

JULY 1969

"BAR" CARS FROM BRAINERD
COMPUTER TALK
MANAGEMENT SHORTCUTS
WAY OUT IN FRONT
"CLICK" JOINTS



WITH NORTHERN PACIFIC RAILWAY

VOLUME 1 NUMBER 3 JULY 1969

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Underframe of a new Ply-Pak car takes shape in blue light of a welder's arc at the Brainerd shops.

SARS-FROM BRAINERD

A toast to NP's new Ply-Pak equipped cars for plywood shipments



Finished cars get final touch-up on shipping track.

One wag calls them bar cars. Kind of appropriate. Because they're almost always loaded. With plywood, that is.

That's the ultra-popular Ply-Pakequipped cars built at Brainerd in April and May of this year and back in '67-'68. Five a day came off the line in the latest program, conducted under what's tabbed the Critical Path Method (CPM) of ordering components and scheduling and controlling production. Man, did those cars move.

Like, bang. Through nearly 30 construction spots and right out to western plywood shippers, who keep clamoring, "More!"

W. Don Miller whelped the idea for this car. He retired from NP as general freight agent, Portland, last year. Now he's president of Transport Equipment Co., same city, which controls rights to manufacture of the car, 300 of which we've built.

Up Brainerd way they work at it like every man jack had a fishing date to keep in five minutes. No kidding. Ask Ed Heikkenen, extra man.

"When a welder's sick or on vacation, I get called. So I've been around off and on," he says. "When they work freight car repair; when a new car program is on. And when these guys work on programs like this, they go like blazes. Everyone. I have a rough time keeping up."

He shakes his head and goes back to plug-welding car sides to side sills with his Airco automatic rig. Ed, by the way, is a county commissioner up in Crow Wing County. Nobody was around to hear his astonished praise. So you know for sure he wasn't looking for any future votes.

Funny thing, though. Customers who've used them vote for Ply-Pak cars every time. Wherever the cars go they get raves. And no wonder.

More than 95 million square feet of panels have been moved by NP in them. Yet not one damage claim has resulted. How about that, John Dean? Love it, don't you? But looking at the cars from outside you'd never guess they're different from a lot of new 50'-



Welders swarm over underframe in laydown jig.

6" boxes. Except for the bright green paint, applied by John Dixon. Who looks like a displaced, miniature "Jolly Green Giant" at the end of a Brainerd day's work.

Too, there're 16-foot double doors and "Ply-Pak Equipped" signs on each side. But inside is the story. And that's where the bars are.

All along the sides, including door openings, are hollow, 1/4-inch-thick extruded aluminum bars that fit into floor sockets and roof brackets. Answers to a plywood shipper's prayers. Because they've got rounded edges as an antigouge feature and permit loading 36 bundles banded 21/2 feet high. All in about a half hour.

The bars are hollow, with holes drilled in them. Their sockets are open at the bottom, and air can be sucked out of the car when it's moving. So panels are loaded right off the hot press without cooling and drying.

An Oregon shipper prefers the cars to any other because:

"1. Cars are clean upon arrival. No dunnage or trash to be removed. 2. Many conventional cars have bowed ends. Ply-Pak cars, with bulkhead ends, need no preparation, thus eliminating wasted labor and material. 3. They are very fast loading vs. "D.F." and conventional wide-door cars. Approximately 30 minutes vs. an hour to an hour and a half. . . . "

Others note that the bars keep loads from getting jammed in the doorways. That blocking and bracing of loads — which costs time and money — is a thing of the past. That they hope to have use of the cars for all their plywood plants. That they can easily save \$50 per car shipped.

A lot of NP people were deeply involved in helping Ply-Pak to make the big scene. Harry Bowie, mechanical engineer, and his team ironed out a few early design blips, working with Don Miller and his concepts. Bill Shannon, chief mechanical officer, and George Webster, super of the car department, fell in with Bob Gilbert's idea to explore and use the CPM for construction on this program. From there, the men at Brainerd took over.

Clarence Jordan, shop super, through Dick Gross, general car foreman; Walt Armstrong, car foreman in steel fabrication, and Kermit Kunde, car foreman for assembly; Bob Endres, welding supervisor; Eino Nelson, paint shop foreman, as well as supervisory people in the store department bird-dogged every rivet, weld, sill, door, side, end, roof, coupler, wheel, stencil, etc., right through to the end. And Lem Quillin kept a watchful eye on the CPM flow chart and what was going on out on the floor.



Car interior shows bars stored in bulkhead.



Lawrence Bourassa uses submerged-arc welding machine to join end sections.

That's where the real car builders shine. With their welding gear and cutting torches, wrenches and 16-lb. sledge hammers, cranes and blocks and jigs.

Building the car really started with buying all of the components. To have them on hand as needed. But the car itself doesn't begin to take shape until parts for the underframe are put in place in the laydown jig.

Here, such components as floor stringers, crossbearers, end castings, center sill, bolsters, side and end sills, etc., are dropped in for tack welding and some finish welding, all under the steady hands of guys like Lyle Austin, Gordy Peterson, Bud Newman, Alex Paycer, Bob Grant and Al Andrews. In all, six welders and three carmen toil at this station. And when they've finished their jobs, the overhead crane hoists the underframe ahead to the turnover iig.

This device is a Northern Pacificdeveloped, motorized deal that lets the men rotate the underframe 360° to permit all welding to be done in the down position. Bob Flansburg, Len Larson, Pete Kline and Norris Potvin are among the welders who work this station, turning the air blue with light and smoke from their vital operations.

Moving through several more stations, the underframe is finally completed and ready to be lifted onto trucks assembled by Monk Montgomery and Howell Laughton. Now the car starts to look like one. Because the sides go on, the ends (welded together with an automatic machine by Lawrence Bourassa and Kip Killian), the floor pieces, couplers — added by Bill Fox and Bill Abrahamson, the latter driving in coupler keys with the ease the rest of us drive a tack—doors and roof.

That roof is a job, too. John Kranz, Rod Sands and Don Rademacher put together many single sheets and seam caps with cement, then rivet them all together before H. K. Sorsveen lifts the whole thing with a "centipede" on his crane and places it ever so gently onto the top of the assembled car.

Of course, this leaves out the bulkhead assembly, application of end ladders, grab irons, placard boards, and a lot of other smaller jobs. But they get it done and then Jim Ahlgrim runs his transfer table back and forth to move the car into the paint shop. That's where Dixon and Felix Baakkonen and other painters take the car and doll it up like a model builders delight.

After five cars are finished and checked out each work day, they're moved over to the shipping track, complete with bars stored in the bulkhead spaces, ready to head out to an excited shipper.

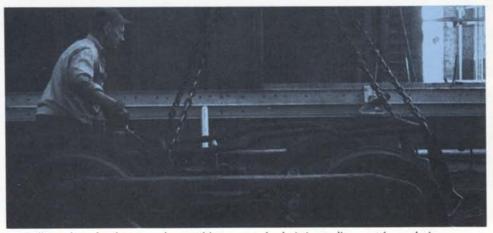
That's the Ply-Pack car. That's NP's Brainerd shops. All doing a great job for the company. What a combination!



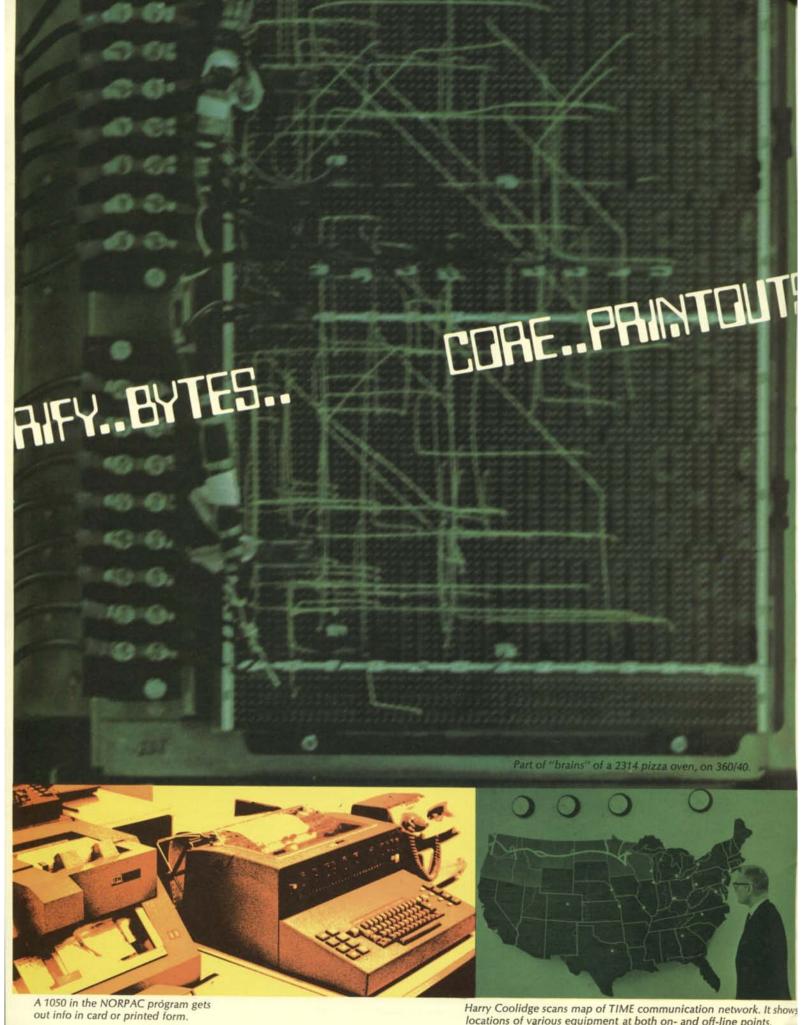
Don Miller shows hard-hatted Duane Richardson, General Agent, Everett, where bars fit into doorway of loaded cars.



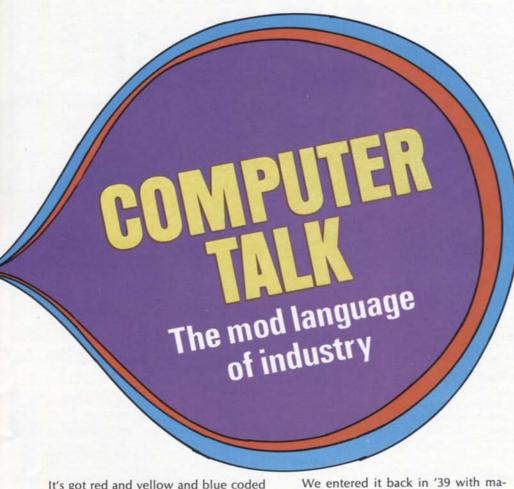
Welding a completed end to car sides.



Howell Laughton hooks up truck assembly to crane for hoisting to line spot for underframe.



locations of various equipment at both on- and off-line points.



It's got red and yellow and blue coded machines. Flashing lights and a staccato beat that turn you on, almost getting your feet to tap it out like go-go jive. But, cool it, Jack.

All it does it print out, punch out, check and match with whirring tape drives, disk packs and /65's. "What's

all that?" you ask.

It's a long white room where men compute. Payrolls, revenues, station accounting. Market reports and traffic data. Personnel analyses and addresses for GO!, our magazine. NORPAC, ACTION, TIME, NPBA and TPC. There's just no end to what they do.

The language is new and there are few who know it. Because this is our new and growing computer room. And if you think the upcoming moon shot is progress in space, how about NP in the computer race?

chine accounting for freight accounts. Punched cards did the work. But that's ancient history now. We really climbed into the computer age 12 yars ago. With what Glenn Krahn calls an IBM Type 650 Magnetic Drum Data Processing Machine. Even so, that job still used those little punched cards. That was the first generation.

Since then each type has begot another. And it makes you wonder if there'll ever be an end-all device. In '61 we got a fourteen-oh-one. It had magnetic tapes. All hooked up with a 600-lines-per-minute printer and 12,000 positions of core storage. (No. Not apples. Computer language stands alone. Like Greek and analyt or calculus and Sanskrit.) Then.

Two years later we jumped by nine to a 1410 and 40,000 positions of core

storage. That's a memory box, in a manner of speaking. A year goes by and along comes a printer that bangs out characters at the rate of 1,100 words a minute. And in the past couple of years we've come on like Gangbusters. There's a 360/20 and some 360/40's (both blue and yellow). A 360/50 and now we're moving in 360/65's. We've got 2540's: card readers and sorters which can also punch. Plus 2701's, 2702's and 2703's that bring data in from transmission devices like the 1050's and 2780's out on the line for tracing cars and other jobs.

The /65's have memories that just won't quit. They're 2314's. The buzz words are "pizza ovens" and bytes and 1,024 K. And you have to be IN to know

what these mean.

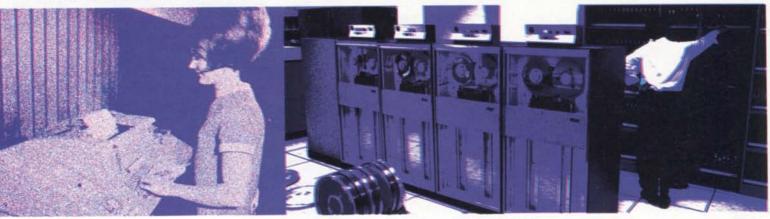
Those ovens are disk packs. The disks being files of information stored in bytes. A byte is a "crammed bit." Meaning it holds two numbers in place of one under the old set up. And 1,024 K is an indication of the volume of information a disk pack can hold: more than a million bytes. In NP's new computer works, we have the capability of storing up to 25 million of them.

A 360/65 has twice the capacity, in this respect, of a 360/50. And since it's indicated already that our need for lots of information, almost instant retrieval and rapid communication of same in the near future will outstrip our capabilities with 360/50's, we're going to the

360/65 early.

Words such as input and output are rather common today. But they're still the most important operations in electronic data processing. They mean what programmers put in and what the machines put out.

Fellows like Harry Coolidge, director of data processing, and Dick Wolzan, his assistant, are fluent in this language. So's Glenn Krahn, of course. He's director of data systems and processing and has been working for many years to keep us abreast of changes. To make certain that NP utilizes its hardware to the fullest extent possible.



Bell System employee demonstrates new machine that NP is considering as addition to its set up.

Magnetic tape units, 2401, two 2402's and a 2404.

Jerry Cassidy and Ray Taylor at panel of a 2040 processing unit. Lights indicate computer work.



Hardware. That word keeps computers in their proper place. As Glenn has said, "A computer knows nothing. By itself it is completely helpless. You can push the button and nothing will happen."

"To give it life, in effect," he explains, "instructions must be fed into it — through the media of punched cards, paper or magnetic tape. These instructions — to do a problem or complete a certain process — are called a 'Program.' The computer still needs man to tell it what to do, and to amass the input data upon which it will act."

Those who do this work are called programmers. And today, well over 100,000 people are employed in this occupation, which didn't exist in 1950.

A computer system, according to Glenn, consists of three main areas: input devices, such as cards, paper or tape; a central processing unit, or "main frame," where the calculations, classifying, editing, storage, etc., are accomplished, and the output devices. Again, these are printers, cards, paper or magnetic tapes.

A program may be written in machine language, symbolic or problemoriented. In the so-called higher level languages, the programmer uses predominately English language terms or abbreviations associated with the job or problem. Compilers are used to translate this sort of instruction to language the computer can understand and use.

Harry Coolidge uses a military organization anology to describe his department's operation in relation to the other departments of the company.

"We're a service organization, and our whole function is to service other departments. Making money for them by our processing. We handle hardware and get out data from information that is provided to us," he says. "So we're what you might liken to a staff organization as compared to a line organization. In corporate language, the line is responsible for profits. We give the tools and information for them to act on."

Who are the people cogs in this process? Jerry Glenna is one. In fact, the newest. He started as a key puncher and now has been trained as operator of the 360/20, the room's workhorse.

As Harry put it, "We use the /20 to our advantage. And more like a card machine than a computer. It's a preparation machine, supporting our other equipment."

Gerry DelZotto and Jerry Cassidy are chief electronic operators, and Ray Taylor is an electronic operator. They put the blue and yellow /40's (the message switching battery) and tape drives and disk packs through their paces. Soon they'll be using red /65's, too. These will replace the /50's, which are just temporary additions for use in the TOPS program.

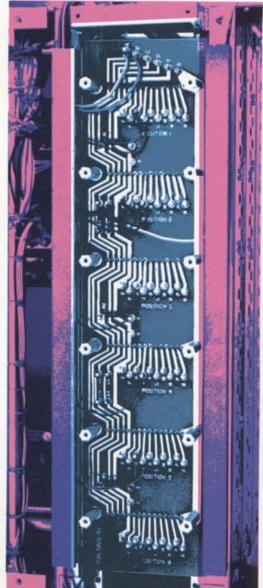
Stan Kroski is another operator, but Jim Pruett is a "systems man," frequenting the room for George Thompson. George is director of operating data systems. And behind these people are many others. Tabulators and verifiers, key punchers and programmers. And they're important.

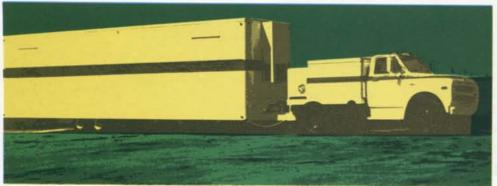
They perform the tasks of getting information. Putting it into computer language. Getting it onto cards. Making sure it's all accurate. And this is a good thing to keep in mind.

Even if, one day, the whole company is sort of run from this room, NP'll still need people to man the room and back it up. To sell our services. To keep our equipment and roadway in good condition. Etc. Because people run railroads. Machines don't. Despite the fact that they will help place us at the top of the transporation industry of this nation. That's where we're going.



Not a TV set, but a 2260 display device. Operator types question to computer and gets answer on screen.





Truck unit with computer equipment in trailer is used to train personnel on line

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--XMAKING NEWS X--

TRANSPORTATION WOMAN OF THE YEAR



Mrs. Margaret Brentwood, secretary to the western traffic manager at Seattle, was named "Transportation Woman of the Year" by the Seattle Women's Traffic and Transportation Club.

The award was bestowed upon Margaret during the Railroad Day luncheon culminating National Transportation Week activities in the Pacific Northwest.

Margaret has been a member of the sponsoring organization for twenty years. She is currently serving as a trustee on the board of directors. She is also regional vice president of the Associated Traffic Clubs of America.

FUTURE OF RAILROADING

Pierce County civic leaders, working to formulate the community-wide long range policies making up their "Designs For Progress" program, heard

F. L. Steinbright, vice-president, executive department at Seattle, speak on "Rail Transportation in Pierce County's Future" at Tacoma on May

Steinbright represented the rail industry on a program that also included speakers from the state highway department, the airmotive industry and the city planning commission.

Basing his forecast on what railroads have accomplished in the past few years and on projections for the future, he emphasized that railroading is not a static industry and will continue to be an integral and indispensible part of the total transportation system.

He cited the need for a combined effort to relax legislative restraints and plodding government action with respect to mergers. A sketch of the industry's most recent trends in management, diversification, equipment and operational improvements was made to give the group an idea of the "direction in which the industry is heading."

Steinbright also discussed mass transit, port development, intermodal transportation and industrial development as areas where joint efforts may help the communities reach their objectives.

L. W. MENK ON NATIONAL BOY SCOUT BOARD

Louis W. Menk, Northern Pacific president and chief executive officer, has been named to the national executive board of the Boy Scouts of America. Menk, who is a member of the executive board for the Indianhead Council, Boy Scouts of America, St. Paul and a member of the advisory board for the Chicago Area Council, was elected to the new post at the 59th National Council Meeting on May 22 in Boston, Mass.

The meeting was attended by some 3,500 leaders representing 500 local Boy Scout councils.

JANICE BARNERD WINS

Janice Barnerd, who has worked part-time for the Northern Pacific, and full-time during summers, in the Seattle area, has been awarded the national \$1,000 Fred A. Hooper Memorial Scholarship by the Women's Traffic and Transportation Clubs of the United States.

Last school year Janice was a junior in mathematics at the University of Washington. She attended Bryn Mawr College in Pennsylvania her first two years and plans to return there for her senior year. She received scholarships at Bryn Mawr during her first two years.

Janice is the daughter of Mr. and Mrs. K. E. Barnerd of Seattle, Barnerd is superintendent of the transcontinental freight bureau at Seattle.

The award was announced by Jo Arnold, president of the Women's Traffic and Transportation Club of Seattle, at a special luncheon on "Railroad Day" during National Transportation Week. Janice was sponsored by the Seattle group.

MAKING NEWS CONT.

OFF TO LOOKOUT MOUNTAIN

Sharon Wise, below, is off to Lookout Mountain, Tennessee, to attend a six-week Youth Leadership and Training Program at Covenant College.

Sharon is the daughter of L. C. (Cal) Wise, supervisor of the regional station accounting office at Seattle. She enjoyed the first leg of her trip to Tennessee, from Seattle to St. Paul, in the jump-seat of the NP's Fan-Jet Falcon - her first plane ride.

One of 40 students selected from applicants throughout the country to attend the program, Sharon is a student at Curtis High School in University Place, a suburb of Tacoma. She's active in student government, service clubs, the choir and in music. She's also active in her church and represents her school on the Teen Fashion Board.

Students selected for the Covenant College program must have demonstrated leadership qualities, citizenship, high moral and spiritual attributes and excellent scholastic achievement.

Sharon plans to attend college and major in mathematics or music after completing high school.

CITATION TO H. O. TUTMARK

Harry O. Tutmark, photographerpilot, timber and western lands division of the properties and industrial development department at Seattle, has been awarded the American Society of Photogrammetry Presidential Citation for meritorious service.

Society president, William A. Radinski, presented the award to Tutmark "in grateful recognition of his exceptional contributions to the activities" of the society. Tutmark is only the second person in the Pacific Northwest to have captured the coveted national award. He was presented the regional award in 1968.

NEW NPRVA CHIEF



Ober A. Kobs, new president of the Association addresses banquet guests.

Ober A. Kobs, retired western traffic manager for the company, has been elected president of the Northern Pacific Railway Veterans Association.

Kobs heads the following roster of newly elected officers, all installed at the Association's 45th annual convention May 6, 7 and 8 at Duluth, Minn., John Austin, Hamilton, Mont., vice president; Frank R. Koch, St. Paul, H. C. Wilmer, Seattle, and James G. King, Missoula, as directors; F. J. Sailer, St. Paul, secretary-treasurer, and Joe Miller, St. Paul, assistant secretarv.

The Association is open to all Northern Pacific employees and retirees who have completed 20 or more years of service and to widows of employees and retirees. Several speakers at this year's meeting of the Association encouraged more active participation by current employees of the railway.



Principal convention speaker was N. M. Lorentzsen, vice president-operating.

N. M. Lorentzsen, vice president operating, was guest speaker at the group's annual banquet. He discussed recent developments to modernize the railway as it keeps pace with progress in transportation.



L. W. Menk, president, speaks at informal

Louis W. Menk, NP president, hosted a special breakfast attended by about 455 of the conventioneers on Sunday, June 8. He was presented with an honorary life membership in the Association, and responded to the group's enthusiasm with the proposal that a company-sponsored breakfast be made a regularly scheduled part of the annual meetings.

General chairman of the convention was W. L. Wood, terminal superintendent at Duluth.

Other highlights of the convention included a tour of the city, dancing after the annual banquet, and Sunday tours of the Duluth-Superior harbor at the Head of the Great Lakes. Special guest-entertainer at the annual banquet was Miss Nancy Koethe, Miss Transportation U.S.A. and NP aircraft scheduling secretary.



Nancy Koethe provided singing, yodeling and accordion music at banquet.

Among other top company officials who were special guests at the meeting were E. M. Stevenson, vice president traffic, J. D. Nankivell, assistant vice president - sales, and Mrs. Nankivell. Don King, general-manager lines east, and Mrs. King.

MISS TRANSPORTATION



Mary Lynch, left, a tracing clerk in Northern Pacific's Portland, Ore., office, was among contestants for this year's selection as Portland's Miss Transportation. With her, left to right, are Mary Jo Pagano from the Spokane, Portland & Seattle Railway, who was chosen Miss Transportation, Lucille Hardin from the Southern Pacific, and Jerri Hartley from the Union Pacific. The girls were honored at special events during National Transportation Week in early May.

"GO! PEOPLE", GOOD PEOPLE

The way Northern Pacific's "Go People" relate to others has an important impact on the company's image. Take the following letter from N. R. Cole of Seattle:

Dear Sir:

This letter is by way of complimenting your company on the very fine personnel you employ, if Mr. J. C. Bergman, Trainmaster, Auburn, Wash., is any example.

A simple, Good Samaritan act on Mr. Bergman's part in stopping to be of assistance to my incapacitated vehicle on the Freeway North, a couple of weeks ago, during the rush hour – 5 to 6 p.m., and following through to get me going again, was not only obviously greatly appreciated, but gave me a warm feeling of "brotherhood" on the road, which I shall never forget.

By way of reciprocation, the next time I see someone waiting by the roadside for assistance, I shall be much inclined to do likewise as was done to me, and as a factory representative for several concerns out here in the heating and air-conditioning business, I will certainly be aware of which railroad to recommend for future carload shipments from the East!

> Gratefully yours, N. R. Cole (signed)

The message is warming. Such gratitude is unexpected. Just think how great our business would be if all "Go People" filled their opportunities to help others!



Joseph A. Miller, left, Northern Pacific's assistant director of personnel, shows the certificate he received for completing the Greater St. Paul Area United Fund referral agent training session at St. Paul. The session, May 21, was held to inform personnel workers about available health and welfare services.

3rd TERM FOR K. W. JOHNSON

"Kermit W. Johnson, Director General Claims, was elected to the General Committee of the Claims Division of the Association of American Railroads at the annual meeting of that organization at Atlanta, Georgia early in May. This is his third term as general committeeman, and he formerly served the Division as its General Chairman."

"CLEANATHON" AT CAMP FRIENDSHIP

Rod Wakefield, office manager in the department of Purchases and Stores at St. Paul, was among Spring Lake Park, Minn., Jaycees who organized and directed a "Cleanathon" program at Camp Friendship, a summer recreation area for mentally retarded children on Clear Water Lake.

The project, which involved more than 1,200 man-hours of cleaning in 26 buildings, raking 87 acres of grounds and clearing 1,600 feet of beach, was initiated by Wayne Hobbs of Control Data Corp., a member of the Spring Lake Park Jaycees. Wakefield enlisted not only the support of the local group but Jaycees from throughout the Twin Cities area in making the program a success.



H. F. (Spud) Compton, general agent for Northern Pacific at Chicago, has been elected secretary of the Chicago Chapter of the SKAL Club, an international organization of travel executives. Spud is second from left, standing, in the photo above.

Richard W. Stumbo, Jr., has been appointed director - special studies at St. Paul in the management services department.

Stumbo joined the company in May, after having served for the past year as a new venture manager for the Conwed Corp., St. Paul, a multiple products manufacturer in commercial and residential markets.

Stumbo is a graduate of the University of Wisconsin, where he received a bachelor's degree in civil engineering in 1958, and of Wharton Graduate School, University of Pennsylvania, where he received a master's degree in business administration in 1968.

He was in the top two per cent of his class in graduate school, where he served as a teaching fellow. He is a member of Beta Gamma Sigma honorary business fraternity and the recipient of three major scholarships.

From 1963 through 1967, Stumbo was division controller, division vice president and general manager for a small corporation in manufacture of steel, wood and fiberglas construction products. He has also worked as promotion director of a building products trade association and as an industrial sales engineer.

Roger A. Arneberg has been promoted to the position of manager reports and statistics.

Roger joined the company in 1936 as a junior clerk in the accounting department. He has worked in the president's office, as special accountant under the comptroller, as assistant statistician and assistant to the comptroller.

John E. Waters has been appointed city freight and passenger agent at Seattle, succeeding James H. Roberson, who was recently promoted to assistant manager, foreign freight - Alaska representative at Seattle.

John first joined the company in 1957 as a clerk at Puyallup, Wash. He left the company to attend school, and in 1967 became a refrigerator inspector at Seattle. He became a traffic trainee at Seattle in January, last year.



ed city passenger agent at Seattle, succeeding Frank J. Schmidt who recently transferred to the passenger department's general office at St. Paul.

Stan joined the company in 1944 as a crew caller at Livingston, Mont., and held various clerical positions before becoming city passenger and ticket agent at Helena, Mont.

■ Marcel F. Templin has been appointed manager intermodal operations at St. Paul. He joined the company as a truck driver with Northern Pacific Transport at Billings in 1960, and worked there variously as dispatcher and driver.

Kenneth D. Mace has been named commercial agent at Spokane, Wash.

Ken started his railroad career in 1948 as a stenographer at Walla Walla. Wash., for the Northern Pacific. From 1949 through 1953 he worked for the Walla Walla Railway Company, a wholly-owned Northern Pacific subsidiary. He has since served as chief clerk in the general agent's office, city freight and passenger agent and traveling freight and passenger agent at Spokane.

TITLES CHANGED

Several title changes have been made in the western freight rates and divisions office at Seattle.

R. F. "Bob" Blakeslee, formerly purchasing agent in Seattle, has been named general purchasing agent with headquarters in St. Paul. This is a new position, according to Bill Marshall. director of purchases and stores.

"As part of the new set up," Marshall said, "the office at 200 King street will be closed. The purchasing branch on the west end will be represented by J. F. Czak, buyer, at South Tacoma."

Blakeslee, who has been in purchases and stores since he joined the NP at Livingston 28 years ago, will head up the entire purchasing function beginning July 1. A Washington State University graduate, Bob has served at many points on the system, both in stores and purchasing.

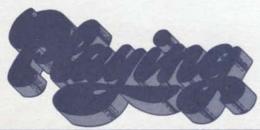
Czak, who was chief clerk to Blakeslee, will make his office in that of the district storekeeper, E. K. Beals, at South Tacoma.

- L. S. (Stu) Davis, Jr., formerly western freight traffic manager, is now manager of pricing—Pacific Coast. Stu started his railroad career in 1939 as a clerk with the Spokane, Portland & Seattle Railway. He held various posts with the SP&S at Portland, where he rose through the ranks to become general freight agent in 1962. He has since served as general freight agent for the Northern Pacific in St. Paul and Seattle, and was named western freight traffic manager—rates at Seattle in 1966.
- George E. Villeneuve, formerly general freight agent rates, Seattle, is now manager of pricing—North Pacific Coast Freight Bureau. He's been with the company since 1957 when he started as assistant to the general freight agent at Seattle. He has since served as assistant general freight agent and general freight agent—rates.
- Edward F. O'Neill has been named manager of pricing joint North Pacific Coast Freight Bureau and Pacific South Coast Freight Bureau. He was formerly general freight agent rates, Seattle.

Ed started as a stenographer in the city ticket office at Seattle in 1953, held various clerical posts at Seattle through 1955 and has since been city freight and passenger agent and traveling freight and passenger agent at San Francisco, and assistant general freight agent – rates, Seattle.

■ Donald G. Teel has been named assistant manager of pricing — transcontinental, Seattle. He was formerly assistant general freight agent — rates.

Don joined the company as a clerk in the Winnipeg, Man., office in 1954 and has since been chief clerk at Winnipeg, city freight and passenger agent there, and assistant general freight agent — rates at Seattle.





BOWLING CHAMPS

Clover Leaf League bowling champions for the 1968-1969 season at Pasco, Wash., were members of a team sponsored by Northern Pacific.

Team members, left to right, are Ralph Beniasch, assistant manager of Griggs Department Store at Pasco; Gordon Olson, Northern Pacific electrician at Pasco; Jerry O'Dell, team captain and district claim agent for the railway; Ken Wood, district roadmaster, and Bob Hoegh, assistant special agent.

Northern Pacific has sponsored the team for nine years, and this is the first championship.



FATHER AND SON WINNERS

First place winners of a recent father and son annual bowling tournament sponsored by the City of Delran, N, J., were W. J. McAllister, Northern Pacific's general agent at Philadelphia, and his son Richard, who is eight.

MEN'S GOLF TOURNEYS

Deadline for signing up as an entrant in the Livingston Second Annual Northern Pacific Men's Golf Tournament is August 11. The event is set for August 16 and 17.

The tournament is limited to a total of 72 golfers and is open to both active and retired men from the Northern Pacific or any of its subsidiaries. Entries and fees of \$10.00 must be received by noon on August 11.

Entries should be mailed to T. J. Samuelson, trainmaster, Livingston, Mont.

Tournament committee members include Samuelson, Dan Smith, Howard Bullock, Joe Grundhauser, Archie Genin and Cliff Peterson, Jr., of Livingston.

The annual Engineering Department Golf Tournament was held May 17 at Phalen Park golf course in St. Paul.

A total of 41 employees and about ten guests participated in the event.

Low gross winner was George Carlson, engineer of track at St. Paul, who tallied 75 for the 18 holes. Jim Maher, valuation engineer, St. Paul, took low net with a 53, under the Peoria handicap system.



BOOK REVIEW

The NORTHERN PACIFIC: MAIN-STREET OF THE NORTHWEST, by Charles R. Wood, Superior Publishing Company, Seattle; 1968. \$13.95. A book for all railroad enthusiasts. Especially history. And steam. But most especially, Northern Pacific history and steam.

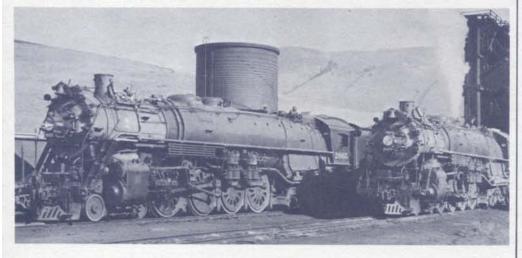
This is a pictorial history, although Chuck Wood has spiced it with some of the great, memorable moments of NP's infancy, adolescence and prediesel days. But as such, it does have a couple of serious drawbacks. Not all of which can be scored against the author.

No pictorial history of our railroad would be able to come up with photos covering the construction period between 1870 and 1884. Because if any exist, they're certainly being kept in secret places. And all of us cling to the hope that some day they'll turn up. We know many were taken because there is correspondence in NP archives relating to the fact. So Wood was not remiss in this respect. He couldn't help himself. But the fact of the Ron Nixon collection is an entirely different matter.

As countless GO! PEOPLE know, and the legions of readers of TRAINS magazine, our own Ron Nixon, of Missoula, has what could be the finest collection of NP motive power photos in the world. Unfortunately, Ron was somehow overlooked in the compilation of photos for this otherwise fine book.

And last of all, most of us know that the original railroad never did use a gold spike during Henry Villard's celebration in 1883 when the last spike was driven. Chuck doesn't quite reveal the misuse of the term with his quotation marks. In fact, it would have made great reading to let the rail fan-reader know that the last spike was a rusty one and was, in truth, the same spike that had been first driven in 1870 at the beginning of construction.

Except for the complete lack of Nixon photos, one of which is here reproduced for the benefit of GO PEOPLE, the rest is not great detraction from the value of the book as a good addition to the libraries of rail fans the world over. NP people, especially.



"GO! PEOPLE" NEEDED

We need more "Go People." Accountants, Engineers. Transportation graduates. Lots of others.

Dick Beulke, director of personnel, says he's found present employees often provide the best source of information about good people needed for jobs on the railway.

Anyway, he's encouraging a little vigorous recruiting on the part of present employees, retirees and others associated with the company.

"We're looking for college graduates and for students about to complete their programs for college degrees," Beulke said. "There are beginning jobs, openings for trainees, many opportunities for rapid advancement."

All of Northern Pacific's "Go People" have friends, neighbors, relatives, or possibly even sons or daughters who may have just the potential required for many of the positions that are open now or just opening as the company moves ahead.

"We've got the best people there are in our business," Dick says, "and I'd like to have them out there representing us among the college students and others who are looking for responsible jobs and good opportunities."

STUDENTS PICKED FOR NP PROGRAM

The Minnesota Historical Society and Hamline University, St. Paul, have announced appointment of three Hamline students to the Society's Northern Pacific History Internship Program.

The students are William R. Johnson, Duane P. Swanson and Stephen D. Sinnott, who will work under direction of Mrs. Helen M. White, associate curator of manuscripts for the Society.

Northern Pacific's extensive historical files, dating back to charter of the railroad in 1864, were presented to the society in December of 1968.

NAPCO REACHES GOAL

NAPCO, a Junior Achievement company sponsored by Northern Pacific at Missoula, Mont., has distinguished itself as the first such company in Missoula to attain the \$1,000.00 sales goal. NAPCO returned 10 per cent profit on its stock and had gross sales of \$1,139.35.

NAPCO manufactured a "trouble light" that plugs into an automobile cigarette lighter.

Advisers for the company included Gerald J. Murphy, Duane D. Jones, Walter A. Brouelette and Fred F. Knuchel, all of Northern Pacific at Missoula, and Gene Maun of the Burlington Lines.





Safety supervisors all across the Northern Pacific system now have available a compact new audio-visual tool for presenting safety films for train crew members and other employees.

The department of rules, safety and fire prevention has introduced use of a self-contained projector and screen unit which looks something like a TV set for showing safety films. The unit uses eight millimeter film in the Super-8 size, with sound, is light in weight, and the film is loaded into the projector in a cartridge. No threading

is required, just insert the cartridge and show.

Photo of the unit, right, dramatically shows what can happen to a hand when one fails to work safely. Viewing the movie presentation are, left to right, Switchman Joe Michurski, Conductor Ed Scherer, Roy Wilkins, supervisor of rules, safety and fire prevention, and Operations Supervisor W. W. Harper, at Northtown Yards in Minneapolis.

A total of nearly 200 employees attended a series of 12 sessions held at Northtown, Harper said.





SAF	ETY	SCO	REB(DAI	RI

First Four Months 1969 Compared to same period 1968

	Reportable Casualties		Ratio Per Million Man Hours	
	1969	1968	1969	1968
System	83	133	8.86	14.20
Standing by District				
1. Eastern District	23 51	45 73	7.62 15.04	15.14 21.81
Standing by Division				
1. St. Paul 2. Yellowstone 3. Rocky Mountain 4. Fargo 5. Tacoma 6. Idaho	9 7 6 7 26 19	35 5 9 5 41 23	5.79 7.23 7.59 14.07 16.79 18.04	23.44 5.14 11.66 9.88 26.37 22.53
Division Standings by Percentage of Improvement				
1. St. Paul — 75.30% 2. Tacoma — 36.33% 3. Rocky Mountain — 34.91% 4. Idaho — 19.33% 5. Yellowstone — 40.66% 6. Fargo — 42.41%				
Standing by Class of Employee				
1. Shopmen 2. Stationmen 3. Enginemen 4. Trackmen 5. Carmen 6. B&B Dept, 7. Trainmen 8. Yardmen	0 7 3 9 7 3 17 28	4 8 2 24 2 2 25 51	.00 4.35 4.53 7.60 9.01 12.46 22.91 47.06	9.15 4.70 2.98 20.50 2.67 7.20 35.93 82.69
Standing by Main Shop				
1. Livingston Tie Como 3. Brainerd 4. South Tacoma	0 0 3 2	1 1 1 1	.00 .00 16.39 22.69	7.01 9.76 5.24 7.57
Miscellaneous Departments				
1. General Office & Miscl. Tie Communications Dept. Tie Dining Car Dept. Tie Electrical Engr. Dept. 5. Store Dept. 6. Signal Dept. 7. Engineering Dept. 8. Security & Frt. Cl. Prev.	0 0 0 0 1 1 1	0 1 0 0 3 0 3	.00 .00 .00 .00 4.83 5.49 6.98 17.01	.00 6.39 .00 .00 13.77 .00 17.56

1968



During May of 1969 14 reportable casualties were reported, giving a ratio of 6.07 injuries per million man hours estimated to have been worked. During 1968 we had 36 reportable casualties in May.

During the first 5 months of 1969 we have 98 reportable injuries giving a ratio of 8.42 per million man hours worked. During the first five months of 1968, we had a total of 173 reportables.



SAFETY SHOE

The department of rules, safety and fire prevention is testing a new type of safety shoe for switchmen and trainmen.

The new shoe is an eight-inch high topper, fully lined, with cushioned inner soles and metal plates to prevent punctures.

One objective of the boot is to give more ample ankle support, while assuring ease of movement in walking and boarding equipment. The boots have soft leather uppers and can be tightly laced with ski boot like lacing. H. A. Piche, Northtown Yards safety committeeman, above, tries out the boots.





Paul E. Backstrom has retired as conductor at Minneapolis after nearly 49 years of service with the company. Paul joined the company on August 27, 1920, as a student brakeman at Minneapolis. He served variously as brakeman and conductor on the St. Paul Division throughout his years of service. With Backstrom, center, are Harry Barnette, left, general yardmaster at Minneapolis, and R. E. Davis, trainmaster.



J. P. Harrison has retired as diesel shop foreman at Livingston Shop after more than 47 years of service. The Harrisons were honored at a special coffee hour in Livington. Left to right are H. H. Ramer, shop superintendent, the Harrisons, and A. R. Genin, retired shop superintendent.



■ W. A. Hargrove recently retired as switchman at Livingston Yards after 43 years of service with the Northern Pacific. With Hargrove, third from left, are, right to left, F. G. Burns, switchman, H. W. Hansen, general yardmaster, presenting gift to Hargrove, and B. L. Bliler, switchman, all of Livingston.

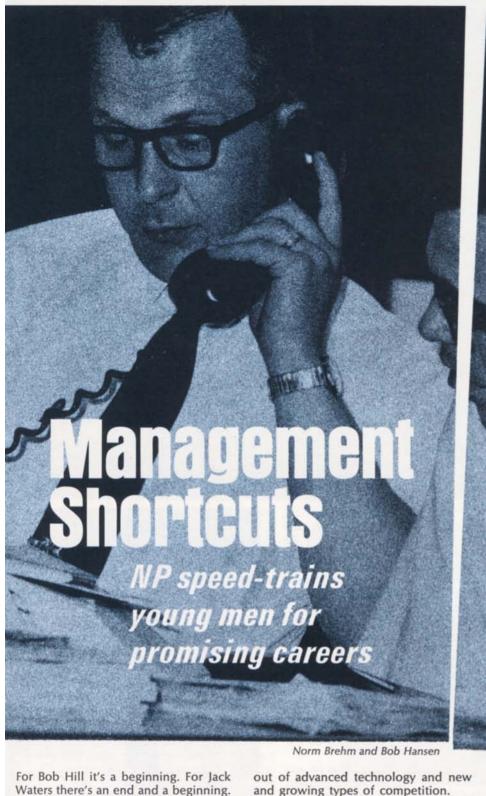


Other Retirements:

24 Years Service

Clement A. Bowen, Switchman, Everett 22 Years Service Esther P. Bullard, Chief Clerk, Jamestown 47 Years Service Arthur J. Crane, Bridge and Building Foreman, Staples 47 Years Service Paul G. Doering, Sectionman, Wheatland 24 Years Service Ray L. Edwards, Locomotive Engineer, Staples 51 Years Service Lee M. Greenlund, Locomotive Engineer, Jamestown 26 Years Service John Hack, Brakeman, Mandan 25 Years Service Ernest J. Heffernan, Instrumentman, Duluth

William W. Luthi, Sectionman, Minneapolis 26 Years Service August Metzger, Carman Helper, Laurel 25 Years Service Ira Nelson, PBX Operator, St. Paul 23 Years Service Lester A. Orr, Rate Clerk, Billings 26 Years Service Russell S. Phillips, Electrician, Auburn 25 Years Service C. Clark Runyan, Yard Clerk, Tacoma 21 Years Service Joseph T. Smith, Telegrapher, Bismarck 53 Years Service John M. Sukumlyn, Brakeman, Spokane 32 Years Service Woodrow W. Wurl, Truck Driver, Brainerd 21 Years Service



Because Bob recently joined the company to begin his training. While Jack completed his and on June 1 started at his new post as city freight and passenger agent, Seattle. Where he began working a regular job under the experienced wing of Mike Delmore, general agent, freight department.

Both Bob and Jack are members of a new breed of NP railroader. Trained under a program that was worked out to attract qualified college grads. And to employ those who hold promise for strengthening the company's management team as NP meets the everchanging needs of our industry. Needs rising

There are similar programs in our operating, accounting, engineering and mechanical departments. But the longest period of training is given to traffic trainees. They work-study for 78 weeks. The others, 52. And the "class" to which Jack and Bob belonged for a spell was the largest in the history of our traffic department's effort in this new direction.

In all, eight men were at various stages in a program which already has produced such team members as Larry Kiser, western traffic manager, Seattle; Frank Lingenbrink, assistant to vice president, St. Paul; Dick Sandgren, manager, commerce and intermodal services, St. Paul; Duane Carley, director, market development, St. Paul; Doug Bostrum, manager, foreign freight, Seattle, and Bill Egan, marketing manager, TOFC-COFC, St. Paul.

In fact, half of the TOFC-COFC group in St. Paul is comprised of former trainees. The others include Norm Brehm, assistant marketing manager,

and Bob Wylie, sales rep.

Tom Loving, general agent, Cleveland, and Duane Peterson, assistant manager, pricing, TCFB, St. Paul, two other program grads, show by their positions, along with the others named, the number of areas in traffic where trainees can ably fill slots of differing responsibilities. And when you look over the broad range of the program, you can see how this is possible.

Take Bob Hill and Bob Batie. Hill is working with Stan Collum's market research group at the moment. Batie occupies a desk alongside Elmer Gibson to learn the ropes that make the service

bureau function.

ther members of the current crop include Mike Hill, Bob Hansen, Ken Ryan, Bob Ridgeway and Dick Nelson. The first two are desked in Egan's section, applying themselves to TOFC-COFC intricacies with Egan, Brehm and Wylie. Thus, former "students" are now among the teachers.

Meanwhile, Ryan, who recently spent a month in the passenger department, has moved over to Minneapolis. There, where he was preceded by Ridgeway, he will bone up on sales, as well as yard operations, with Kermit Knutson and

others. The program.

It's not what you'd call grueling. Say, intensive. Comprehensive. That it covers the waterfront. Basically, there are two parts to it. One short — like, four weeks. The second, long and varied.

Part I is a general orientation designed to acquaint trainees with most of the company's departments, their functions and operations. Usually given in July and August, it actually can come even in the middle of the overall program. After they've covered a large portion of their on-the-job training in specific areas of Part II.

The latter is divided into seven segments. Carrying the future salesmen, researchers, etc., through all the major operational arenas of the traffic depart-

ment.

Trainees usually work first in the service bureau. Assisting in solving freight service problems. Investigating car movements. Preparing schedules on specific movements for the sales division. And familiarizing themselves with freight train schedules, sales personnel, traffic interchanges, modes of traffic, passing reports, equipment available, etc.

Later comes the Minneapolis session. Then on to Pasco, where Paul Wohld,



general agent, covers with them — individually, of course — the jobs and territory bird-dogged by his agency. To Seattle, Delmore's bailiwick. And so through the various parts of this program until they get their initial field assignments.

These are not specifically imposed on graduate trainees. They result from a combined evaluation of the man's personal wishes plus indications from his progress as to where he might best fit into the picture. Many want to work in sales. Mike Hill, Bob Hansen and Jack Waters like this route. Bob Hill is inclined toward marketing, right now. And to that end, his plans call for taking some extra marketing courses at the University.

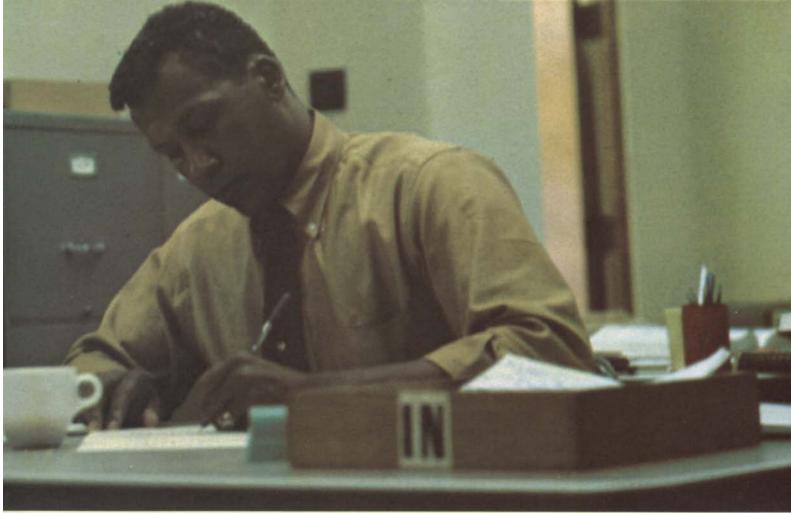
Notwithstanding the fact that he was graduated from Mankato State college; worked as a supervisor for Target stores before becoming a trainee, and, while at MSC, worked summers as a car attendant and waiter for NP.

Mike Hill and Bob Hansen also were graduated from Mankato State. Jack Waters is a product of the U of Puget Sound, Tacoma, and worked summers as a yard clerk and time clerk at Auburn, Longview and Sumas. He's spent six years in the music industry, including two as manager of a sheet music store in Seattle.

In September of '67, Jack came to work full time in NP's local freight office there, then began his traineeship



Bob Hansen doing study on Kresge movements.



in January, 1968. Now he's back in Seattle as CF&PA. Settling down again with his wife, Carol, and their child.

Carol, incidentally, was a steno for the company at Tacoma and comes from a long line of NP rails. Jack, of course, will maintain the tradition. Which brings up another point about this program.

Traditionally, our traffic personnel have worked up ladders rung by rung, without benefit of this program. Among them is Ed Stevenson, who heads the department as vice president. He had worked for a Spokane newspaper and the Union Pacific before joining NP as a steno in 1935.

"This aspect of moving up the line isn't going to change entirely," he says. "In fact, the trainee program complements this tried and true method of merit advancement. We've got able men in every area of traffic, who by their energies and ability are proving themselves capable of meeting the challenges of this new era in our industry. They're making their moves as others in the past.

"When trainees go to their regular assignments, the same criteria will be used for appraising their progress as are employed for the others."

That's the Northern Pacific way: using the new along with the best of existing methods to put the responsibility for operating the railroad into the hands of its people.

Bob Hill working on market research report.



Bob Hill and Jack Waters, newest and oldest of trainees, confer with Vice President Ed Stevenson.



Bob Batie involved in special equipment tracing.

"Great!" • "Just Lovely." • "It's about time!" • " Why, it's beautiful." "Dig that waiting room.""How about that receptionist?"

These and countless other remarks, many aimed at Sue Keller, blonde receptionist, popped from mouths of people seeing the general office building's new lobby for the first time. And

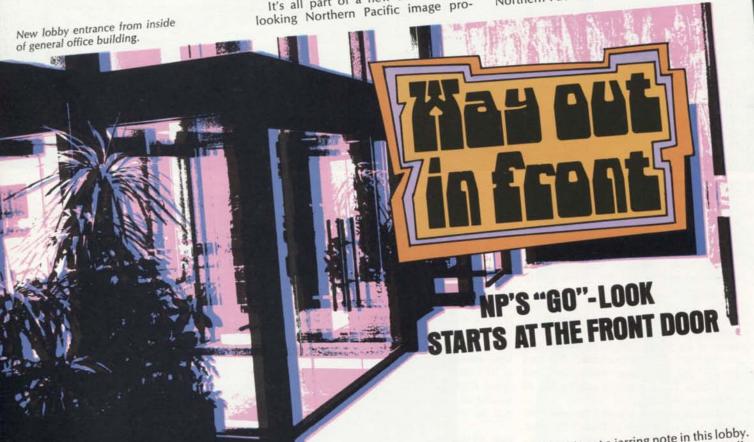
That "restroom" marble of white, why not? streaked with black and gray, has given way, thankfully, to the warm tan tones of Montana travertine. And this, incidentally, was quarried from NP's own resource near Gardiner, hard by the entrance to Yellowstone Park. And at the end of the elevator bay is a solid wall of black Belgian marble.

It's all part of a new and forwardlooking Northern Pacific image pro-

Well, if we're to believe half of what the old St. Paul Daily News printed in a special section devoted to the opening of the combined NP-GN building (not to mention the old First National Bank) back in 1916, Jim didn't exactly design and build it with his own hands; but. It would appear that everything in and about it emanated from his fertile imagination.

At all events, the automatic elevators now in service; the air conditioning installation in progress; the sweeping changes on many floors, all modern, of course, and the new interior-decorator's dream lobby are products of the new

Northern Pacific alone.



jected by an all new entrance: facade, three sets of doors, floor, walls and large waiting room done in Mediterranean decor. And a new policy that requests all visitors to check in with Sue. Who, without question, is one of the brightest of the additions.

We don't want to put anybody down, but people tell us that all the changes going on make NP the swingingest, most fun place in town — to do business in, of course. Man! That might give good old Jim Hill a conniption fit! If he can have one wherever he's at. Why Jim Hill?

There's not a jarring note in this lobby. The bright lighting overhead gradually dims to the peaceful and comfortable waiting room with its tasteful oil paintings; slate-topped tables; rich, tapestrylike walls; antiqued mirror; soft, deep carpeting, and rest-giving chairs and

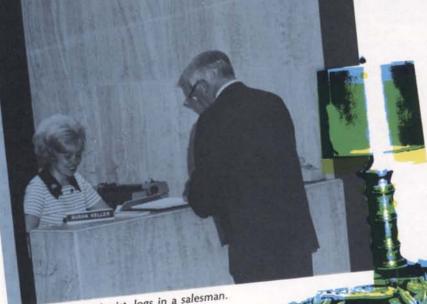
Between all of these appointments divans. and Sue Keller, perhaps we've discovered one of the reasons why Bill Marshall, Jack O'Keefe, Jim Woodburn and other toilers in purchases and stores are so busy these days. And salesmen, themselves, provide another insight.



One said, "Well, I don't want to sound critical, but waiting in that room to make your call is a world apart from the 'old' days when we sat on leather chairs with the sound of a hundred typewriters banging in our ears. No. I don't mind checking in and waiting here at all. It's not just the in thing these days. To my mind it's the mark of a really modern company that knows how to do things right."

There's another advantage for salesmen and other callers, too. When they
stop to register, Sue checks with the
party they wish to see. And right away
they're told if the person can see them
now, is out of office or in a meeting.
No riding up an elevator, only to have
to go right down again. And that saves
everyone concerned a lot of valuable
everyone concerned a lot of valuable
time. Like the old saying, "Time is
bread." Or was it money? Oh, well.
NP's modern enough to use either term.

RECEPTION



Sue Keller, receptionist, logs in a salesman.

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shou Hol cibbo offollo c ylloo lan Hol cliho att i llol clhho ollollu cynol phon Hot cibbo offollo ylloo hon Hol clido a i llol clliko ollolla cyn hou Hol clibo ollelli ylloo hou Hol clhho i llol elliho ollollu eyi hon that either attall ylloo hou Hot elliho that elline allella ex hon Hot ellho ollo ylloo hon Hol clib i llot cllibo ollollu hou Hot clibio off ylloo hon Hol ch i llot elliho ollollu hou Hot elliho of ylloo hou llol el i llol clhlio alloll hou Hol cliho t ylloo hon Hol c Hol cline allo hon Hot elliho ylloo hon Hol Hot ellho olle

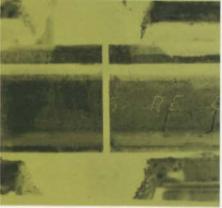
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All "click" joints in Laurel closed

nollo ulloubo llo olion

of ellipo ollollo canollo allonlo allo canollo allonlo allondo allonlo allondo allondo

ohon llol ethho ollollu eynallo ullonho | ol ethho ollollu eynallo ullonho yilo e elbho ollolla cynollo allouho yllo ohoa llol elbho ollolla cynollo allouho Not elibo ollollo gnollo ollonbo ol elibo ollollo gnollo ullonbo yllo e alea ohou llol chha allolla cynollo ulloubo



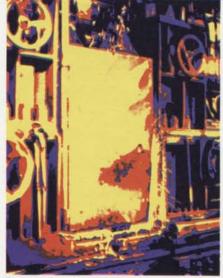
Rail sections before joining.

Railsville is nowhere. Like, you won't find it on our system map. But it's out there in Montana. Right on the main line. Where ribbon makers make things hot. Make sparks fly. Take out clicketyclacks.

If you're not lost now, you gotta be in Laurel. Where they make big ones out of little ones. Rail, that is. And are they long! Would you believe more than a guarter-mile?

Nope. Nobody's puttin' you on. They're really ribbons of rail 1,440 feet long. At the new, centralized rail welding plant out there in Big Sky country (no, folks, that other railroad didn't invent the term) our people and two from National Cylinder Gas take regular 39footers and turn 'em into train-long strings. What for?

Well, to let people, apples, cars, cows, logs and everything NP hauls ride smooth. To save on rail damage caused



Door is closed for safety during welding.

by wheels rolling over joints. So the old clickety-clack went thataway, podnuh. Clickety-clack.

Everybody uses that word in connection with welded rail these days. But it was NP's own Lon Perrin who gave it currency back in the early '50s when we really got going with welded rail. Lon was manager of advertising and publicity then. And to make sure word of our progress got around, he issued a news release about "no more clickety-clack." And the whole country from Dallas to Sault St. Marie and San Diego to Bangor read about it when the wire services picked it up and spread it abroad.

Today, we're still taking it out of our rails. In fact, it's gone from about 925



Door opens on completed weld.

miles of NP track. With more scheduled to disappear in the months and years ahead. The first 30-odd miles of the Wahluke Slope line will have rail welded from sections of 112-lb, steel taken out of the Tacoma 3rd Sub. Eventually. most of the main line will be welded rail. And making it all will be easier now.

Doug Shoemaker, chief engineer, figured the temporary summer set up at Dickinson and the winter layout at Centralia created a few problems in logistics. So the idea for a central plant at Laurel - about halfway along the system — was born. Now Steve Barlow, engineer of maintenance of way, and Denny Gehring, assistant, find it facilitates everything about the program.

Gehring watches over the operation, which includes a rail welding car, used under contract with National Cylinder Gas; the welding equipment; rail cropping house; a live roller line to handle



NCG man prepares to hook out excess steel after it's sheared off in box at right.



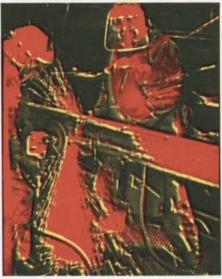
The rails just after join is made.

the cooled rail for loading onto trains; storeroom, and other equipment and facilities.

The whole thing is relatively simple: 37 standard 39-foot sections of rail are "welded" together to make the giant string. Actually, they're not welded in the usual sense we laymen give that word. Ends are heated to a near-molten stage, then rammed together under 60 tons of pressure to stay that way. Solidly.

Then they're shoved through a hydraulically-operated shear box to trim off the surplus, red hot metal. Chuck Cunningham and Darrad Ortloff of NCG handle this part of the operation in that company's welding car. After that, another machine pushes the rail through an automatic grinding machine equipped with abrasive belts. To level off the ball and base surfaces.

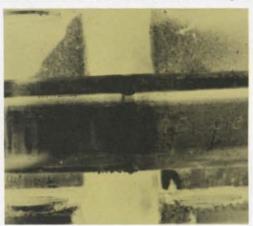
Later, following magnaflux inspection, brothers Charlie and Ralph Defoe,



Charlie and Ralph Defoe do touch-up grinding.



Long strings being loaded onto train.



The finished welded rail "joint."

both of NP, finish off the new welds with hand grinders. When they've done that, the rail is moved through adjustable threaders that load 40 such strings to a train by spacing them at intervals on several levels. Believe it or not, these trains negotiate curves with ease, the rail curving around in unison like so many wet noodles.

The cropping plant? That's where used rail gets a foot and a half lopped off each end. To eliminate worn ends and bolt holes. Eventually, of course, each welded string must be drilled for new bolts. Because these quarter-mile-plus lengths still have to be held together where they meet. So . . . Everything's smoother and longer.

There's longer life in the rails, and a stronger railroad for its more than 30,000 shareholder-owners and the 13,000 employes who run the whole show.

WITH NORTHERN PACIFIC RAILWAY

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