MR
Modern Railroads Rail Transit
A Cahners Publication/January 1980

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6 Sections 20¢

MOPAC'S John G. German to receive coveted 'Man of the year' award

CHICAGO—"An engineer for the Eighties" was selected by Modern Railroads as its 1980 Railroad Man of the Year.

The honor went to John G. German, 58, vice president of engineering, Missouri Pacific Lines, St. Louis.

Selection of Mr. German by editors of the magazine was based on what they considered the event of the year, "the growing industry emphasis on adequate, modern, well-maintained and efficiently utilized rolling equipment and the new determination within the railroad industry to press ahead toward critically-needed technological advances."

Mr. German joins a select group of executives previously honored by the magazine. Among them are Frank E. Barnett, Union Pacific; L. Stanley Crane, Southern Ry.; Edward G. Jordan, Conrail; Dr. William J. Harris, Association of American Railroads; J. W. Germany, Southern Pacific; and Charles Luna, United Transportation Union.

Railroad industry leaders will honor Mr. German at a Chicago banquet on Mar. 10. At that time he will be presented with a bronze sculptured bust and will address an audience at the Western Railway Club.

Mr. German is unique among railroad executives in that he is in charge of both equipment and fixed-plant maintenance.

He is a member of industry councils spearheading the continuing resurgance of technical research, especially in the area of track-train dynamics.

Importance of better track has been recognized as vital by editors of Modern Railroads. One of their earlier selections as Man of the Year was Robert M. Brown, chief engineer, Union Pacific

More Gains Seen In Flatback

CHICAGO—Additional emphasis on flatback will be one of the features of U.S. railroading in 1980, the editors of Modern Railroads have predicted.

Transcontinental operations were [illegible] in 1979 by Conrail-Santa Fe [illegible]nrail C&NW Union Pac[illegible] is expected

speed schedules between Chicago and the West Coast.

Southern Pacific has ordered 50 articulated bulkhead flatcars from ACF for container service. Each of the three-unit cars will handle six [illegible] trainers. Service is expecte[illegible]

Man of the Year

Engineer for the 80's

By Tom Shedd

Man of the Year John German stresses industry approach to solving tough technological, operating problems

John G. German, vice president of engineering for Missouri Pacific Lines, is *Modern Railroads'* Man of the Year for 1980.

Selection of Mr. German followed logically from what the editors of *Modern Railroads* consider the Event of the Year: the growing industry emphasis on adequate, modern, well-maintained and efficiently utilized rolling equipment and track plus the new determination within the railroad industry to press ahead toward critically-needed technological advances.

In his capacity as vice president, engineering at MoPac, Mr. German presides over the maintenance of one of the nation's best-run companies. He's in charge of both equipment and fixed-plant maintenance, a situation that's not yet common in the U.S. railroad industry. He's also one of the industry's leaders in the continuing resurgence of technical research, especially in the area of track-train dynamics.

Explaining how MoPac arrived at its decision to have Mechanical and Engineering report to a vice president, engineering, Mr. German says, "In 1967, when I was made assistant vice president, engineering, the feeling was that we could have certain savings by coordinating the effort of maintenance of way and maintenance of equipment, by bringing together the civil and mechanical engineering sections. We were just beginning to experience serious adverse effects of track-train interactions and this arrangement gave both sides a better awareness of the total situation."

Under common leadership, "the chief mechanical officer and the chief engineer are talking," Mr. German says. "They now recognize that they have to help each other to make it work."

Solve own problems

Now, when problems or work arise involving, say, equipment and track or track and signals, the appropriate people are quickly called in to get to the root of the problem and resolve it. Since the people in the two departments are well acquainted and work well together, they can solve most of the problems among themselves without bringing them to Mr. German. "That's the way I want it," he says.

Under Mr. German's leadership, Mechanical and Engineering are organized in more or less conventional fashion. Don Tutko, chief mechanical officer, oversees the day-to-day operation of the Mechanical section. Under him are Mike Wall, superintendent of motive power, Don Roderique, superintendent cars, Mark Hengel, mechanical engineer, and Charles Lenzini, engineer of tests. A similar organization exists in the Engineering section, where Earl Franzen is chief engineer, design and construction, Don Bertel is chief engineer maintenance and Phil Abaray is signal and communication engineer.

"We have a very young Mechanical department, in terms of age," John German notes. "But they're all well-rounded young men and doing very well."

The most significant railroad event of 1979:
The growing emphasis on adequate, technologically advanced, well-maintained and efficiently utilized rolling equipment and track.

The Man of the Year for 1980:
John G. German, vice president engineering, Missouri Pacific Railroad Co.

Other major railroad events of 1979:

*Completion of Burlington Northern's 116-mi Gillette-Orin line, the longest new stretch of railroad built in the U. S. since 1931.

*The growing sentiment and legislative push for a loosening of federal regulation of the railroads.

*The financial crises of the Milwaukee and the Rock Island, and the resulting likelihood of major restructuring of the industry in the Midwest.

*Opening of the first segment of the new Atlanta Metro rail transit system.

MoPac's locomotive bad order ratio is only about 3½ percent. Gear ratios, traction motor ratings and wheel diameters are chosen so that the road's three general types of power can be intermixed.

"We have a very young Mechanical department, in terms of age and experience"

Under John German's leadership MoPac has followed a motive power policy that stresses flexibility, compatibility and concentration of the maintenance work. "When I came here (as chief mechanical officer in 1961, from the Great Northern Railway) we had 37 different locomotive models from five different builders, ranging from 800 to 2400 hp," he recalls. "You can imagine the problem we had training the men to work on all those different models at every maintenance point. We concentrated the work on certain models at single points and worked off the obsolete units as soon as possible."

Today, on MoPac's 12,000-mile spider-web network of lines in the Midwest and Southwest, there are only five shops that do heavy repairs on motive power: North Little Rock, Ft. Worth, Kansas City, St. Louis and Houston. And only two of them, North Little Rock and Ft. Worth, do major component work such as rebuilding engines and power assemblies. "They send overhauled components to the other three locations.", Mr. German, explains.

Currently MoPac's fleet contains only EMD and GE units. The GE's are all maintained at St. Louis; "but the fleet is growing and we'll probably shift some of them to another location by 1981."

Of MoPac's fleet of 1280 units, only about 3½ percent or about 45 units, are normally out of service more than 24 hours for repairs (although at any given time some 85 to 90 units may be out for servicing, light and heavy repairs or inspections). Keeping the bad-order ratio down to 3½ percent is a problem because, like other railroads and the locomotive builders, MoPac is experiencing unprecedented difficulties in obtaining repair parts.

MoPac has followed a conservative policy on locomotive acquisitions. It has not acquired high horsepower models—over 600 hp per axle. On these types, "the state of the art couldn't keep maintenance under control; and besides with our short ruling grades we needed tractive effort at that time. Units like the SD40, GP15, GP38 and B23 fit our needs well.

"However, the builders have now advanced the state of the art in adhesion and wheel-slip control. They seem to deliver more horsepower per axle without excessive maintenance costs. On many of our high horsepower/trailing ton runs we would be able to use three of these units instead of four or even five smaller units. Of course, such high horsepower units must not be abused in drag service."

Ideally, John German believes, MoPac's fleet should include three general types of locomotives: 1500 hp four-axle units for yard, transfer and local service; 3000 or 3300-hp, six-axle units for heavy duty unitrain service; and 2000 or 2300-hp, four-axle units for general service. "Our fleet is going this way," he says, "and we choose gear ratios, wheel diameters and traction-motor ratings so all three types can be intermixed in multiple. We don't believe in hitching race horses to mules."

MoPac also does not believe in completely rebuilding old locomotives as is being done on a number of railroads. "Those locomotives are becoming obsolete and you will have increasing difficulty obtaining basic engine components. We prefer to trade or sell off our oldest units and purchase new locomotives to quickly bring the latest state of the art into our fleet. This reduces initial repair costs for a considerable time as compared with rebuilding in kind."

John German is a man whose heavy executive responsibilities at his own railroad do not prevent him from working actively on industry concerns.

A third-generation railroader, John George German was born in Devils Lake, N.D., in 1921. He graduated from Case Institute of Technology in 1943, with a bachelor of science degree in mechanical engineering.

He spent the first 18 years of his railroad career with the former Great Northern Railway, starting as assistant to the master mechanic at Spokane, Wash. Subsequently he was promoted to traveling engineer, then to master mechanic, serving in that capacity at Grand Forks, Great Falls and Seattle. In 1958 he was appointed assistant to the chief mechanical officer at St. Paul, and a year later was made superintendent of motive power.

On September 1, 1961, he left GN to become chief mechanical officer of the Missouri Pacific. In 1967 he was made assistant vice president engineering, with jurisdiction over both maintenance of equipment and maintenance of way for all MoPac lines. He received his present title, vice president engineering, in 1975.

His concern for industry matters shows clearly in his membership in a large number of railroad groups and professional societies. Among them are the American Society of Mechanical Engineers, in which he was elected to the grade of Fellow in 1978; the American Railway Engineering Association, American Railway Bridge & Building Association, Roadmasters and Maintenance of Way Association; Air Brake Association, Car Department Officers Association, Locomotive Maintenance Officers Association, Railway Fuel & Operating Officers Association and various regional railway groups. He was the first president of the St. Louis Railway Club and last year was chosen the club's Railroad Man of the Year.

Since 1959 Mr. German has been active in AAR affairs. He's a member of the AAR Research Committee and Chairman of the Track-Train Dynamics Steering Committee. Previously he has served as chairman of four AAR committees: the Special Locomotive Committee, Mechanical Division General Committee, Joint Technical Coordinating Committee, and the Mechanical Division Subcommittee on Research. He has also been co-chairman of the Track-Train Dynamics Train Handling Review Committee, FRA Liaison Committee, and Inter-Industry Mechanical Officers Committee.

He's also had the opportunity, both on his own and as a member of industry groups to observe railroad operations and maintenance in number of overseas countries, including England, France, Switzerland, Austria, West Germany, Czechoslovakia, Poland, Finland and Russia.

John and his wife Mary and stepson Steven reside in Kirkwood, Mo. His son John is headquartered at San Diego, Ca., as sales manager for a manufacturing firm and his stepdaughter Debbie works for a truck line operation in St. Louis.

John German has kind words for the locomotive builders: "They've done a consistently good job of improving locomotives over the years. When I started my career, on the Great Northern in 1943, we were just getting into the FT's—1350 hp on four axles. Now they offer 3600 hp on four axles within practically the same envelope—really a tremendous improvement. So the builders really deserve a pat on the back—even though we may raise hell with them for some things that we think they haven't done, or haven't done fast enough."

A young car fleet

MoPac also has an excellent freight car fleet and again, it has sought to standardize designs and concentrate the repair work. "We have few cars over 30 years old, and few 40 or 50-ton cars left.", says John, German. "We do all our heavy car maintenance in five shops." The largest is at DeSoto, Mo., which is geared primarily to major repairs and heavy rebuilds of open top and covered hoppers. Palestine, Tex. concentrates on house cars; Sedalia, Mo. on cabooses, outfit and specialty cars; Barton St. (St. Louis) on insulated cars and Marshall, Tex., a small operation, handles changes in car interior equipment and maintains MoPac's small fleet of aluminum covered hoppers.

For some time all wheel and air brake work has been centralized at North Little Rock, Ark. "Our automated wheel shop that we opened in 1964 is better now than the day we opened it," John German says proudly. In 1964 roller bearings were 5 percent of the work; now they're 85 percent. "We designed and built our own equipment to pull and press on roller bearings."

The DeSoto shop periodically does build some new cars; but, says John German, "we like to take care of needed repairs and get the bad order ratio down to around 3 per cent before we start building cars (it's currently about 3.6 percent)."

What about freight car technology? Modern train operation has greatly increased the stresses frieght cars have to withstand, and many cars have been underdesigned, especially in the body bolster, side sill and door opening areas. "The Track-Train Dynamics program has opened our eyes to the types of forces we must cope with, and we've been doing everything within our power to reduce those forces through better train handling, different types of operations and better car designs, often using alloy steels. From now on, I see nothing but improvement in freight car construction and performance."

Many of the operating and maintenance problems of freight cars and the track are due to the conventional three-piece freight car truck, with its tendency to hunt and to get out of tram thus causing uneven wheel wear. Some of these problems might well be solved or minimized with some of the radial and other "premium" trucks now being tested. But, notes Mr. German, such trucks may cost as much as double the price of standard trucks; and a chief mechanical officer has to have solid justification before he can ask his management to approve such a major additional expense.

"TTD, TDOP (Truck Design Optimization Project) and FAST will give us the necessary answers," he says. Back in 1970 Mr. German was chairman of the Joint Technical Coordinating Committee composed of chief mechanical officers and chief engineers who made

"We have to design cars we can live with in the future and retrofit ⅝ to ⅔ of the present fleet to live with for 15 to 20 years"

the recommendation for a research program to get at the root of "derailments without apparent cause." From that grew the on-going Track-Train Dynamics program, and John German has played an active role in that program ever since.

TTD has already produced important new information about train handling practices on major railroads.

But much of that information is very complex and is not easily reduced to a form that can be readily understood and applied in the field. That means more engineers. In recent years both the mechanical and civil engineering offices have declined considerably on most railroads. And TTD is not just a concern of the mechanical engineers; the civils must also get involved. Says Mr. German, "The industry will have to recognize that we live in a much more sophisticated world, and that we will have to augment the engineering offices on our various railroads to get the benefit from all this research."

"We live in a much more sophisticated world; we will have to augment the engineering offices of our railroads to get the benefit from all this research."

The 100-ton car problem

An ad hoc committee is presently looking at the 100-ton car, trying to come up with a design that will retain the 100-ton capacity but will have more nearly the dynamic characteristics of a 70-ton car. Mr. German is optimistic that with the introduction of state-of-the-art technology and current knowledge in such areas as the dynamic parameters of car design, this can be done. The design of course must prove cost effective under accelerated testing.

"We must design cars we can live with in the future, and we also have to retrofit a major portion of the present fleet to live with for the next 15 to 20 years. But I can assure you this program is very high on the TTD priority list. We are now past talking about this problem, we are now doing something!"

One thing about 100-ton cars, John German emphasizes, is that track has to be maintained to high standards. "Track that is in good line, surface and gage and is well drained can carry a lot of heavy tonnage. But the track problem overshadows the whole picture. Without a decent rate of return many parts of the country's railroad plants have deteriorated badly, some almost beyond the point of no return. How do we get them back in shape? The country is growing, and the railroad share of intercity traffic will grow; in fact with the present energy situation the railroad share should grow even faster; but many parts of the rail system can't even cope with today's traffic."

The big industry problem in the track area, as John German sees it, is to get ties and rail installed faster in the medium-density corridors, which are the ones starting to suffer on most railroads. "There is no doubt that heavier gross tons alone will wear out a railroad, regardless of 100-ton cars." There is a need for better track fasteners, regardless of the kind of tie used, and a need for better ties.

"From a technical standpoint, the concrete tie is pretty well developed, but from the economic standpoint it still isn't acceptable. If we could get the initial cost down it would make sense, as it adds much more stability to the track structure. The big question still is how well will the fasteners stand up under the live loads of American railroad service."

For many years John German has been active in many railroad organizations, notably the AAR for which he has served as chairman of numerous regular and special committees (see box). How does he see the role of these groups?

"There is no doubt they are very important," he says. "They are the focal points for the exchange of ideas. Through groups such as the AAR, the ASME or the LMOA the industry can focus on problem areas and bring in teams to resolve problems that no single railroad could hope to resolve by itself. Without the AAR you could not have had the Track-Train Dynamics program. The AAR had the organization to work through and they had the people to draw upon; it was just a question of redirecting their activities."

Is the traditional volunteer committee system still viable in this period when railroad forces are stretched so thin?

"You have to recognize that any man who works on a committee will spend a lot of his time on such work, but most people don't have any surplus time so committee work can easily dip into personal time. It is most important to not have a big committee, but to have a small one with the members carefully chosen for geographic balance and the necessary expertise. A 30-man committee is not a committee, it's a herd!

"More attention must also be paid to who gets on a committee. The railroad must send someone who can contribute, not a neophyte. And the railroad must back him up. There is nothing more frustrating for a committee member than not to be able to attend the meetings or get the backup information he needs because he doesn't have his management's support."

Nearly 37 years of continuous service have left John German still optimistic about the future of his industry.

"If we can get public recognition that perhaps one-third of our railroad mileage should be retired, the remaining two-thirds could become healthy again. I still feel that stronger railroads will get an increased share of the total traffic and will perform a great service to the country.

"I don't see too much change over the next 10 to 12 years in the commodities we'll be handling. I *would* like to see fewer special cars. They just reduce utilization. Other parts of the world don't go in for special boxcars like we do. When we get smarter on track-train dynamics we'll reduce in—transit damage and we won't need such expensive load protectors!" ■

For information circle 18 ⟶