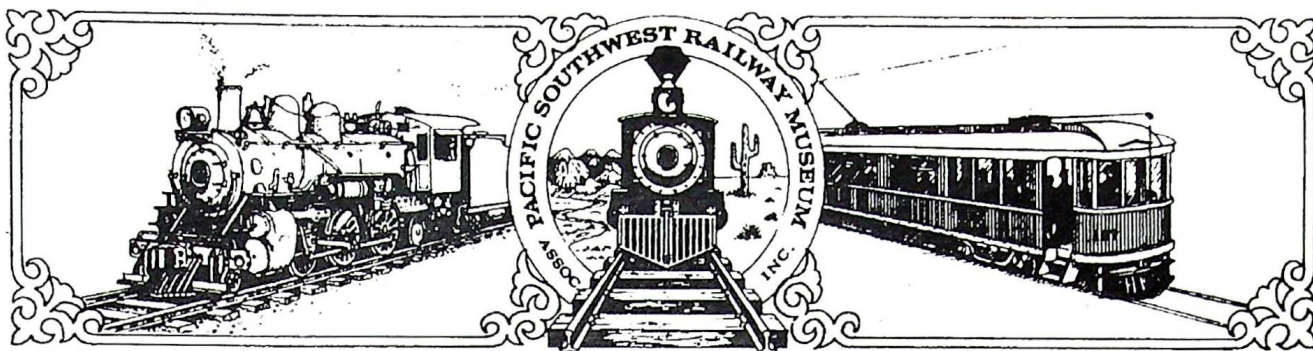


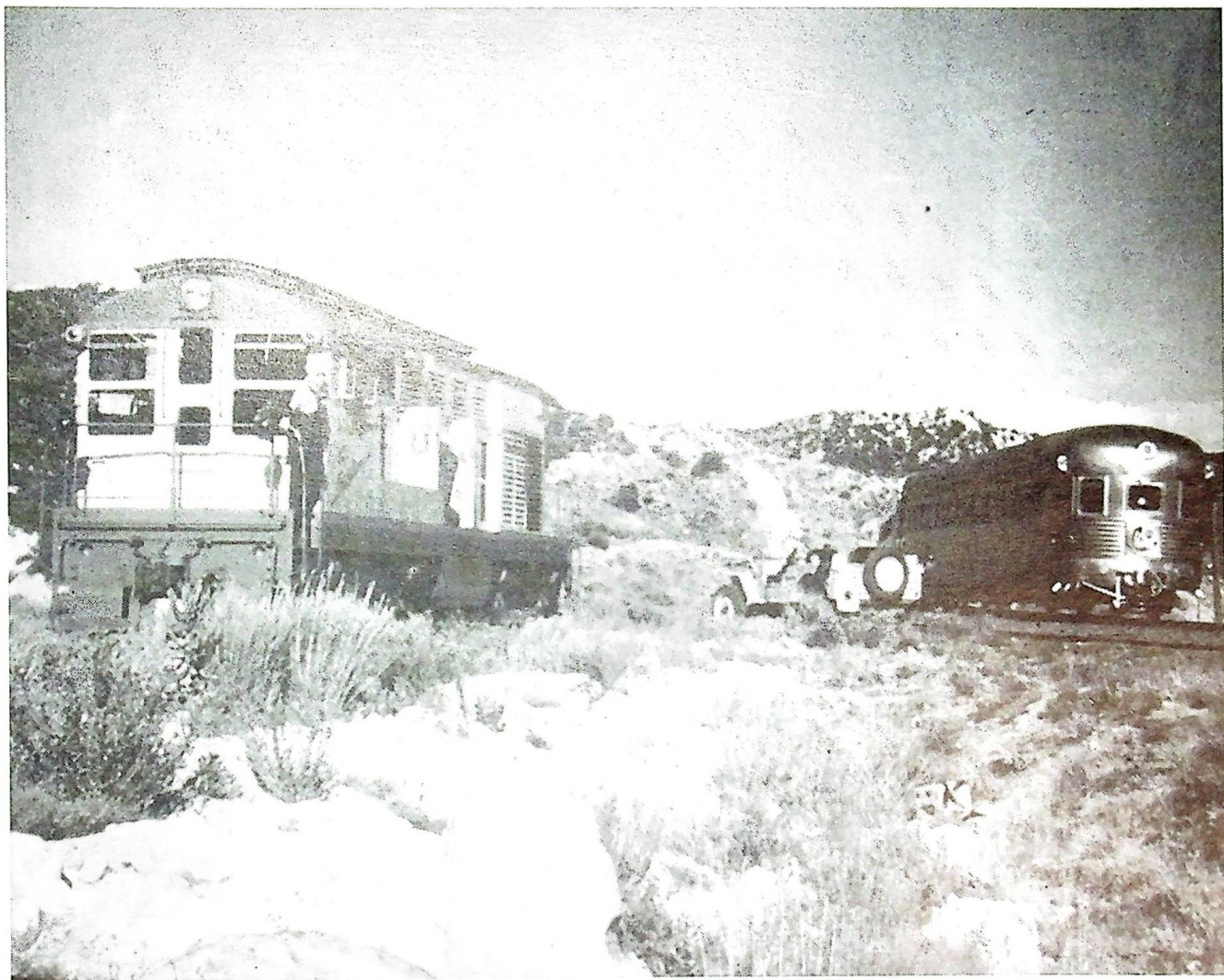


Nov & Dec 1996

REPORT

Volume 259

OFFICIAL PUBLICATION OF THE PACIFIC SOUTHWEST RAILWAY MUSEUM ASSOCIATION
—OPERATING THE SAN DIEGO RAILROAD MUSEUM AND THE SD&A RAILWAY—



How Embarrassing! UP D.S. 1366 stands idle with her shutter doors open following a crankcase explosion on August 30, 1948 at Alray, CA as Santa Fe's westbound "El Capitan" passes by. The H-20-44 had been helping UP's eastbound "Los Angeles Limited" at the time. Note the rooftop grids for dynamic braking. The jeep was named "Diamond Lil"!

Photograph C. Walker

Nov & Dec 1996

Volume 259

SDRM REPORT

Official Publication Of The
San Diego Railroad Museum
1050 Kettner Boulevard
San Diego, CA 92101
(619) 595-3030

Campo Museum Hours Weekends 9am-5pm

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From The Executive Director's Desk

Rail museums have arisen for many reasons. In most cases, however, what has become a museum did not start as one with a master plan and a well-defined path. Most rail museums evolved out of a need to pre-

serve the heritage of rail, often out of a crisis due to the imminent disposal of rail equipment or property. Especially a few years ago, the historic value of rail items was not universally recognized, and an organization quickly came into being to save a depot, a locomotive or a piece of rolling stock threatened with extinction. There was no time for the luxury of long-term planning or careful assessment.

As these organizations evolved past the crisis and found themselves with a growing collection of historic pieces, the realization dawned that a new museum had been born. At that point, the vision widened and the real import of the mandate to be a museum sank in.

The process goes on, of course, and we are always growing in understanding of the mission of the Museum and what it could become. As we think about our long-term future, some points come to mind.

First, we need to know that the community expects some good things from us. We have a responsibility to the society in which we live to present the legacy of railroading and explain its importance to our culture and history. We do that because it is

important to many of us personally and also because we have received both public grants and private donations with that goal in mind. We are not able to be just a group of people who want to have fun with trains; our mandate is considerably larger than that. Of course, if we have fun with trains in the process, all the better! But we are a museum, a custodian of the treasure of the past, and that must be our first concern.

Second, our role as a museum does not end with simply restoring and running some piece of equipment. The first specific task listed in our mission statement is to demonstrate the experience of rail, to make history come alive. We operate a kind of time machine, which allows people to participate in the heritage of rail. We show more than the nuts and bolts. We help them to actually feel their history, the railroad and the whole experience around it.

Third, we need to remember that time moves forward as well as backward. We enjoy the nostalgia of the era that we demonstrate, and for those of us who have memories of it, that is a rich feeling indeed. Perhaps even for those born after the era was gone, the feel that we can present of those times is a good experience of nostalgia. However, we live in the present and we plan for the future. The museum exists to teach and show a better way of life - the nostalgia is only a beneficial side effect. We also have a mission to showcase the future benefit of rail for our society as well.

That brings us full circle to the wider vision of the Museum - a value to past, present and future rail service - which it is our responsibility to make clear to our community. Elsewhere in this issue, you will read of the Rail Technology Showcase, which was a start in the presentation of the future of rail.

It is great to be a part of an organization experiencing that kind of dynamic, a growth which can reach out to our community, on both sides of the border, to share the heritage of rail which we are privileged to know.

Win Mott



On Nov. 7, the San Diego East County Visitors Bureau ("Convis"), held the grand opening of their office next to the La Mesa Depot, with County Supervisor Dianne Jacob presiding. The Visitors Bureau will be using the site temporarily until funding is available. The Museum is a charter member and will benefit from the promotion of East County.

Restoration Department

Question. How much rust can be found on the exterior of a 70-year old railroad car? Answer: More than you expect. Unexpected surprises come with railroad restoration. AT&SF RPO 74 is no exception. Work since the last **REPORT** has focused primarily on exterior body repairs. There are two goals. One is to ensure there are no leaks, either in the roof or anywhere else on the body. The second is to do such a good job that, when future visitors view the car up-close, they won't be able to detect where new metal has replaced old. In other words, the Restoration Department's 25-year tradition of excellence is being faithfully followed in our current work.

Who do we have to thank for this? First, welder and metal fabricator par-excellence Dick McIntyre, along with his sidekicks Bob Haney and Dick Cupp. Their patches are works of art. But this couldn't be done without laboriously cutting out old rusty metal. This hard work here has been done by the above trio plus Steve Kostelak and Ted Kornweibel.

There is also considerable rust damage on the roof, which is being expertly repaired. The job requires working from ladders, fabricating sheet metal patches which are riveted in place over a coating of roof mastic. This isn't clean work, but somebody's got to do it. The roof repair force includes Frank Stites, Ken Faller, and Ted Kornweibel.

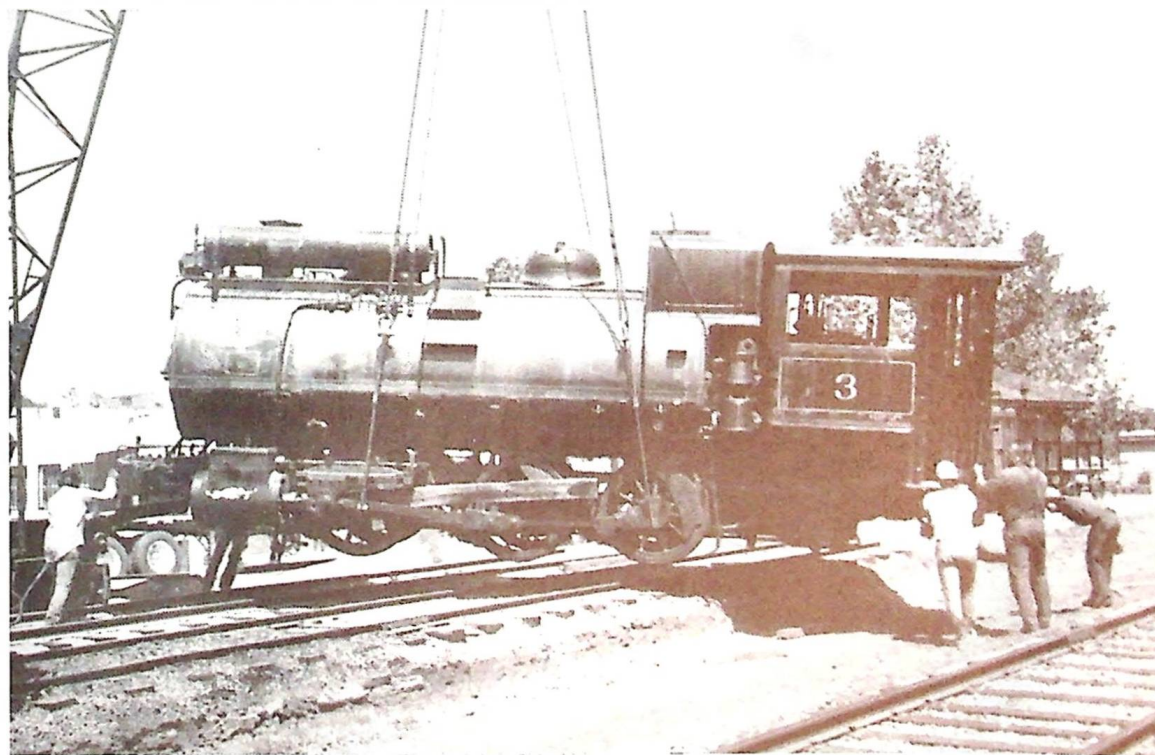
Some new volunteers have also added their labor. Bob Mayer and Gordon Derencin came down from the Los Angeles area to work on the exterior of the car. And the old battery boxes, which must be completely rebuilt, are now in the capable hands of Museum friend and master wood craftsman Stu U'Ren.

Although the exterior of the car has occupied most of our attention, significant progress has taken place on the interior. Steve Kostelak is an experienced electrician who, over several Saturdays, straightened out all of the interior wiring for the car, so that now we have adequate protection for all circuits and independent switching for both lights and fans. If this wasn't enough, he repaired all three overhead oscillating fans, so that we now have efficient "air conditioning." And Steve provided all the parts and supplies for these tasks. Thanks, Steve: You've earned Restoration's "Volunteer of the Month" award.

Restoration volunteers are real team players. They have eagerly performed their fair share of track work. The latest effort being in the upper yard at the curve where locomotives have often derailed. A number of ties were replaced, others were raised and tamped, and gauge was corrected. This crew consisted of Kevin Dudenbostel, one of the hardest-working track guys around, plus Ken Faller, Ted Kornweibel, and his friend Dave Anderson. In addition, on another weekend, Ken and son Jason Faller used their weed-whacker to do a nifty job all around the upper yards. Thanks, guys, for doing a task that no one even asked you to do. What a spirit!

A final word about fund raising. We are so close to achieving our \$3,000 goal, to match the \$3,000 pledged by retired RPO clerk Herb Kehr, that we can taste the victory. If a half dozen of you reading this would donate \$25 apiece, we can go "over the top." (Checks should be made out to SDRM with "RPO 74" written on the memo line.) We've raised nearly \$3,000 due to the generosity of many people, and especially to the fund raising genius of Roger Garrett, who is isn't one to loaf when bringing in the bread! Thanks a lot, Roger!

Ted Kornweibel



MN #3 is suspended from a crane as it is turned around to face south at the La Mesa Depot in 1988.

Photograph
C. Mucha

"Mil Specs" Live Forever On America's Railroads!

The US Standard railroad gauge (distance between the rails) is 4 feet, 8.5 inches. That's an exceedingly odd number and many have wondered why that gauge was used. It's because that's the way they built them in England, and the US railroads were built by English expatriates.

Why did the English people build them that way? Because the first rail lines were built by the same people who built the pre-railroad tramways, and that's the gauge they used.

Why did "they" use that gauge? Because the people who built the tramways used the same jigs and tools that they used for building wagons, which used that wheel spacing.

Okay! Why did the wagons use that odd wheel spacing? Well, if they tried to use any other spacing the wagons would break on some of the old, long-distance roads, because that's the spacing of the old wheel ruts.

So who built these rutted old roads? The first long-distance roads in Europe were built by Imperial Rome for the benefit of their Legions. The roads have been used ever since. And the ruts? The initial ruts, which everyone else had to match for fear of destroying their wagons, were first made by Roman war chariots. Since the chariots were made for or by Imperial Rome they were all alike in the matter of wheel spacing.

Thus, we have the answer to the original question: The United States standard railroad gauge of 4 feet, 8.5 inches derives from the original specification (Military Specs) for an Imperial Roman Army war chariot. Mil Specs and Bureaucracies live forever.

So, the next time you are handed a specification and wonder what "horse's rear" came up with it, you may be exactly right. Because the Imperial Roman chariots were made to be just wide enough to accommodate the back-ends of two war horses.

Chris Reulback, courtesy of Cloud 9 Shuttle

Rail Technology Showcase

The San Diego Railroad Museum sponsored a Rail Technology Showcase on October 24, held at the Santa Fe Station in downtown San Diego. The reason was stated in the program. "It is the Museum's purpose to lead the way by demonstrating and educating the communities in Southern California about rail transportation's invaluable benefits." The technological advances in rail which now allow trains (in other countries) to travel at speeds above 200 mph on a routine basis could have a great beneficial impact on our cities, our environment and our economy.

Gil Mallory, President of Amtrak West, addressed the several hundred guests on "The New Technology and Amtrak's Future", stressing in particular, the need to make capital funds available so that Amtrak has the capability to take advantage of the new technology, which could revolutionize Amtrak's viability.

Don Itzkoff, Deputy Administrator of the Federal Railroad Association, described the role of the FRA and noted the current Administration's commitment to rail transport.

Congressman Bob Filner spoke on the importance of re-opening the San Diego and Arizona Eastern line eastward to El Centro and Mexicali, noting the significant positive impact that such a move would have on the San Diego economy. Lawrence Killeen, Executive Director of the Port of San Diego, further expanded the concept by pointing out the importance of the rail-sea partnership potential in San Diego, which could help revitalize the Port as a major commercial harbor.

Ambassador John P. Leonard, Director of the Office of Mexican Affairs for the U.S. State Department, commented in his address on the international aspects of the rail line re-opening and the positive impact of Mexican-U.S. trade on San Diego, including the role of rail in supporting it.

The exhibits, the festive lighting and the elegant setting all contributed to the richness of the event, which was co-sponsored by the World Trade Center. We are grateful to the corporate sponsors of the event for their full, generous and active support: the Independent Order of Foresters, Solar Turbines, Catellus Development Corporation, The Port of San Diego, Tecate Brewery, BRW, inc., De Leuw, Cather and Co., North American Terminals, Inc. and S. K. Ross & Assoc., P.C. The endorsements of the event received from Amtrak, MTDB, the National Association of Railway Passengers and North County Transit District are also greatly appreciated.



Displays at the Rail Technology Showcase featured progressive leaders in Rail Technology and were a festive and informative addition to the event.

TYPES OF STEAM LOCOMOTIVES



TWO-TRUCK SHAY (1883)



SWITCHER 0-6-0 (1902)

The first successful locomotives, built in Great Britain, carried all their weight on their four drive wheels.

This gave them great pulling power, but Americans found these

engines too heavy for the light rails used in this country.

A machinist for the Mohawk and Hudson railroad, John B. Jervis, decided to add more wheels and lighten the load each wheel would transmit to the tracks. By replacing two of the drive wheels with a swiveling four-wheel truck, his engine - the forerunner of the American type-rounded curves more easily, and did less damage to the rails.

Other designs followed. Engines with large boilers and a few large drivers proved best for high speed passenger service. More and smaller drive wheels, which carried a larger proportion of the engine's weight, provided the greater power and traction needed for heavy duty freight service.

Soon there were so many kinds of locomotives in use that a system was needed for distinguishing one type of engine from another. The Whyte System, named after Frederic M. Whyte, general mechanical engineer for the New York Central, came into use in 1900, to help simplify matters. In the Whyte System, an engine's wheels are numbered (for example, 4-4-0) as in the column at right. The first digit refers to the number of small wheels in the pilot truck at the front of the locomotive. The next number tells how many drive wheels are linked to the steam cylinders. Last comes the number of wheels, if any, in the trailing truck under the cab.

The dates in parenthesis refer to the approximate year in which the named locomotives came into use. The classic American 4-4-0 - which followed "teakettle" engines of the Tom Thumb type - was the first practical locomotive to be widely used. Other woodburning types came shortly thereafter, such as the Moguls, Ten-Wheelers, and Consolidations. After 1870, most locomotives were powered by coal (except in the west where most locomotives were powered by oil after the early 1900's).

The Consolidation was the most popular type of all time: 33,000 of them were built over the years. Larger and larger freight engines, such as the Decapod, Prairie, Mikado, Berkshire, and Texas were built from 1890 to 1925. Famous passenger types, such as the Atlantic, Pacific, and Hudson came into being. Engines especially designed for climbing mountain grades were also perfected. At last, designers turned out enormous mountain-climbing locomotives such as the Articulated and the Challenger, with so many drive wheels that it was necessary to hinge the bodies of their engines in the middle, so that they could go around curves.



AMERICAN 4-4-0 (1848)



MOGUL 2-6-0 (1850)



TEN-WHEELER 4-6-0 (1860)



CONSOLIDATION 2-8-0 (1870)



DECAPOD 2-10-0 (1890)



ATLANTIC 4-4-2 (1896)



PRAIRIE 2-6-2 (1896)



MIKADO 2-8-2 (1900)



PACIFIC 4-6-2 (1902)



MOUNTAIN 4-8-2 (1910)



BERKSHIRE 2-8-4 (1925)



TEXAS 2-10-4 (1925)



HUDSON 4-6-4 (1927)



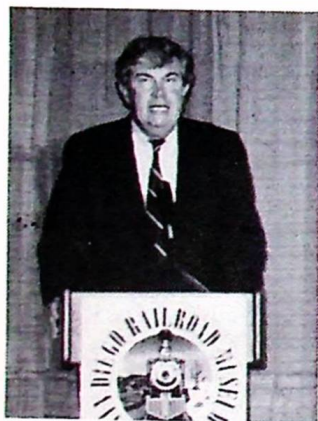
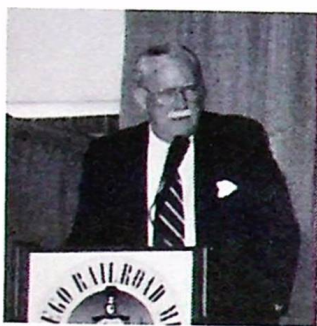
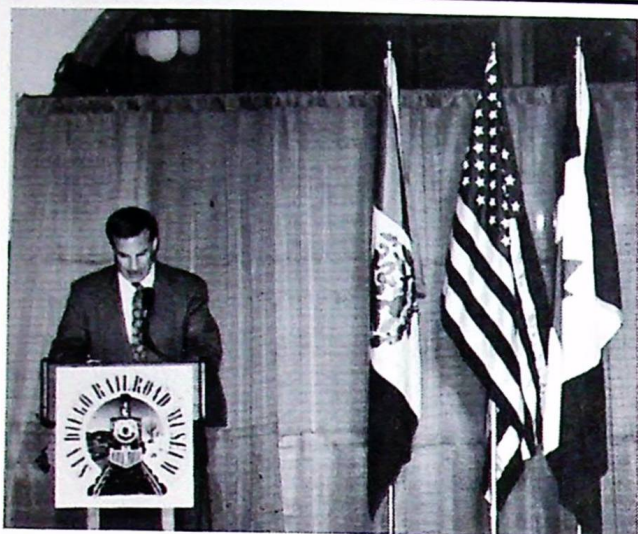
NORTHERN 4-8-4 (1927)



ARTICULATED 2-6-6-2 (1906)



CHALLENGER 4-6-6-4 (1936)



Upper Right (clockwise):
 Congressman Bob Filner, from San Diego, tells the crowd why we need to open the San Diego & Arizona Line to the East.

Amtrak West's Dynamic President emphasized the importance of adequate funding for Amtrak's capital needs in order for Amtrak to be successful.

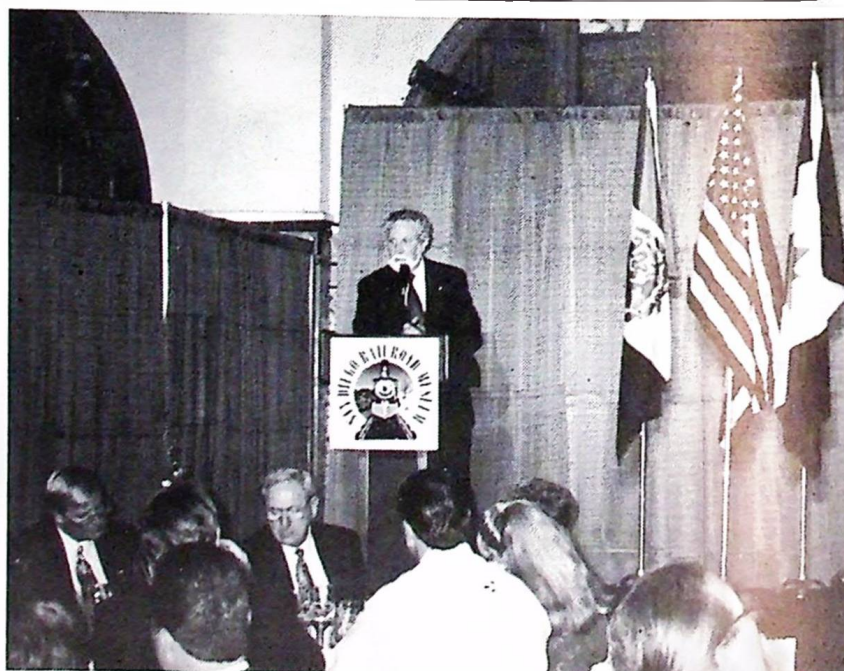
Television and radio personality Ken Kramer kept the show moving smoothly as Master of Ceremonies.

The San Diego World Trade Center co-sponsored the event. Bernie Plotkin of the center explained why opening the SD&A is important to the San Diego import/export economy.

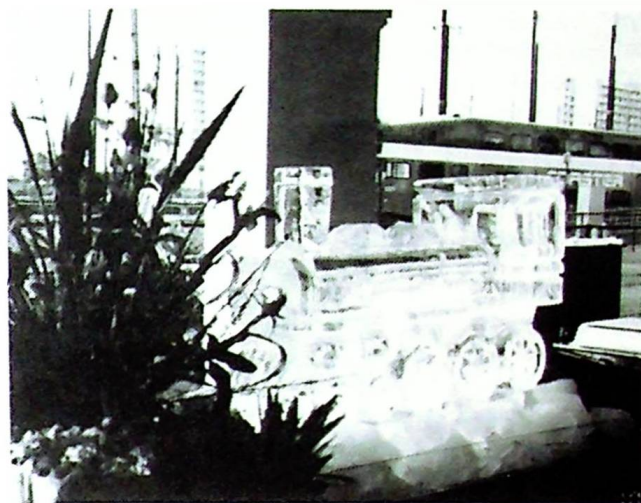
Don Itzkoff, Deputy Administrator of the Federal Railroad Administration, stressed the commitment of the federal government to the rail mode.

Port Executive Director, Larry Killeen, outlined plans for rail/sea cooperation in the future expansion of Port Facilities.

Ambassador John Leonard, U.S. State Dept. Director of Mexican Relations, spoke of the positive impact on San Diego of trade with Mexico, including the role of rail. Both the Mexican and Canadian Consuls were in attendance.



Rail Technology Showcase



October 24, 1996
Santa Fe Depot

*Above:
The Santa Fe Depot
makes an elegant
setting for an event such
as this.*

*Upper Right:
The ice sculpture was
magnificent. The trains
rolling behind added
authentic
atmosphere to a rail
showcase.*

*Right:
The showcase drew a
large crowd of
prominent San Diegans:
Legislators, Mayors,
Councilmembers,
Business Leaders and
Transportation Experts.*



Opposed-Piston UP # D.S. 1366 Was Loewy-Styled F-M Demonstrator

The Museum's only Fairbanks-Morse locomotive, ex-Southwestern Portland Cement # 408 is now being restored to its first-owner appearance as Union Pacific # D.S. 1366 by a Project 1366 team headed by Dave Slater, who earned a Museum "Gold Spike" award last March for the restoration of ex-Army # 1820. As with the # 1820 restoration, funds for the # 1366 work are being raised by Project Manager Dave and his team outside the Museum budget. Dave is also working on GP9 ex-SSW # 3873/3651/830 and ex-USA # 1820. (No, "D.S." *doesn't* stand for "Dave Slater"! Read on!)

Completed by the Fairbanks-Morse Company in Beloit, WI in June 1947, this high-hood Raymond Loewy-styled end-cab diesel-electric demonstrator is the Museum's most powerful locomotive. It was designed for freight use with no short hood, thus has no space for a steam boiler for passenger train use. It's a model H-20-44 road switcher, an HD (Heavy Duty) type sometimes called ... an overgrown yard switcher"! It was one of the first of 96 such single-engine B-B freight hood-type 2,000 hp diesel-electrics; is one of only three survivors; and has an unusual opposed-piston engine, a type of engine also built by Fairbanks-Morse for many Navy ships.

Builder's # L1032 with engine # 866563, it weighs about 254,580 lb. (127 tons); is 51' long, 10'6" wide, & 14'6" high; has 42" wheels in a B-B arrangement (0-4-4-0 Whyte System); and Timken roller bearings. It has a 38D8-1/8 2-cycle opposed-piston diesel engine with ten 8-1/8" x 10" cylinders that develop

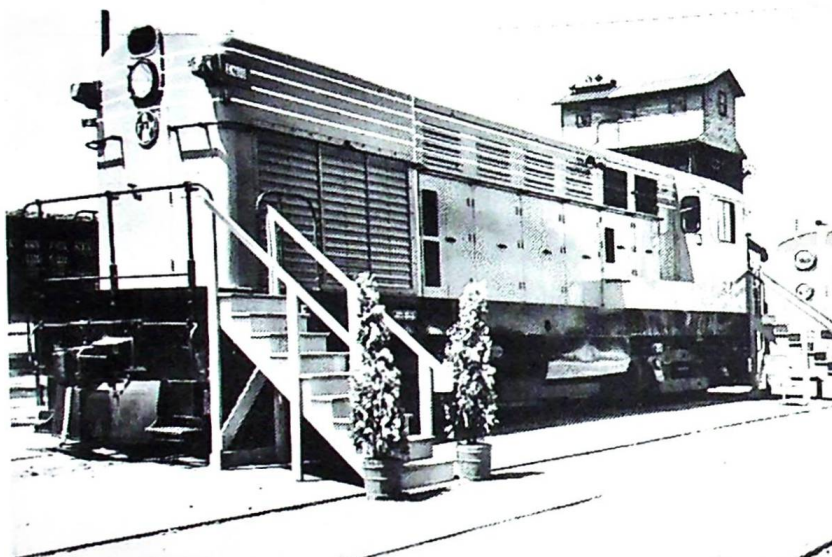
2,000 hp @ 850 rpm. In this system, two pistons work vertically towards each other in the same cylinder. The upper and lower pistons drive separate crankshafts interconnected by a vertical drive shaft and gears with a flexible coupling of coil spring design.

It has four Westinghouse 370F traction motors (a type noted for high overload tolerances), a Westinghouse 474A main generator, continuous rating tractive force of 48,600 lb.; 63.15 gear ratio; and rated top speed of 70 mph (probably closer to 62 mph). Its 1,200-gallon fuel tank can be filled at a rate of 250 gallons per minute. It holds 350 gallons of lubricating oil, 225 gallons of cooling water, and 28 cubic feet of sand. The locomotive has a 36'6" wheelbase and 9'6" truck wheelbase, a 23-degree minimum radius curve, and 150' minimum curve radius. For smoothness, it has a "Power Control" feature, enabling it to be changed from "High Power" (road operations) to "Low Power" (humping).

The unique semi-streamlined Loewy design features rounded windows on the cab sides, a slight slope on the nose, and a vertical oval molding around the headlights.

Numbered FM # 2000 for its horsepower, this and builder's # L1031 (numbered # 2000 without the "FM") were both F-M demonstrators, but painted in different schemes. In red-orange with pinstripes, FM # 2000 was exhibited at the August 1947 Association of American Railroads convention in Atlantic City, NJ. The H-20-44 was ahead of its time (it was 14 years before EMD-GM and GE produced similar units), and as 500 HP per axle wasn't generally accepted at the time, only 96 H-20-44s were sold.

The Union Pacific believed they'd be good replacements for steam helper locomotives, and purchased eleven of them at a cost of \$ 250,000 each, five in August 1947 (numbered D.S. 1360-64) under UP Contract LD 39, and six in

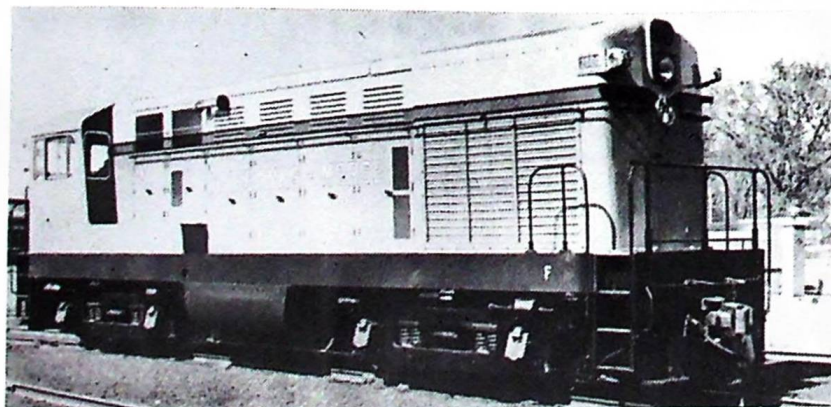


Above: Star attraction at the AAR 1947 Convention in Atlantic City, NJ was FM 2000, the Fairbanks-Morse demonstrator that became UP 1366 (she's ours now!).

Photograph Fred Hess & Son

Below: The Other Demonstrator for the H-20-44 line had a different paint and lettering scheme, and was numbered 2000 without the "FM". It became UP 1365 and was scrapped in 1963 or 1964

Photograph UP RR



San Diego Railroad Museum REPORT

October 1947 (numbered D.S. 1365-70) under UP Contract LD 43. Both demonstrators were in the second group, so received higher numbers: D.S. 1365 (# 2000/# L1031) and D.S. 1366 (# FM 20001# L1032). They were delivered October 17, 1947.

The "D.S." (later deleted) stood for "Diesel Switcher", to differentiate diesels from steam locomotives on UP rosters and reports. All were painted Armour yellow with Harbormist gray hood & cab tops and underframes; red striping & letters; and green cab & engine room interiors. "Serves All the West" and "Road of the Streamliners" were painted on their cab sides.

During its UP service, # D.S. 1366 had dynamic braking (with rooftop grid) added, which was later removed. It was used as a helper in both passenger and freight service over Cajon Pass and from Barstow to Kelso in California's Mojave desert (the passenger trains' assigned diesels providing the steam). However, the H-20-44s had problems with heat and altitude. They could only handle 1,300 tons instead of the 1,500 they were supposed to, and had numerous problems. Ironically, in the summer of 1950 steam locomotives briefly took over Cajon Pass helper service again because of their diesel replacements' initial unreliability in the helper role!

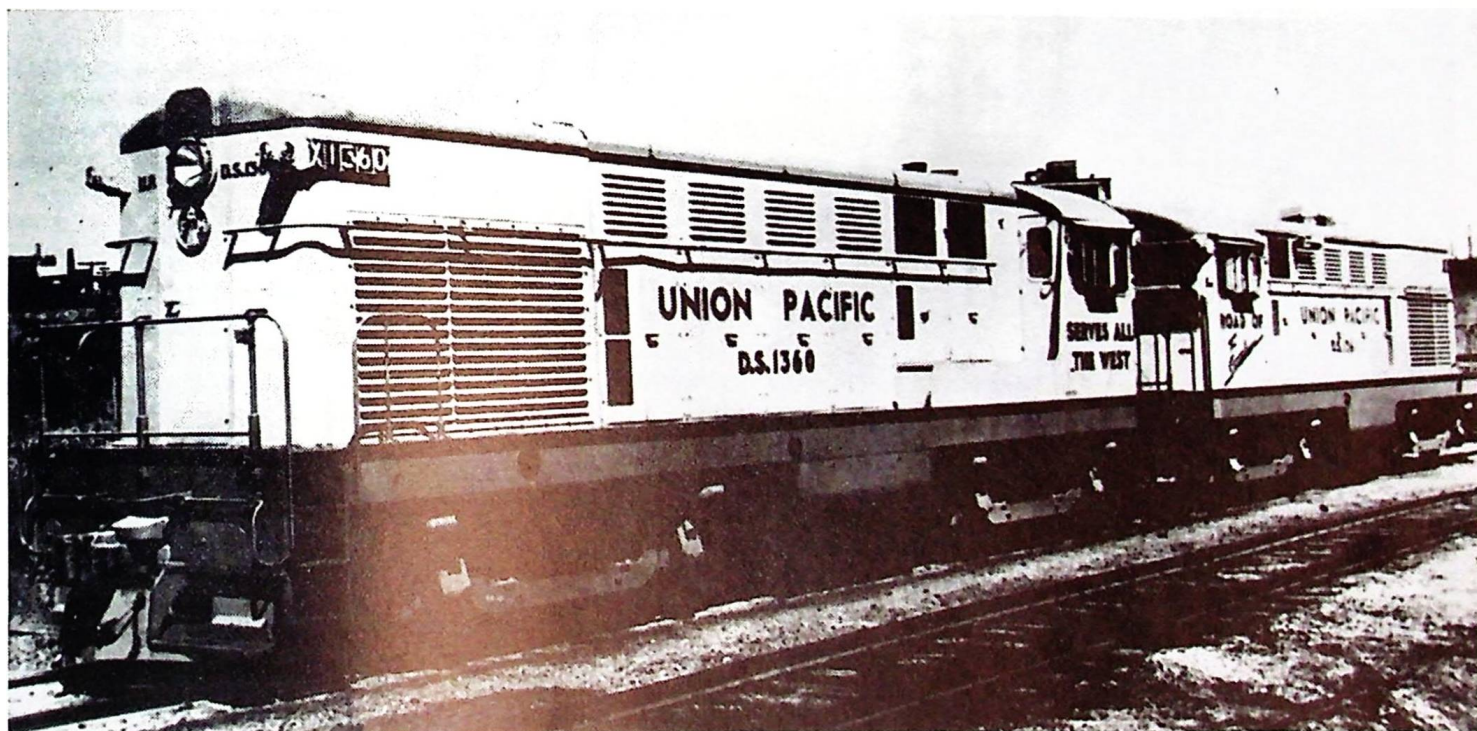
The H-20-44s also proved difficult to maintain, though this was probably more a matter of time and attitude on the part of maintenance personnel. To replace or exchange a power assembly to replace a cylinder liner and its two pistons, the upper crankshaft had to be removed first, making it much more difficult and time-consuming to maintain H-20-44s than other types of diesels. Supervisors and shop crews preferred to work on other locomotives, which took less time. The H-20-44s therefore were not maintained as well as they should have been, resulting in

more frequent problems. A crankcase explosion on UP # D.S. 1366 at Alray in Cajon Pass August 30, 1948, while a helper on UP's eastbound *Los Angeles Limited*, was the result of such deferred maintenance. Ignition flames apparently went past thin piston rings that should have been replaced, and ignited fuel blown into the crankcase.

After fifteen years of service, UP # 1366 was retired in November 1962 and sold to the nearby Southwestern Portland Cement Company in 1963. Its "13" painted over, it worked as # 66 on SWPC's 15-mile Mojave Northern Railroad from Victorville, CA to its mountain rock quarry, handling 500-ton trains on the line's 3.5% grade. (For more on the SWPC/MN, see the MN # 3 article in the last **REPORT** # 258). Air filters were added to its air intake openings for cement plant dust protection, and the cab was air-conditioned for crew comfort in the hot desert. A radio was also added by the SWPC, as were extra side and end guard railings, exhaust stacks, and additional lights on both sides of the cab headlight.

Dual headlights replaced the large front-end headlight, other changes were made in the oval molding, and the F-M nameplate removed. In the fall of 1966, it was used in a Ford commercial, running cab forward. In 1969, the yellow areas were painted green, and it was renumbered SWPC # 408 in red, retaining its gray and red-painted areas.

SWPC # 408 was appraised at \$ 62,000 in August 1983 by Chrome Crankshaft Company President Harry Williamson, who said a similar new locomotive, if available, would cost approximately \$ 870,000. Following many PSRMA visits and letters, SWPC # 408 was donated to the Museum complete with manuals and many spare parts by the SWPC on May 15, 1984 and



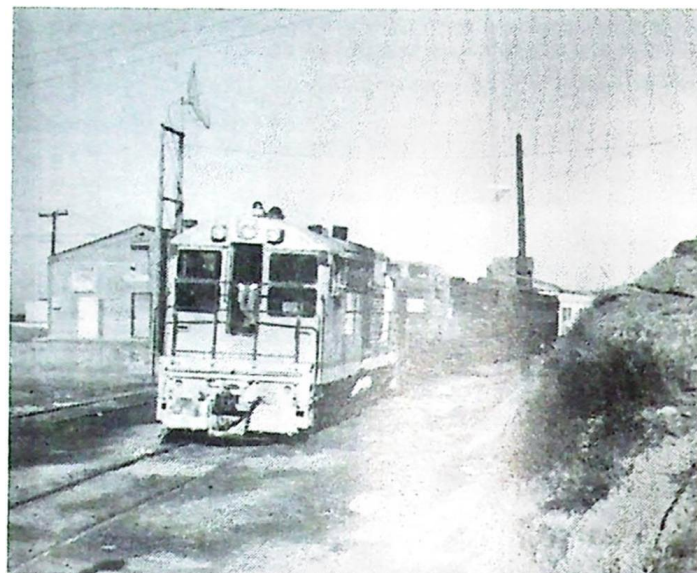
This is how UP #D.S. 1366 looked when delivered to the Union Pacific in October 1947.

Note the lettering, lights and cabside slogans on #D.S. 1360 and 1361. Photo - UPRR

moved free of charge by the Santa Fe and SD&AE to the La Mesa depot, arriving July 5, 1984. Executive Director Jim Lundquist played a key role, working with Edward Cox of the SWPC and the railroads involved. In 1987, it was moved to San Ysidro by the SD&IV, and on February 28, 1987 pulled "Great Freight II" (20 pieces of Museum equipment weighing about 1,460 tons) up the 49.6 mile, 1.4% grade from San Ysidro to Campo at an average speed of 10 mph, with only two brief stops caused by ground relay trips. In March, 1987, it returned to Matanuca (12 miles east of San Ysidro) and pulled the four-car "Great Freight II 1/2" up to Campo.

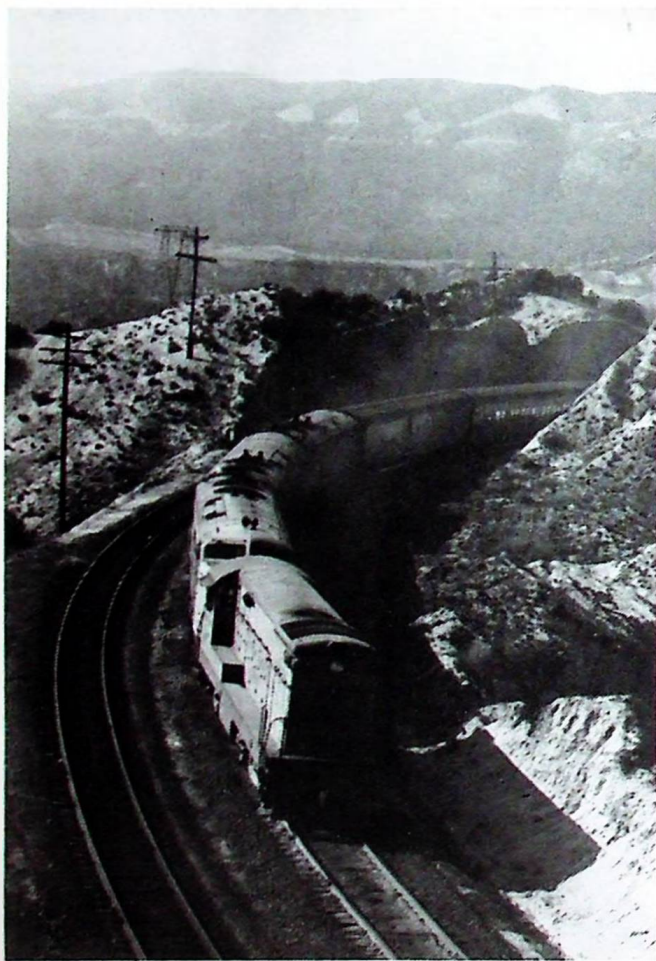
SWPC # 408 has pulled many trains on the Museum's SD&A Railway to Miller Creek and return as a backup locomotive. It was sometimes called "the disappearing locomotive", because when started up and idling, fuel blew by the piston rings and caused great clouds of white smoke to envelop it. Its radio was removed, and in recent years it hasn't operated much due to the Museum's concentration on other locomotives, and limited workers' time for ongoing maintenance. It also needs new batteries,

This unusual locomotive is now being completely restored to operational service by the dedicated, experienced Project 1366



Museum-owned SWPC #408/UP #1366 is about to lead the "Great Freight II" across the border and through Mexico to Campo from San Ysidro, CA on February 28, 1987.

Photograph PSRMA files



In helper server on Cajon Pass, CA in the 1950's, UP #1363 shows how sister #1366 was used in passenger service.

Photograph R.O. Hale, M.D. McCarter Collection

crew (more VOLUNTEERS and MONEY welcome!). The air filters and other items added or changed by the SWPC have been removed or changed back to its UP appearance, but Dave says the cab air-conditioning will be retained and repaired, which will be much appreciated by the crews who'll operate her during the hot Campo summers.

New tinted glass is on order and work is being done on the wood floorboards and many metal parts. Even the door lock is a 65-year-old "Museum piece", and fascinated the locksmiths at GRAF Safe and Lock when Dave took it in to have new keys fabricated!

The locomotive will be repainted UP's Armour yellow and Harbormist gray. According to Dave, it will be given back its original UP # D.S.1366 number, giving our Tourguides and Trainmen something else that's unusual to explain to Museum visitors (what "D.S." means and why it's there)! When restored, it will see regular service, especially with ex-UP coach # 576, ex-UP cafe-lounge # 4054, UP-painted ex-Army hospital car # 89429 rebuilt as an open-air car, and possibly ex-UP lounge car 1531, the *Mexicali Rose*, now stored in Mexicali, BC.

UP D.S.1366 will also be perfect for making up a "UP" freight train, as we also have a UP hopper, boxcar, stock car, reefer, and caboose in our collection.

Bill Schneider

Information for this article was obtained from the Fairbanks-Morse Enginemen's Manual of February 1952; the PSRMA Equipment files compiled by Larry Rose; a 1984 report by PSRMA Chief Mechanical Officer John Ashman; an article by Fairbanks-Morse Manager Robert Aldag in the March 1987 TRAINS magazine; a roster by Dan Dover and Don Strack (with research help by PSRMA member P. Allen Copeland and others) in the Sept/Oct/Nov 1979 Extra 2200 South magazine; information from PSRMA's Dave Slater and Rene Scheuerman (a UP fan!); and photos from B1477 Barbour, Fred Hess, M.D. McCarter, Larry Rose, Chard Walker and the author. Thank you all!

Are Steam Locomotives "Sustainable?"

Aarne Frohom, President, Project 1225, Michigan State Trust For Railway Preservation

We were reading a copy of Ron Ziel's Mainline Steam Revival over lunch at the shop awhile back. That listing of operating steam locomotives is now a few years old. Inevitably, someone asked "What happened to those engines" How many are still running?"

Since 1968 there have been about 30 "large" (say, a 2-8-2, 4-6-2 or bigger) steam locomotives restored for service. Of these, some run conspicuously and often, like the Union Pacific's locomotives or Frisco 1522 or Milwaukee Road 261. Others are eminently runnable, but without commercially-attractive propositions, like Santa Fe 3751 or Cotton Belt 819, or Pere Marquette 1225. Still others are isolated by carriers unwilling to deal with steam engines or excursion trains. Some railroads' plans changed, as with N&W steam program and, surprisingly, some engines that were repaired but never used, like B&LE 643, a 2-10-4 or Reading 2100, a 48-4. But what about the rest?

Where Are They Now?

By our count, over a dozen locomotives that made a lot of miles in the 1980's are now unserviceable. Their owners might wish them to be operable, but they won't run again until repairs are made. Some unserviceable engines are under active repair and will soon steam again. But most of the rest of this class of locomotives are getting desultory work at best, owing to lack of funds or organization. The lesson is that keeping a steam locomotive running in the 1990's is harder than making a derelict engine runnable.

Our locomotive, Pere Marquette 1225, is a good case in point. Locomotive 1225 has been out of action for repairs twice since we first ran it in 1988. Both of these repairs required massive donations from our members and outside supporters. Following our return from the 1991 NRHS convention at Huntington, we thought seriously about the financial philosophy underlay the operation of the 1225. Consulting engineer, Rod Crawford, calculated the numbers and concluded that we should have asked about twice as much of the Huntington conventioners as we got. We faced both a broke bank account and a broken steam engine, and vowed, like Scarlett O'Hara in "Gone With The Wind", never to be that broke again.

Curators With An Attitude

This attitude led in 1994 to submitting a high bid for powering the New River Trains out of Huntington, and in 1995, to rejecting the invitation to run 500 miles for free to the

Steamtown Grand Opening. Being a charity ourselves, we didn't choose to underwrite other nonprofits with the Trust's funds, even if it meant not running the 1225. But the policy paid off when we needed new tubes earlier this year, and were able to pay the entire bill from our reserve of funds.

A popular buzzword in environmental circles is sustainable. Although it's often a euphemism for political correctness, it can mean an industry that doesn't consume capital that can't economically be replaced. We must ask whether steam locomotives are sustainable.

As we try to figure out just what to do with a 1941 steam locomotive in the 21st Century, commercial considerations are never far from our minds. The same is true of anyone who's got one of these machines. The manager of one of today's still-functional engines once said to us,

"People have been getting these engines too cheap for too long." The San Bernardino Railroad Historical Society, Inc. is wrestling with the same questions of housing for their 4-8-4 as we are for the 1225. Their newsletter answers the question, "When will AT&SF No. 3751 run again?" with the terse phrase, "Whenever we can make money!"

That pretty much sums up our approach, too. We interpret the numbers in the article above to mean that if \$1,000 is not set aside forever every day the 1225 steams, or about \$10 for every mile it operates, then the engine will stop running. It may not stop immediately, but it will stop, as surely as if no one throws coal in it. It would be possible to charge less for the use of the locomotive and run it more, but the operation would have to be recapitalized from time to time, either by our members or by outside contributors. But our members have already paid for restoring the 1225 once, and we don't intend to ask them to do it again. And we know it will be hard enough to find gifts from new sources to build a new home for the 1225, without asking donors to underwrite operating losses. While it would be nice to operate the locomotive on every schedule we can think of, if we aren't to consume the capital represented by the 1225, each operation has to pay its own way.

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Aarne Frohom's article has been excerpted, with minor editorial changes, from the November 1995 Michigan State Trust Railway Preservation Newsletter.

Mr. Frohom is President of Project 1225, which operates Pere Marquette 2-8-4 #1225, and is a transportation planner for the Michigan Department of Transportation. We thank him for this thoughtful article.

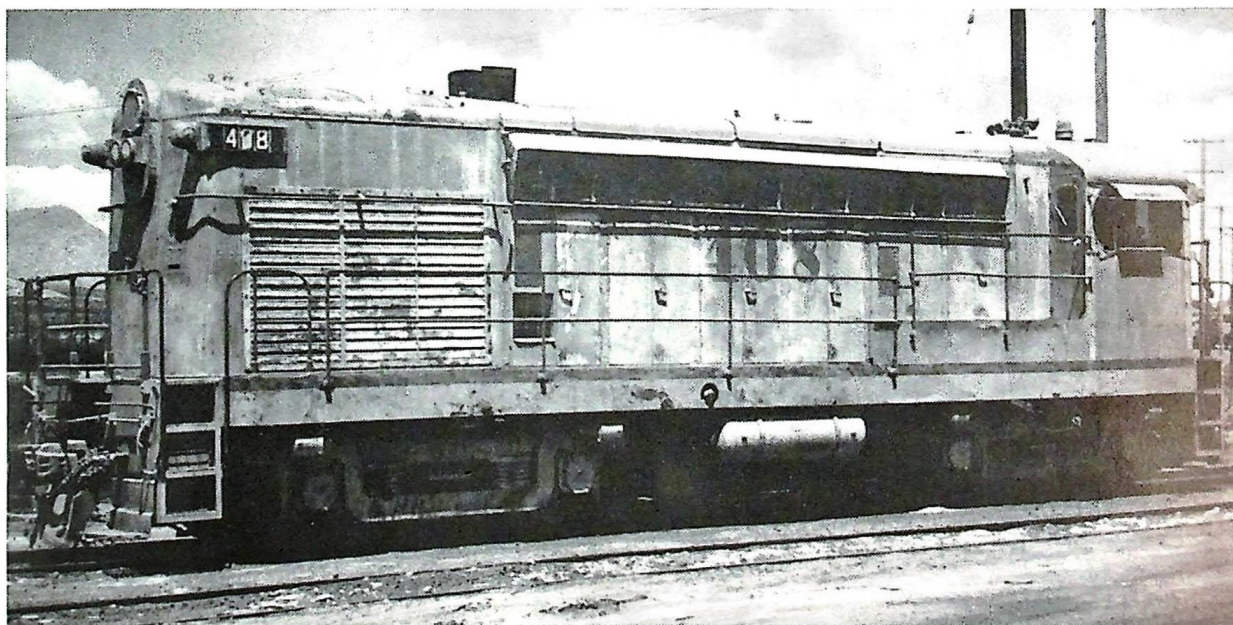
San Diego Railroad Museum
1050 Kettner Boulevard
San Diego, CA 92101
(619) 595-3030



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Renumbered SWPC #408 and her formerly yellow areas painted green, UP #1366 is seen at the SWPC plant in Victorville, CA in the Spring of 1984. Note the SWPC-added air filters, stack and more railing

Photograph B. Barbour