smith, said the final two-year phase of testing will involve multiple train cars and demonstrate compliance with the Association of American Railroads’ S-2043 regulation governing the transport of radioactive material.

“As part of multiple-car testing, these railcars will be coupled together in a prototypic train setup and tested together. The majority of multiple-car testing will occur on closed test track loops at the Transportation Technology Center near Pueblo, CO but will also include testing on commercial rail track, culminating in a DOE demonstration run,” Smith said in an email.

“The specific sequence and timing of multiple-car testing is currently being finalized.”



navy train Atlas SNF rail cair (Dept. of Energy)

Tests that have already been completed, he said, include demonstrations for each railcar design, including a “cask” car to carry the nuclear waste and a “buffer” car to accompany it.

Once the REV hits the rails after testing, it will hold a complement of specially trained security personnel, providing them “a comfortable living and working environment,” according to a fact sheet, for rail trips that can span thousands of miles – from the Portsmouth, Maine, Naval Shipyard to Idaho, for example. The solid REV, windowless except for small apertures The Drive describes as firing ports, stretches nearly 69 feet long and weighs 185,000 pounds fully loaded. While the total cost of the caboose isn’t clear, DoE contributed \$10 million to its development. Ultimately, the Navy plans to procure five of the railcars, Smith confirmed. The Department of Energy will buy its own similarly designed escort vehicle for commercial shipments.



DOE Rail Escort Vehicle



NNPP Rail Escort Vehicle (under construction)

Rail Escort Vehicle General Characteristics	
Manufacturer	Vigor Works LLC.
Truck Design	Two Truck Sets (four axles per railcar) Amsted Rail 100 Ton Swing-Motion™ Custom Spring Package with Vertical Dampers 36" Wheel Diameter
Overall Length	68' 10-9/16" Over Pulling Faces
Overall Width	10' 4-25/32" Maximum
Clearance Diagram	Meets Plate E Equipment Diagram (AAR Standard S-2031)
Maximum Weight	185,000 Pounds

Smith confirmed that Navy waste shipments would be accompanied by “Navy personnel that are specially trained, armed, and have access to extensive and redundant communications capabilities.” He did not specify, however, what job rating these sailors would come from, or what weapons they and the REV would carry. He did note that security regulations limited what he could say about some aspects of the caboose’s operation.

“The REV is the last piece of the puzzle in completing a railcar system to safely transport the nation’s spent nuclear fuel,” Patrick Schwab, Atlas project manager for DOE’s Office of Nuclear Energy, said in a January release.

“This project is a prime example of the great collaboration between DOE and the Navy and will further serve the nation’s naval nuclear propulsion program, as well as our civilian reactors which currently supply more than half of our nation’s clean energy.”



navy train

Rail Escort Vehicle (Vigor Industrial)

The Navy has more than 100 nuclear reactors, most of which power its fleet of carriers and submarines. Nuclear reactor cores are a long-lasting, zero-emission fuel source, and the Navy prides itself on its perfect record of safety to date in its employment of nuclear propulsion. But when nuclear fuel is spent, the disposal process is both delicate and laborious. The fuel in a Nimitz-class aircraft carrier lasts about 25 years, about half the carrier's service life. The nuclear core in an attack submarine can last between 20 and 30 years.

"The first nuclear-powered submarine, USS NAUTILUS (SSN 571), was refueled after her first two years of operation having steamed about 62,000 miles," a NNPP brief from 2017 stated.

"Today's nuclear-powered attack submarine will not require refueling during its 33-year life and will steam over one million miles."

Rail transport has been the Navy's go-to option for spent nuclear fuel for over six decades, according to NNPP. The safety requirements for shipping radioactive waste cross-country are so demanding, and the waste containers themselves so massive, that trains are the practical option. The Navy's M-290 Spent Fuel Shipping Container, which looks like a gigantic horizontal Shake Weight, encases its load with 10 to 11 inches of

solid stainless steel. Another model, the dome-like M-140, features 14 inches of stainless steel and weighs up to 350,000 pounds when loaded.



M-290 Naval Spent Fuel Shipping Container
(10-11" solid stainless steel)

navy train

These containers have to withstand a brutal beating, according to federal regulations. According to NNPP briefing slides, the containers must be able to withstand any combination of the following events:

30-foot drop onto an unyielding surface;

40-inch drop onto a 6-inch diameter vertical metal rod;

Fully-engulfing 1475 degree Fahrenheit fire for at least 30 minutes;

Immersion in 50 feet of water.

Radioactive material is a massive public health hazard, as anyone who watched the HBO miniseries Chernobyl knows. The Navy spends substantial time and resources on shipment accident exercises, conducting mishap drills in 11 locations across the U.S. between 1996 and 2017, according to briefing slides. These exercises simulate various disasters that could threaten the shipment or train, and involve extensive communication with local authorities and civilian emergency personnel.

In one 2015 exercise, Navy officials simulated a spent nuclear fuel transport train getting hit by a dump truck in Granger, Wyoming, causing the train to derail and injure the driver. The exercise involved regional radiological surveys that confirmed radiation levels were normal, and the train ultimately was cleared to continue on to its destination.

The existence of an escort cabooses packed with armed security personnel indicates preparation for a decidedly more nefarious scenario, however. Security experts have speculated about the possibility that terrorists could steal spent fuel rods for use in a radioactive “dirty bomb” or similar weapon. This was a topic of particular concern following the terror attacks of Sept. 11, 2001.



Shipping Practices

- Railcars frequently inspected and maintained at highest standard
- Location and status constantly monitored via satellite tracking
- Advance arrangements with railroad operations and railroad police
- Outreach with civilian authorities, e.g., accident exercises



- Escorted by specially trained NNPP shipment couriers
 - 24/7 surveillance
 - Immediate emergency response

The previous yellow Navy Rail Escort Vehicle train cabooses (Dept. of Energy)

Is it a realistic concern? Perhaps not. In March 2002, The Brookings Institution's Gwyneth Cravens considered the risks:

“Could terrorists steal spent nuclear fuel? First they would have to get past multiple impediments: guards, high double fences with concertina wire, floodlights, motion detectors, and cameras. Fuel rods are so radioactive that anyone coming within a few feet of them would become extremely ill and die within hours if not minutes. The more radioactive something is, the harder it is for someone to steal—and survive. Special equipment and thick lead shields are required for handling, and spent fuel for transport must be placed in casks weighing about 90 tons that have been stringently tested (burned with jet fuel, dropped from great heights onto steel spikes, and otherwise assaulted) and have remained impervious.”

Nonetheless, federal regulations require these aggressive and redundant security measures, an acknowledgment that any unchecked mishap or unanticipated scenario would be a true disaster.

So, how much spent nuclear fuel is the Navy shipping around the country, anyway? Not as much as you might think. As of 2017, 850 containers of nuclear waste had been sent via rail from shipyards to the Idaho holding facility since shipping began in March 1957.

“The Navy ships on average about 10 containers per year of spent naval nuclear fuel, depending on the ship inactivation and refueling schedule,” Smith said. “Containers are typically shipped together and each train could include between 1 and 6 containers.”

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MEMBER PHOTOS:

12 Bones BBQ, Arden location, right next to Blue Ridge Southern's office along the tracks has this message board that changes every few minutes with Puns/Jokes.



Please send any idea, project, photo, something you found surfing on the Internet, etc., no matter how great or small they may be to your newsletter editor. We all love trains so...if it's about trains, and you've got it on your computer, chances are you won't be the only person who might enjoy viewing it.

Send your photos to: srwavl@outlook.com

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Membership:

Please consider sharing this newsletter with friends who might be interested and if they wish to become members ask them to contact our PGRS Secretary/Treasurer for a membership form.

Don Watson
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Hendersonville, NC 28791

docwatson@morrisbb.net

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Train Lovers Luncheons:

The Asheville Train Lovers Luncheons on every 2nd Thursday of the month at the Post 25 restaurant in Arden, NC at 11:30.

Greater Greenville Train Lovers Luncheons. They are on the first Tuesday of every month at the A&P Restaurant in Greer starting at 11:30 AM.

Columbus Luncheons at Rural Seed are held at 12:00 on the Third Thursday of each month.

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Businesses associated with our club:



Garden Railroad Design
Old Trains Wanted

Jim's Train Sales

O & G Gauge New & Used Trains

Jim Hendley

Etowah, North Carolina 28729

Lionel, MTH, USA Trains, PIKO, LGB
Bridgwerks Power Supplies, Bachmann
Split-Jaw Rail Clamps, O & G Gauge Track

Email: jhh1218@att.net
Phone: (828) 891-7570
Fax: (828) 890-3346

**** Jim Hendley has moved.** To reach him use the following number:

828-333-2523 and if the email above does not work try hendleyjim4@gmail.com



Peggy Keyes
Owner / Chief Conductor
RightTrackTrainMuseum@gmail.com
828/625-5551

The Right Track Toy Train Museum
A non-profit museum to benefit Pancreatic Cancer
research
2414 Memorial Hwy (Rte 64/74)
Lake Lure, NC 28746
Find us on Facebook!

Peggy's Facebook page has more information. Apparently, she is closed for awhile due to a death in the family according to her FB page. Probably best to call before you plan to visit: 828-289-4429

<https://www.facebook.com/The-Right-Track-Toy-Train-Museum-141291999274246/>

FUTURE PLAN:

2022 - everything that is for sale in the museum - 20% off. Closed Thurs.

2023 - everything that is for sale in the - 30% off. Closed Fri.

2024 - EVERYTHING in the museum 40% off. Closed Sat.

Peggy plans to close the museum at the end of the 2024 season and sell the building.