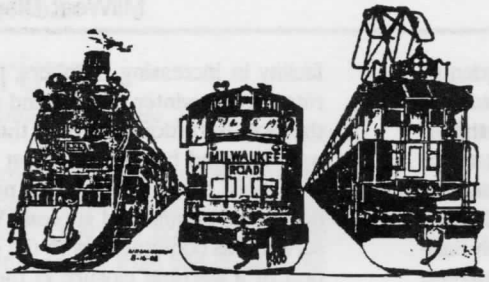


MILWEST Dispatch

Dedicated to the historic preservation and/or modeling of the former CMStP&P/Milw. "Lines West"

Volume 5, Issue No. 2 **April 1992**

THE MILWAUKEE AND MOTHER NATURE

By Ron Hamilton

Any reference to the decade of the 1930's in America is sure to bring to mind at least two tragic stories: The Great Depression and the transformation of productive farmland into a giant "Dust Bowl". But the vengeance of Mother Nature at that time was found in areas other than the arid plains of Kansas, Texas and Oklahoma. From the 1930 floods in the little known Mojave River in the Southern California desert to the high-water problems in the Pacific Northwest and the terrible Long Beach earthquake in March of 1933, disasters in other areas of the country would also grab their fair share of the headlines. Many such events had a direct effect on the Milwaukee Road.

Ever on the brink of financial disaster, the Milwaukee Road was forced to spend many millions in its battle with nature's elements during the decade. In crossing the 1,400 miles of the western extension, the Olympian and hot freights traversed five separate mountain ranges and history has shown that each of these geographic "mini-divisions" was capable of exerting its own unique and expensive climatic challenges. The Midwest too, was not without its share of problems.

In the Midwest, the consistency of the snow often posed a bigger problem than did its volume or depth. A fine, powdery snow coupled with relentless blasts of Arctic air could keep the Milwaukee and other Midwest carriers constantly on the attack to clear the rails of sometimes mammoth drifts. One of the most notable of these was at Lawler, Iowa on the Iowa and Dakota Division where crews once battled a single drift 25 feet deep and 1,000 feet long.

Records show that on one date in 1936, no less than 17 Milwaukee trains, some passenger, were known to be stranded by winter storms, several becoming completely snowbound in the short time needed to take on water. The problem was amplified by the fact that a good number of those trains were locals often operating far from the snow removal and rescue equipment whose first priority was to clear the main. The public at large also suffered as many of these locals had hoppers of coal badly needed by hungry basement furnaces that were common at that time. Conversely, many on-line businesses praised the road for its efforts to provide uninterrupted service.

Where possible, the Milwaukee initiated train rescues of isolated rural families and snowbound motorists while newspapers had dominate headlines proclaiming "DRIFTS AND BITTER WINDS NIP ROMANCE OF THE RAILS" and "TRAINS ARE STALLED IN SNOW MOUNTAINS".

The maintenance and rescue crew's reward for long days or weeks spent reopening a line was often the arrival of yet another storm. It was a sometimes constant and always costly battle. Financial data of the early and mid-30's shows that the gap between the Milwaukee's operating expenses and operating revenues widened noticeably and there is little doubt that inclement weather and its effects were contributing factors leading to the filing of the bankruptcy petition in 1935.

In April 1936, The Milwaukee Magazine carried a story referring to the winter just passed as "the great winter", adding that "the storms of 1881 and 1888 which have been the boast of the elders around switch shanty stoves for these many years will now pale into insignificance in the light of this nearer perspective".

Conditions on the "Lines West" were no less severe. In 1933, the Milwaukee had to cope with unprecedented rainfall and floods in the Pacific Northwest. Rainfall totals in the first two weeks in December of that year was equal to any previously recorded for an entire month. Unlike the dry powder of the Midwest, snow in the Cascade Mountains lies heavy with moisture and the added rain sent streams and rivers rampaging. The result was that the Milwaukee Road suffered land and snow slides that washed out tracks and flooded yards.

Two days before Christmas, the town of Avery, Idaho and the Milwaukee Road were clinging to opposite sides of the canyon walls as the St. Joe River surged sending water above the rail heads in front of the depot and the substation. The same flood caused the derailment of the Columbian east of Avery and the eventual scrapping of its damaged power, E-10303.

Also on the west slope of the Bitterroots, just west of Avery, other Milwaukee crews, some of which were cut off from their own homes and families, saved others trapped by high water. A maintenance crew, seeing a house in danger along the rising St. Joe River, went to rescue the family. Finding no one at home, they broke into the house saving all the furnishings, including the kitchen stove and water heater. All of the items were

(Continued on page 2)

NATURE

(Continued from page 1)

taken to the Avery substation just before the house lifted from its foundation and floated off down-river. Ragnar, located between Cedar Falls and Garcia in the Western Cascades, was the site of frequent difficulties. In 1932 and 1933, rain-induced slides snarled traffic badly and frequently. The worst such incident resulted in a track washout that was longer than a football field and over 100 feet deep.

There were problems on east side of the Bitterroot's as well. A slide near Drexel on the Montana Seventh Subdivision in late December held up train 16 for five days. Most of the passengers eventually hiked to St. Regis and went on from there on another train, presumably the N.P.'s North Coast Limited.

Flood waters along the Clark Fork River in 1933 were directly responsible for an exchange of trackage rights with the nemesis competitor, the Northern Pacific. The high water destroyed the N.P.'s access to its own Wallace, Idaho branch via Lookout Pass. To expedite the restoration of service, the two roads within the year concluded an agreement allowing the N.P. to access Milwaukee rail some twenty miles from St. Regis to Haugen where it then returned to home rail. In exchange, the Milwaukee received extended track privileges in Southwest Washington state. The latter would eventually serve as a key for Milwaukee entry into Portland, Oregon nearly a half century later.

Once proud symbols of Milwaukee engineering genius, numerous lengthy trestles spanned the streams and chasms of the Cascades. Today they stand abandoned, rusting in quiet testimony to a busier era. As perhaps a parting footnote to nature's everlasting control of the region, one of the more prominent of these structures, the Hull Creek trestle, fell victim to a slide in the fall of 1988. On the uphill side, rain softened earth supporting a Weyerhauser log deck gave way. The center span of the trestle was torn out as tons of timber bounded and slid down the mountainside. It was yet another blow to diehard Milwaukee fans who could previously enjoy a lengthy, uninterrupted trip over that portion of the abandoned roadbed in the post operational period.

But with all of the weather related negatives in the Cascades, there was also one bright spot. In 1938, with promotional help from the Seattle press, the Milwaukee inaugurated its Ski Bowl program high atop Snoqualamie Pass. Bi-polars powered special Ski Trains in multiple sections from Seattle and Tacoma as patrons flocked to the slopes of the Milwaukee owned facility in increasing numbers, preferring a warm winter wonderland ride to the slow hazardous drive on the highway. Located between the east portal and Hyak, the facility enjoyed nearly a decade of unqualified success. Winter service was continuous with the exception of a wartime closure in the early 40's. The popular ski lodge burned to the ground in December 1949. High rebuilding estimates and increasing rail operating costs brought the program to an end.

But none of the weather-related problems would be more serious for the Milwaukee Road than the one in mid-1938 when it sustained the most significant accident in its history. It was just after midnight on June 19, 1938 when the eleven-car westbound Olympian derailed on a bridge over Custer Creek near Saugus in eastern Montana. A flash flood had undermined the concrete and steel structure and had thrown it out of line. The engine, mail car, baggage car, two coaches, two tourist cars and a sleeping car were hurled into the swift, muddy water. The catastrophe resulted in the death of 44 passengers and five employees on duty. Additional injuries were sustained by 57 other passengers, 13 employees on duty and five who were off duty. Several people were listed as missing.

Named for the military hero of the famous "Last Stand", the 180 foot long Custer Creek bridge was a sound 25 year-old structure that had been built to replace an earlier bridge of pile construction at that crossing. The span crossed a creek which was normally dry for nine months out of every year and would seldom have exceeded a couple of feet when running at its customary height.

The accident was caused by a cloudburst which had taken place in the Custer Creek valley several miles north of the bridge between 4:00 in the afternoon and sometime after 10:00pm on the previous night. Entering the area, the Olympian itself was pelted by several brief but hard driving rains as an electrical storm passed through. The tremendous volume of run-off water now charging down the valley of Custer Creek lacked sufficient force to collapse the bridge. But, striking the region in a dry season, it quickly washed away and

(Continued on page 3)

MilWest Management

MilWest is a Washington State non-profit corporation founded in October, 1987. It serves to preserve and promote the history of the (former) CM&PS, CM&StP, CMStP&P, MILW Lines West.

Annual membership is based on the calendar year, cost $10.00 (US), and is due no later than January 1. Please make all remittances payable to "MilWest" and send to the Secretary. Persons joining during a year will receive all issues of the Dispatch for that year. Other back issues are available from the Secretary.

The MilWest Dispatch welcomes contributions of non-copyrighted articles, photos, and other reproducible material for publication, with the understanding that no payment of any kind will be made for their use. All material for publication should be sent to the Managing Editor. Please double-space type all manuscripts, or contact Editor to submit on computer disk.

If you move, please notify the Secretary of your new address promptly.

Whom do I contact?

Matters pertaining to MilWest policy, annual meetings, etc., contact the General Manager.

Payment of dues, membership applications and inquiries, non-receipt of the Dispatch, address changes, back issues, contact the Secretary.

General Manager, Art Jacobsen
1870 Easy Street
Helena, MT 59601-1172
Ass't General Manager, Ed Lynch
4001 5th Ave. North
Great Falls, MT 59401
Secretary, Ron Hamilton
2506 Fissure Loop North
Redmond, OR 97756
Treasurer, John Henry
East 2406 South Altamont Blvd.
Spokane, WA 99202
Staff Assistant, Kirk Petty
P.O. Box 423
Ranchester, WY 82839
Staff Assistant, Phil Kresik
20903 80th Place West
Edmonds, WA 98020
Managing Editor, Rocky Gibbs
444 W. 15th Ave.
Spokane, WA 99203-2110

NATURE

(Continued from page 2)

reinforced concrete piers, altering the alignment of the bridge and derailing the train. Only two hours before the accident another train had crossed the bridge without anyone having reason to suspect that the rising water was causing damage.

Despite the fact that the Custer Creek disaster followed twenty years during which the Milwaukee Road had operated without loss of life of a revenue passenger in a train accident, many distant big city newspapers, to whom railroad bashing was a ritual, published critical reports by editors and columnists who always profess to be informed on all matters. It was suggested that the accident was due to inadequate inspection and maintenance of the bridge. H.A. Scandrett, acting trustee for the Milwaukee Road, answered all such criticisms immediately. He furnished a complete history of the Custer Creek bridge and pointed out that, "The management, confronted with the necessity of either failing to pay interest on its debts or skimp its maintenance to a point which might have resulted in unsafe operating conditions, chose unhesitatingly the former course, and three years ago placed the property.in bankruptcy." To the fans of the Milwaukee Road, this commitment to a maintenance priority stands in stark contrast to the attitude of some 40 years later when deferred maintenance in Lines West territory was not merely allowed, but designed.

The accident, however, did prove to be a test of the quality of the Milwaukee Road's service, and there was wide agreement that the road passed the test with flying colors. From the front office in Chicago to those at the scene of the accident itself, everyone worked with tireless speed to effect rescues and to communicate all available information to those who were waiting to hear from relatives and friends known to have taken the Olympian.

A salesman and amateur photographer, Maurice Odquist, had boarded the Olympian in Chicago and had the dubious honor of fulfilling every news photographer's dream of having an exclusive first-hand story of a major event.

In the accident, he was shaken from his bunk by the impacting cars and, sensing the serious nature of the moment, he instinctively grabbed his camera bag and scrambled into the night with others to the east bank of the creek. Bright flashes of lightning revealed brief, ghoulish glimpses of an awful scene.

On the far bank, the locomotive and tender had fallen back into the creek demolishing the baggage car. The mail car, in turn, covered the locomotive crushing the engineer, firemen, baggageman and two mail clerks. Many cries for help were lost in the roar of the dark waters. It was an ill feeling watching dozens trapped and drowning and being really helpless to assist.

Meanwhile, a sleeping car porter named Lewis Williams worked with incredible agility to rescue passengers from his derailed car as it teetered perilously over the edge of Custer Creek. No sooner had he finished that the car slipped over the edge and was swept 50 feet downstream. A section man, himself injured, worked desperately to recover bodies in another partially mud-filled car.

Odquist and other survivors could only return to the four rear cars still on the rails to wait out the storm and the eventual rescue by a "Hospital Train" from Miles City. At dawn, he would return to the creek to photograph "the worst American train wreck since 1887". His pictures of the accident were published the following month in Life magazine.

In Chicago, the Public relations Department officers were informed of the accident by telephone early Sunday morning, June 19th. They promptly took the unprecedented step of telephoning the Chicago papers and the press associations to give them all of the facts at hand. This was done in keeping with a newly adopted company policy. The office was then kept open continuously for two days and nights, and with the help of other department offices, answered all inquiries by telephone, telegram and in person from individuals asking about relatives and friends on the train. Newspapers were provided with all further information as it became available, thus demonstrating a notable sense of duty to the public on the part of the Milwaukee road.

An exhaustive investigation by the Interstate Commerce Commission absolved the Milwaukee road of all blame for the incident, categorically stating that, "This accident was caused by undermining of the piers of the bridge, due to a cloudburst". A local coroner's jury in Montana pronounced the accident an "act of God". Few of the injured passengers or aggrieved relatives were ever able to collect damages as the Milwaukee was then in the midst of yet another reorganization, having failed previously in 1925 and 1935.

Eastern Montana was, for the moment, an ill-fated region for the Milwaukee. Ironically, on the very same day, a second section of the Olympian, 125 miles to the east near Ingomar, crashed head-on into a special train carrying Civilian Conservation Corp boys. There were fatalities and several injuries although this accident was not weather related.

It was indeed a paradox that the waters which so often caused the destruction of Milwaukee property in the West also formed the very basis for the unique and successful electrified operations.

The Milwaukee Road existed but a short time on Mother Nature's calendar and she shared her splendor with the Orange and Maroon in a way that she did with few other long-distance roads. She often granted favor to the road but always retained an ability to reassert total control at any time. For decades, her actions provided many a background for classic stories of dedicated service and heroism.

Sadly, weeds now grow on naked roadbeds, tall, high-mountain firs fall unnoticed where substations once droned, and slides gradually choke the access to pristine Sixteen-Mile Canyon. The Lady today is slowly and silently reclaiming what was rightfully hers long before the hum of paired Little Joes was ever heard.

- Ron Hamilton

SARFF'S LAST TRIP

By Bill Wilkerson

Editor's note: The following is a tribute from Bill to his long-time friend, Glen Sarff. It is illustrative of the relationships often formed between people who served on the Milwaukee, and perhaps, all railroads. It was the people who worked day to day on the railroad that gave it the greatness it once had. I didn't know Glen but I will miss him also. Thanks Bill for letting us meet Glen.

Just before dark on September 11, 1991, Engineer Glen Sarff went west from Miles City for the last time. When working, his preference was always the 112 mile sub-division between Miles City and Melstone. Going west was a popular phrase for death in World War I and Glen was in France on a railroad battalion in 1918 and 1919, so I guess it's proper to assume that he went west.

I'd like to think that when he got his final running orders, he read it carefully, as he always did. There would be no need to hang it on his old clip board for the rest of the crew to read, because this trip he was making alone. I'm sure it was just a running order and a clearance that night. There would be no meets because no one ever comes back from his final terminal. He wouldn't have any slow orders because that road is always superbly maintained to insure a speedy trip to the promised land.

I'd like to think that in the twilight as he pulled up the long lead he could still hear the steady sharp cadence of the L3's or S2's exhaust barking up the slight grade at about 15 mph. Oh yes, given a choice, Glen would have a steam engine, preferably the big S2 class 4-8-4. He loved them. Many trips he had commented with a big grin, "Listen to her chopping them off Bill. She's really got a wheel on them now." (making good time with the train with a sharp square exhaust) There was a 20 mph spring switch onto the main line at 7th street and then the grade steepened for about a mile up over the Tongue River bridge. By then he would have four street crossings blocked and 7th was also a state highway north, so you kept a steady 15 to 20 mph until the train was on the main line.

Knight and Garland are both dead end streets at the Milwaukee tracks. I'm sure as he came to the end of Garland Street, he would give his little TOOT TOOT on the whistle to see if there was a highball from his home about a block north of the track. He could look up the alley or the street. She (Glen's wife) had heard him whistle for Montana Ave. and could tell by the exhaust where the engine was and she would sometimes be out in the street or flash the kitchen lights. There was always a highball of some kind on the many trips I fired for him both on steam and diesels. There would be no highball tonight because he hadn't whistled for a highball since his last trip in February 1958 and the wives that had lived there with him were all waiting at the final terminal. Yes, wives. He had buried four wives between 1936 and 1985.

I would imagine he would take a final look at the abandoned Milwaukee that he had worked for and loved since November 1910. It would sadden him as it did in 1989 when I drove him around for several hours one beautiful afternoon. He was 96 then and his legs were failing him so it was strictly a tour by automobile, but he enjoyed every minute of it The memories that flowed from him as we bumped along around the yard, shops, yard office and old depot were wonderful and interesting.

We followed the Milwaukee east to the old Milwaukee bridge over the Yellowstone that is now a one lane highway bridge to the Kinsey Irrigation Project. We came back the Kinsey road to the airport and then out the graveled Sheffield road to Paragon. Nothing remains at Paragon but the road bed and a few rotting ties in the four track yard that had once held thousands of cars of gravel to be spread on the Trans-Missouri Division track from 1904 up into the 1960's. Every mile of track we had worked on the TM division had been ballasted with Paragon gravel. Back on the county road, I stop where it crossed the Paragon Pit road bed and we could see the steep grade as it climbed and twisted along the side of the hills to gain over 300 feet in two miles. The high creaking wooden trestle over the county road was long gone, but not the memories that poured from Glen's sharp mind. Many trips we had worked together up into the pit on L3's and L2's shoving empties in and backing out with the loads in a white cloud of brake shoe smoke. In through freight we would often have to work up into the pit with empties and bring the loads out when no work train was called. We earned 5 constructive mile and way-freight pay rate that added 56 cents per hundred miles to Glen's pay and 45 cents per hundred to mine. For working on the most dangerous stretch of railroad on the division, we would both make about an extra dollar, depending on our mileage rate.

Glen remembered hundreds of trips from his May 1913 firing date and his May 1914 engineers date when he had worked KI's, L2's, L3's and even the smaller G5's up into the pit. He had memories of the old engineers he had fired for and some of the derailments when engineers had lost their air and were stopped by the split rail derail on the east leg of the wye. Some of them had wound up laying on their sides.

By now he was starting to get tired so we headed home with a detour down Woodbury and Garland Streets east to the two homes he had owned and lived in over 50 years. At his request, we made a swing up Washington Street past the old Milwaukee brick depot and out to Fort Keogh to see the Milwaukee bridge over the Yellowstone that he had crossed so many times. The gate was locked, but we could see it from about a mile away. Back to town and a stop at the City Park with more memories of the bands playing on Sunday afternoons and the park full of people enjoying the music in the shade of the big cottonwood trees. At one time there were four or five bands from the lodges and even the Milwaukee shop men had a band. The band stand is long gone, but he described how the people would even dance in the streets and park. It was his youth of long ago, but the delightful memories poured forth in a steady stream. No radio's, TV or movies in those days so the band music in the park was a big attraction for the Fancy Dans and their dates. He described the Fancy Dans in their Derby hats, celluloid collars and button shoes. "Were you a Fancy Dan Glen?" "You damn right, that's what the girls went for and I didn't want them to think I was a hick from the sticks". Finally I drove down Main street slowly hearing his memo-

(Continued on page 5)

SARFF

(Continued from page 4)

ries of business that used to be in that building or this one. He hadn't been down Main street for several years, and he was really taking it all in.

Finally I turned off Main Street onto Strevel and out to the rest home where he had been living since his last wife died in 1985.

I had driven a good 50 miles that afternoon in about 4 hours with lots of stops and memories. Looking back, I would say that it was one of the most enjoyable afternoons I can remember and I have always been happy we made it. Glen was never strong enough to go again and I had just about kept him out to long that day. He talked about it several times after that and how much he enjoyed it.

Glen had been a friend of my folks before I was born and had been my friend for over 50 years. He was very talented in making things and repairing almost anything from old organs, clocks, furniture, cars, you name it and he had tried it at one time or another. He taught me to rewind electric motors, two of which I still have on some power tool in my basement.

I tried to visit him once a week and pump his memory for early day railroad stories. I would write them down and he would proof read them with his magnifying glass. He would give me all the facts he could remember and then advise me to "Put a little Bull in it and it'll make you a good story."

He was 98 on February 23,1991. I congratulated him and told him he looked like he was good for 100. He assured me that he was. When I found out there was no party for him that day, I told him I would go downtown and get a little cake and ice cream and we would have our own party. He said, "You just wanted me to live to be l00 and now you want to kill me." He thanked me but said he couldn't eat that stuff anymore.

His memory and wit remained sharp until he had he had a slight stroke the first of June. In the hospital he informed me that he couldn't keep the air pumped up anymore. His heart was slow from and weak and he was on oxygen then on. Another stroke in August and the V.A. Hospital put him in diapers. That broke his spirit and the last few weeks was all down hill. I visited him three days before he died. He opened his eyes but couldn't talk and went back to sleep.

I figure it was proper that his last call would be in the evening. It was a beautiful evening in the high seventies and he had spent a lot of his working life following a headlight down the track. I'm sure the headlight was extra bright that night and he had no trouble following the shinning rails up to the promised land. I was told his end was very peaceful. He just quit breathing.

GOOD BYE GLEN - Bill Wilkerson

THE TRAIN WRECK THAT SAVED LIVES

By Alfred Butler

In May of 1989 we heard of several railroad accidents. A freight train of 69 cars went out of control on Cajon Pass in California, descending the grade at speeds of up to 90 miles per hour. It finally left the rails and plowed into 11 homes, killing four people. Faulty brakes were mentioned by the press but I don't know what the investigation finally showed to be the cause and the media in our area did not follow up on the story.

Historians, who rely upon newspaper reports for an accurate statement of facts, may be badly misled and the historical record distorted by their lack of knowledge. For instance, the press report of this accident includes the following paragraph: "Locomotives have air brakes which apply pressure to the wheels: dynamic brakes reverse the direction of the wheels . . ." This shows a misunderstanding of dynamic braking. What happens is that the engineer throws some switches in the engine which change the motors into generators. Then by demanding more or less electricity from the motors, which are now acting as generators, the train is effectively braked. The more electricity demanded from the "motors" the more braking will be done. (It does not cause the wheels to turn backward). In diesel locomotives the generated electricity is dissipated as heat in some grids which are located on the top of the locomotive. Sometimes when you are alongside a train which is using dynamic brakes, you will hear the whine of the fans which are blowing air across the grids to cool them. It is better for the heat to be dissipated this way than to have the energy show up as heat all along the running gear of the train, as is the case with ordinary air brakes.

One of the advantages of an electric locomotive is that, in its operation, the electricity produced in the braking process is put back into the trolley line rather than dissipated as heat in the engine grids. This in turn goes back to the power company as extra energy. With air brake operation, that heat would have been produced at the brake shoes and on the running gear of the engine and cars. When the Milwaukee Railroad was electrified the operating men found that regenerative braking was a real advantage. When they were operating with steam locomotives in the Bitterroot mountains the men at Avery, Idaho found that "cooling" a freight after it had come down the mountain from St. Paul Pass, took significant time. They had to hold the train a from 30 minutes to an hour for the brake rigging to cool. With the electric operation and regenerative braking, they could let it go right ahead with no delay at all. In addition, the railroad company was paid back for the electrical energy which had been produced in braking the train. They had reported that a 10 car passenger train coming down the mountain could pull a 6 car train up the same grade with no cost to the railroad for power.

Now, let me go back some 70 years to the spring of 1919. My father had been retained by the Milwaukee Railroad as an expert witness in a lawsuit regarding the amount of sand which had been removed from a leased area near Beverly, Washington. To make his own independent appraisal, he wanted to make a survey of the sand pit for himself and compare it with that supplied to the court by the railroad. To do this he needed someone to hold a rod and to go from one place to another on the pit so that he could take elevations and distances, He didn't need an expert and decided that his young son could do fine. Beverly is on the Columbia River just

(Continued on page 6)

WRECK

(Continued from page 5)

below Vantage. In those days it would take a full day to drive that far so Dad arranged for us to ride the morning passenger train to Beverly and I spent the day running all over the sand hill, Incidently, the railroad survey had been correctly done. If you know Beverly, with its wind and abundant sand, you probably realize that by now you couldn't tell that any sand at all had been removed - ever. Beverly is located at a gap in the Saddle Mountains. Where the Columbia River cut through these hills is called Beverly Gap. The wind can blow at high speeds through this gap in the hills and in the 1970's, it actually blew a part of a freight train off the tracks at the bridge approach.

As a young boy, I was very much aware that the railroad was in the process of electrifying their line. The trolley wire was in place and I could see the rail line slanting its way up the Saddle Mountains to the west across the river. I learned later that this grade up out of the Columbia River valley was as steep as any on their mainline. It was a 2.2% grade for a distance of 17 miles.

You can imagine my interest when I read in the Spokesman Review of June 17, 1920, the following: "Brakeman dies In train crash. C. F. Washburn, Cle Elum, killed in wild Milwaukee runaway near Ellensburg. Damage is $1,000,000. Cars, out of control, dash 17 miles down Boyleston grade". The article goes on to tell that the eastbound freight, No. 74, with 58 loaded cars and a Mallet steam engine on the rear end, had nearly every car smashed. Between the crash and the fires which followed immediately, the loss was almost complete. Since the accident concerned the electric locomotive on the front and the braking system of the train, there were more detailed articles later in the Electric Railway Journal and the General Electric Review, '

The first newspaper said "it was the fastest railroad trip ever taken in the mountains of Washington". At 4:20 AM on June 16,1920, No. 74 left the top of the Saddle Mountains at Boyleston at an elevation of about 2,300 feet. It went through the tunnel and started down the 2.2% grade on its way to Beverly on the Columbia River at about 600 ft. At the rear of the train was a steam engine and a tank car, while on the front, and supposedly in control of the train, was an electric engine No. 10,239.

Regenerative braking could be cut in at speeds between 15 and 20 miles per hour. However the engineer let the train go a bit faster and the circuit breakers wouldn't hold as the motors were generating more current than they were rated for. During the next few seconds the train continued to gain speed and when the engineer made a regular service application of the air brakes, they wouldn't slow the train. The engineer then tried several times to get the engine into regenerative braking, but of course the circuit breakers still wouldn't accommodate the overload. When the engineer then made an emergency application of air, the brakes had no effect in slowing the train, which was then going about 35 miles per hour. The train continued to go at this speed for the 12 miles down to a curve, just uphill from the substation at Doris. The engine brakes of the steam locomotive at the rear were helpful in keeping the speed from increasing further.

At this point, the tank car became derailed and this also caused the steam locomotive to uncouple and also to derail. Nineteen minutes after the engineer first tried to put the engine into regeneration, the first string of cars piled up at a curve and tore down the trolley system. Three minutes later the high tension line was also broken by the crash of cars. This now left the locomotive without power and the air compressors stopped working. As the air gradually leaked from the braking system, the train gathered more and more speed.

To do just a bit of calculating, assuming a frictional force of 8 pounds per ton, each ton of the train would produce an accelerating force of 36 pounds down the grade. This would be restrained by air brakes and regeneration, if available. However, in the absence of these restraining forces, It would mean that a total accelerating force of 100,800 pounds would be working on a train of 2,800 tons. To put this into perspective we should know that the tractive effort which the locomotive could supply as a maximum was around 85,000 pounds, so when the air would leak off on a hill like this, the engineer would experience an acceleration beyond anything he had felt before on a freight train.

As the train gathered speed, 28 cars of lumber and shingles piled up and burned. Two and a half miles further on, 13 more cars crashed. The train was sort of playing a game of crack-the-whip, spewing cars at any curve In the track. At last the engine was nearly free of the train, but its speed had exceeded 50 miles per hour and the motor armatures were whirling so fast that the windings and commutators expanded and jammed. This locked the motors and caused the wheels to slide. The speedometer simply went to zero. The noise and disaster already happening must have been terrifying.

However, the engineer and the engine faced the last real curve on the hill. This is the one right before the line crosses the Columbia River. The track is essentially straight for several miles before this 10 degree curve, and I can imagine the horror that the engineer must have felt. This curve was as sharp as any on the Milwaukee main line, Straight ahead, off a high fill, was the Columbia River. For over a minute the engineer faced this curve, knowing what had happened to the rest of his train at curves upgrade. There was nothing he could do.

The weight of the electric locomotive is almost right at the axle line of the engine. The motors, gears and trucks are the heaviest part of the engine. Up in the cab part of the engine are switches and some electrical grids, none of which carry any great amount of weight. As a result, the train stayed on the track, though it swayed sideways enough so that it banged the sides of the through-girder bridge as it swept across the river. I checked, and the first straight rail toward the river is actually right at the bridge; the curve doesn't end until the train is right at the bridge.

Now believe it or not, the engine, with wheels sliding, slid between two and three miles beyond Beverly, on a grade which is slightly uphill. Knowing Beverly, I suspected that the rails were probably lightly sanded from just the normal wind action.

I've given these details because they are so well documented and so interesting. Both General Electric and

(Continued on page 7)

WRECK

(Continued from page 6)

the railroad were very much concerned with the possible failure of the electric locomotive and so they made a very careful study. This was helped considerably because of the instrumentation involved in the electrification. No problem was found, however, as the brakes should have held a train of 4000 tons on the grade IF it didn't exceed 15 miles per hour. Regenerative braking could have held up to 1,500 tons more. The train, however, only had 2,800 tons, and the conclusion was that it was man-failure, not equipment failure.

You can believe that every railroad man along the mountainous sections of the Milwaukee was well aware of the need to follow instructions exactly to prevent runaways on mountain grades. This one wreck made such an impression that I don't know of any other case of a runaway on that line. This was to play a very important role in the whole Northwest in January of 1949. But that's another story.

- Alfred Butler

See Alfred's previous article, "The Day the Milwaukee Railroad Saved the Pacific Northwest from Disaster" in the July 1991 Dispatch.

WRECK FOOTNOTE

By Alfred Butler

When I taught school at Pasco, and again at Spokane, I used to tell the story of the Milwaukee runaway down the Boyleston grade as an illustration of the many principles of physics involved in railroading, Pasco was a railroad town and the parents of many of my students worked for the Northern Pacific. I thought the story might serve to motivate some students to do better in their science classes.

Now, as an aside, teachers are often checked up on by their students. One day, one of my students came to me and said that his father had actually been working in the shop in Seattle where they rewound the motors for that engine. He also reported that the engineer's hair had turned white overnight. I took this last statement with a grain of salt and never told it for a fact. However, when I was teaching in Spokane, one of the girls in the class asked if she could check out the story with her dad, (I find this an interesting point the boy had just told the story to his dad, but the girl asked if she could tell the story.) I asked what her dad did and it turned out that he was the engineer on the electric helper engine which was stationed at Beverly. He would be home that week-end. Of course it was fine with me as I knew the story was accurate, but I suddenly thought to have her ask about the hair turning white, something which I hadn't mentioned in class. The following Monday she reported that the whole story was correct and that not only did the engineer's hair turn white overnight, but that he had been committed to a mental hospital within a month.

Let me point out that this accident is full of physics: Potential energy turning into heat energy at the brakes; Newton's first law, that a body in motion tends to go in a straight line unless acted upon by an outside force; Center's of gravity and centrifugal force; Static and sliding friction; and the Law of the Conservation of energy. Whether the men of the Milwaukee took Physics in high school or not, every engine man was rehearsed carefully on the simple procedures for putting the engine into regeneration. The men were believers and this made a big difference to all of us 28 1/2 years later.

-Alfred Butler

The WI&M - MILWAUKEE RELATIONSHIP

By Tom Burg

In 1930 rates were established on bulk mica from a mine at Vassar, ID to the North Coast for ship loading enroute San Francisco.

In 1937 the Lehigh Portland Cement Co., Spokane, established rates on cement from Metaline Falls, WA to Palouse, WA via the Milwaukee and WI&M.

By the 1960's, substantial daily traffic was derived from clay deposits near Stanford to the Simplot plant at Bovill for processing then out over the Milwaukee.

Under Milwaukee ownership the WI&M was operated with its own equipment (Alco S-3 #30 and HH-660 #66) until 1965, and thereafter with equipment furnished by the Milwaukee. Typically, motive power was one or two of the Milwaukee's GP-9's. This Milwaukee operation continued until the 1980 Lines West embargo. The WI&M was then leased for one year by the Burlington Northern (BN) to determine its operational feasibility, then purchased. BN operation continues today. The Elk River Branch was cut back to Bovill. Following the embargo the St. Maries-Bovill portion became a part of the St. Maries River Railroad, owned by, of all people, Potlatch Corporation.

- Tom Burg

Waybills

WANTED: Back issues of Railroad Model Craftsman containing MILW passenger car drawings. OCT 67, OCT 69, JUL 71, SEP 71, NOV 71, APR 72. Ron Hamilton, 2506 Fissure Loop North, Redmond, OR 97756.

AVAILABLE: All the MILW books written by Bill Wilkerson. Many of these have been out of print. Subjects are "L Class", "Diesels", "E-57", "G Class", "Mallets". All are available from the Times-Clarion, P.O. Box 307, Harlowton, MT 59036-0307. Phone (406)-632-5633 for pricing and details.

TOO MUCH POWER

By Bill Wilkerson

In November 1954, I was working as a fireman on the 112 mile middle division between Miles City and Melstone. We were operating mostly covered wagon diesels in freight, along with a few L3's and S2's. They were just running out their time as no steam engines had been overhauled in 1953 and the big Miles City shop was closed down.

(Continued on page 8)

POWER

(Continued from page 7)

For the most part the 4 unit FT 's of 5400 HP were still assigned to our fast freights 263 west and 264 east. We were using 2 and 3 unit F7's locomotives of 1500 HP per unit on the dead freights in what the employees had started calling Ping Pongs because of the speed they bounced back and forth between terminals. They were always on the move and were called right on their arrival at terminals. If a diesel was available it worked and the steam engines were held in reserve.

We all preferred the F7's because they were new and had automatic shutter and fan controls where the FT's were manually controlled by the fireman. The F7's had traction motor cut out switches on the reverser and automatic transition that shifted up by voltage rise and down by amps rise, where the FT's were manual with no traction motor cut outs.

The F7's were much better locomotives than the FT's because they could be operated in any combination and could multiple unit with the SD7's. The FT's could only be operated as 2 unit 2700 HP or 4 unit 5400 HP because the cab and booster unit were connected with a drawbar and pin arrangement. Everything considered, it made more sense to keep the FT's as 4 units and use the more flexible F7's as power required.

On this trip my regular engineer was off and I had an extra engineer by the name of Lewis (Punk) Scofield. Punk was a 12-7-16 fireman but had been cut off during most of the 1930's depression and had only been back to work steady since 1941. He was finally promoted to engineer 6-21-44. A good 90% of his railroad career was working off either the firemans extra board or the engineers extra board until he had to retire on a medical disability in 1966. During his time away from the railroad, he held several political appointed jobs such as a State liquor board inspector and Labor trouble shooter on State road construction and water board jobs. With a change of governors he lost his political influence but could work on the Milwaukee again. He was a good negotiator and with a big chew of tobacco in his mouth he could talk his way into or out of anything. I swear that he could spit farther and straighter than anyone I ever knew and on diesels had mastered the fine art of rolling down the window and spitting out about 45 degrees so it never blew back on him at any speed. He was an expert, but that is also what killed him. The last three years of his railroad career he was General Chairman for the Engineers and he was a good one. Railroading wasn't his main interest but it was a living when he couldn't get a political job of some kind. He could spread the bull by the ton and was always full of stories.

On this trip we had three F7's, the 87 ABC on a dead freight east from Melstone. Among our other pickups that trip, we had to pick up 4 or 5 cars of stock at Cold Springs.

He was in good shape as to time on 15, the Olympian Hiawatha, when he approached Cold Springs. Punk figured he could easily pick up and still go to Carterville for 15 as we had to pick up there to, so he came down the main line. Cold Springs is on a descending grade east and this train kept pushing but he made a good stop pretty close to the east switch.

On this trip, our conductor was Joe Wolf. He was a very nervous guy and most of the time pulling him was equivalent to having a wreck. He would never set out a bad order car if he thought he could fix it enough to get it into the terminal and he usually did. I have been with him when he packed a hot box at every station rather than set it out. He was just the opposite of his brother Ted who wouldn't fool with a defective car beyond the first side track.

The stock yard was about 50 or 60 cars west of the east switch, so by the time we came back the passing track and into the house track, Joe had walked from the caboose to the cars. When he cut in the air, one of the cars had a train line leak. Being Joe, he decided he could fix it and he did but it took quite a few minutes longer. When we got back on the train, we didn't have time enough to go to Carterville and our head unit was over the east switch. The only thing we could do then was to back up far enough so we could run 15 through the passing track. This would only delay them a few minutes and they could easily make up the time in the 168 miles to Harlowton.

We didn't have a radio caboose and this was long before the hand radios, so unknown to any of us on the engine, Rear Brakeman Merle Fought had walked up inspecting the rear of the train. About 35 or 30 cars ahead of the caboose, he found a split air hose that was leaking pretty bad, so he turned the angle cock and started back to the caboose to get an air hose and wrench. Fought was pretty heavy and didn't like to walk or do much else, but Joe was a strict conductor and insisted that the train be inspected at every stop. Joe was small and wiry, but he wasn't lazy and could walk at a pretty fast pace for a man in his early 60's. Fought's walk was slow and laboring at the best. He said that when he got to the caboose he had trouble finding the equipment he needed. He could see the house track and when we pulled out he could see that we couldn't go to Carterville for 15, so he was in no hurry, he never was. He didn't know that our pick-up had left our head unit east of the switch either.

Punk allowed ample time for the train to release and then started backing up, but we came up solid still not clear of the east switch. He pulled out the slack again and waited a few minutes for them to pump off. The second try was the same as the first, they wouldn't back up anytime a train won't move in three tries, there is a reason and Joe decided to walk back to check. He had been going to ride the rear cab to Carterville as we had to pick-up there and he could catch the caboose as we pulled by him on a running inspection at Carterville. By this time 16 had been in the red for several minutes. Punk had a lot of good judgement saved up because he never used much of it. I suggested that we cut off the units and get into the house track until 16 went by on the passing track. Punk said that if they pulled them up Sumatra hill, they can sure as hell back them up here.

Nick Wellems on 16 was a 6-21-08 engineer. He had helped build Lines West and was the senior engineer at that time. Alex Gunther, our head brakeman flagged him down and told him we had to much tonnage to back up with just three units. He

(Continued on page 9)

POWER

(Continued from page 8)

figured that because we had picked up about 20 cars in route and now had over 100 cars that three units just wasn't enough power. Nick's solution was simple. You have 3 F7's and I have 3 FP7's, so I'll just help you shove them back so we can get going without much delay. Punk pulled the slack out and sanded the rails good. Nick sanded the rails good as he pulled up to couple onto us. Punk started shoving the slack back in and about the time he would come up solid, he widened on the throttle and so did Nick. We came up solid with a big bang, there was a sickening shutter and a lunge as our two rear units jackknifed. The big bang was when the tremendous force being exerted by the driving wheels turned the rails over on their sides. When we got through bouncing, we were still on the rails, but we were on the side of the laid over rails instead of on the top of them standing vertical. The front unit was alright. Our surge of power had kicked out our ground relays just in time to take all the power off the wheels or I don't know what would have happened. The front unit, was alright, so I reset the ground relay and uncoupled all the hoses and jumper cables. There was just enough room so we could clear as we eased back into the passing track and up into the house track. There wasn't over 6 inches of clearance, but Nick got 16 into the passing track with out any trouble and headed for Harlowton about 15 minutes late.

Joe had found the trouble and was hurrying to the head end to tell us. He was furious because no one was looking back to get the wild stop signs he was swinging as he hurried toward the head end. He had gone back on my side as it was easier walking, but had crossed over to Punk's side. With all the confusion on 16's arrival, no one had given a thought as to where Joe was or what he was doing. The Olympian Hiawatha was still hot and you had better have a damn good reason it you delayed it.

After 15 left, I suggested that as long as the units were still on the side of the rails, that we could put down rerailing frogs where the rail was still upright and then pull the units up to the frogs and in my opinion they would have climbed back up on the good rail. Joe was wild and Punk was confused as to how he could explain what had happened. Joe was afraid that if we tried my idea and the wheels slipped off they would turn more rails over and be in even bigger trouble. We only had one sided frogs and no way to spike them to the ties, so his concern was justified. I still think it would have worked and all we had to do was wait until the Forsyth section men got there so they could spike the frogs down, but Joe got on the phone and called the Dispatcher to send out the Miles City wrecker. The wrecker worked from the passing track and would lift one end of the unit so the section men could set the track back up and then lift the other end. It was time consuming and expensive and I still don't think it was necessary. One thing we learned was the tremendous torque a diesel can exert on the rail. It was a lesson I remembered all my years as an engineer. Always treat that throttle with a lot of respect because it controls an awful lot of power.

- Bill Wilkerson

EF-4 Electric Locomotive with Diesel Booster

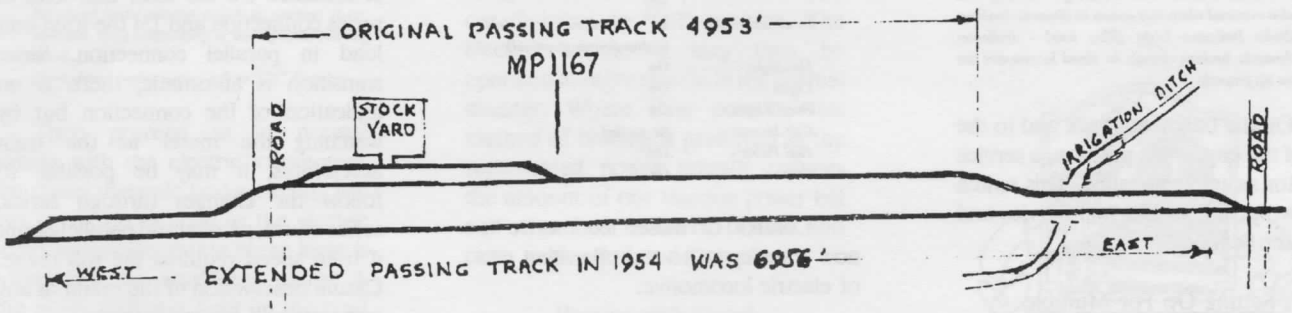
By The Milwaukee Road February 14, 1961

The installation described below permits operation of a composite locomotive, consisting of an EF-4 Locomotive (one or two units) followed by a diesel locomotive (one to four GP-9 units, or units having similar control.

Control is vested in the electric locomotive, but either type of locomotive, i.e., electric or diesel, may be operated alone by the electric locomotive controller when profile or other considerations make such operation desirable. Generally the diesel locomotive operates as a slave to the electric locomotive, following that locomotive in either motoring or braking.

This installation is electrical-mechanical. A small drum controller, referred to as the "diesel throttle controller", is mounted on the main controller of the EF-4 electric locomotive and is operated by the EF-4 electric locomotive main controller working through a rod connecting the main controller operating lever to a rack and pinion mounted on the head of the small drum controller. On the small drum controller, a locking pin is provided, which may be pulled and thereby permit independent manual operation of the small drum controller in case of emergency on the line, or in case of shop testing.

(Continued on page 10)



COLD SPRINGS TRACKS IN 1954

EF-4

(Continued from page 9)

Switches for controlling forward and reverse movement of the diesel unit are installed in the housing of the EF-4 controller and are operated by movement of the reverse handle.

In the EF-4 electric locomotive operating cab, the necessary controls are mounted on the cowl in front of the engineer. In the nose, booster circuit relays are installed in a cabinet mounted on the cover of the electric locomotive terminal board. Plug connectors are provided so that the cabinet may be quickly replaced when necessary. A train line containing the leads to the control switches, relays, etc., noted above, run the length of the electric locomotive to a control jumper receptacle. A standard diesel type control jumper is used to connect this train line between EF-4 electric locomotive units and between the EF-4 electric locomotive and the lead diesel unit.

In the diesel locomotive a service selector switch (Normal Service or Booster Service) is mounted on the bulkhead back and to the left of the engineer's position.

These various elements comprise the installation and are described in detail. In the EF-4 electric locomotive operating cab, on cowl in front of the engineer, the following diesel locomotive controls are mounted:

Ammeter showing diesel locomotive metering and braking load.
Control and Fuel Pump Switch.
Engine Run and Controller Switch.
Dynamic Braking Cut-out Switch (cuts out dynamic braking on diesel locomotive).
Dynamic Braking Selector Switch (controls amount of dynamic braking on diesel locomotive).
Headlight (on rear of diesel unit) Switch.
Sander Switch.
Engine Stop Button.
Alarm Bell.
Wheel Slip Light (white lens) - Indicates wheel slip on the diesel locomotive, motoring or braking, and also overload when that occurs in dynamic braking.
Brake Indicator Light (Blue lens) - Indicates dynamic braking circuits in diesel locomotive are set up properly.

On the bulkhead, back and to the left of the engineer's position, a service selector switch is installed. This switch has two positions: Normal Service and Booster Service.

Setting Up For Multiple Unit Operation of EF-4 Electric and GP-9 Diesels.

Couple diesel locomotive unit to back end of EF-4 electric locomotive. (Diesel units equipped for dynamic braking must be placed next to the electric locomotive, with non-braking units trailing).

AIR: Couple brake pipe hose and open hose cocks.
Couple equalizing pipe hose on diesel locomotive to independent application pipe hose on electric locomotive and open hose cocks. (Do not couple main reservoir equalizing pipe hose or sanding pipe hose).
Condition brake equipment on diesel locomotive for trailing movement.

CONTROL JUMPERS: Install regular diesel control jumpers between diesel locomotive units and between the lead diesel locomotive unit and the trailing electric locomotive unit, also between the electric units.
Install brake loop jumpers between diesel locomotive units which are equipped for dynamic braking.

CONTROL TRANSFER: On Electric Locomotive

	Operating Cab	Trailing CAb
Dsl Control/Fuel Pump	Closed	Open
Dsl Engine Run Controller	Closed	Open
Dsl Generator Field Switch	Closed	Open
Dsl Dynamic Braking Cut-Out Switch	Open	Open
Dsl Dynamic Braking Selector Switch	Low	Low
Dsl Headlight	Off	Off
Dsl Throttle Controller-Locking Pin	Down	Down

On Diesel Locomotives

Start engines, if not already running, with the usual controls, then proceed as follows:

On Engineer's Panel in all units, set the switches as follows:

Control Switch	Off
Engine Run Switch	Off
Generator Field Switch	Off
Automatic Sander Switch	On

On Bulkhead Panel in all units, set switches as follows:

Service Selector Switch -	
In lead unit -	Booster Operation
In Trailing Units	Normal Operation
Dynamic Brake Unit -	To number of diesel units
Selector Switch -	Connected for dynamic
Headlight Control -	
In trailing unit -	To "controlled" (Arrow pointing horizontal to the left)
In all other units -	To "Intermediate Unit" (Arrow pointing vertical)
Headlight -	On
Lights -	On
Road Lights -	On
Cab Heaters -	As needed
Fuel Pump -	On
Control -	On

Control of diesel locomotive is now transferred to the operating cab of electric locomotive.

Operation

Motoring Combined Electric & Diesel

Handle as in normal motoring. Move reverser to desired direction of movement and then advance controller handle in the usual manner, allowing sufficient time for slack action in the train and for the throttle governor control in the diesel unit. The diesel locomotive units will motor with the following control notch relationship.

Electric Locomotive Controller Notch	Diesel Locomotive Controller Notch
Off	Idle
2	1
4	2
7	3
10	4
13	5
16	6
18	7
18	7
24-37	8

If the speed of the diesel locomotive is less than 12 MPH, action must be taken to make corresponding reduction in throttle position in order to prevent excessive traction motor current and resulting wheel slipping on the diesel unit.

The diesel locomotive reversers will automatically throw when the reverse lever on the electric locomotive is thrown. Diesel locomotives are more subject to damage than electric locomotives if the reverser is thrown and power applied while in motion. Therefore the locomotive must be stopped before power is applied for movement in the reverse direction.

The diesel ammeter indicates load on the lead diesel locomotive unit only. This ammeter is connected in the circuit of the No. 2 traction motor and indicates current through that motor. It indicates 1/2 the total unit load in series connection and 1/4 the total unit load in parallel connection. Since transition is automatic, there is no indication of the connection but by watching the meter as the train accelerates, it may be possible to follow the changes through series, series-shunt, parallel and parallel-shunt if train speed requires the full range. Casual observation of the meter at any one time will not indicate the

(Continued on page 11)

EF-4

(Continued from page 10)

particular motor connection on the diesel, but after some experience the engineer will have a pretty good idea of the connection on the basis of train speed and meter load.

Motoring with Electric Locomotive Only

Have diesel locomotive engine run and generator field switches to the "Off" position. The electric locomotive will then motor in the normal manner and the diesel locomotive will idle.

Motoring with Diesel Locomotive Only

Open J.R. Circuit Breakers on the electric locomotive by opening J.R. Breaker Hold Button. Then operate the electric locomotive reverser and main controller in the usual manner. The diesel locomotive will motor and the electric locomotive will do no work except provide air.

Braking - Combined Electric and Diesel

In this position, the electric locomotive brakes by means of regeneration and the diesel locomotive brakes by means of dynamic braking. In the first case, braking effort is developed by generating electric energy which is turned back into the electric power system; in the second case, braking effort is developed by generating electric energy which is expended in heating grids, the heat being blown out to the atmosphere. Prior to the start of braking:

Move diesel brake cut-out switch to "On" position.
Set diesel brake selector switch to position (Low, Medium, Full) conforming to the expected braking speed.
Move diesel engine run switch to "Off" Position.

Then proceed as in normal braking with the electric locomotive. The diesel dynamic brake circuits will start to set up as soon as the electric locomotive regeneration brake lever is moved into the equalizing notch. A blue brake indicator light on the cowl will light up when the first diesel braking step is completed. The diesel ammeter will show a small amount of current. The blue light is assurance that this current is braking rather than motoring.

The final step in the braking circuit is completed about 15 seconds after the blue brake indicator light comes on. The diesel ammeter will then build up to a possible maximum of 700 amps.

The white wheel slip light may go on to indicate an overload in the diesel brake circuit. If the light stays on for more than 30 seconds, the diesel brake selector switch should be moved to a lower position.

The operating positions for the diesel brake selector switch for most conditions are as follows:

FULL - Up to 25 MPH
MEDIUM - Up to 40 MPH
LOW - All speeds.

At the top speeds in these ranges the diesel ammeter will normally show full braking of 700 amps. If less diesel braking is desired, the diesel brake selector switch can be moved to a lower position. The degree of braking on the diesel locomotive is not controlled by the regenerative braking lever on the electric locomotive.

Diesel locomotive braking may be cut in or out by operation of the diesel brake cut-out switch at any time that the electric locomotive is in braking. Note that the diesel locomotive Engine Run Switch must be thrown to "Off" before the diesel locomotive goes into braking, and at the completion of braking this switch must be thrown to "On" before the diesel locomotive will motor.

Braking with Electric Locomotive Only

Set diesel locomotive Engine Run, Generator Field, and Brake Cut-out Switches in "Off" position. The electric locomotive may then be operated in regeneration in the normal manner. Where time permits, this method of braking is preferred as the regenerated power actually reduces the amount of our traction power bill and therefore is worth dollars and cents to the Railroad Company.

Braking with Diesel Locomotive Only

Open J.R. Circuit Breakers on the electric locomotive by opening J.R. Breaker Hold Button. Set diesel locomotive controls as follows:

Diesel brake cut-out switch to "On" position.
Diesel engine run switch to "Off" position.
Diesel brake selector switch to position Low, Medium, or Full, conforming to expected braking speed.

Then operate electric locomotive controls as in normal regeneration. The diesel will go into braking and its braking load may be controlled by the diesel brake selector switch as previously outlined. The electric locomotive will do no work except provide air for the air braking system of the train.

Special Controls

Diesel locomotive units are equipped with automatic sanders. When the diesel locomotive wheel slip light indicates that the automatic sanders are not controlling slipping, the diesel locomotive manual sander switch may be used. This is mounted on the diesel control panel on the cowl of the EF-4.

Diesel engines in all the diesel locomotive units may be shut down by operating the diesel locomotive stop button. This is mounted on the diesel control panel on the cowl of the EF-4.

In case of fire or electrical trouble on the diesel locomotive, the diesel locomotive control switch on the cowl in the operating cab of the electric locomotive must be thrown to "Off" position. This will shut down the fuel pumps on the diesel locomotive.

- J.H. Kervin, District Master Mechanic, Deer Lodge, Montana

- H.R.. Morgan, Electrical Engineer, Tacoma, Washington

Editor's Notes

By Rocky Gibbs

The instructions for operating an EF-4 and diesels together starting on page 9, are from an original copy of the document. This was but one item obtained by MilWest last year when we purchased part of the vast collection of historical material that had been collected by Ed Lynch, and he was then disposing of. As time goes on I will print other items of interest from the collection we have begun. Since we don't have any better means at this time to make the information contained in these materials available to the members, I thought that printing them in the Dispatch may be a good way to make the data available to the members. I think it makes good use of the material given our present conditions for archiving and preservation of the material. If any of you have suggestions, let me know. Also, how about some of you MILW enginemen out there dropping me notes with any details, anecdotes, stories, etc., about running the electrics and diesels together. I'm sure some of you could tell some tales. Please share them with all of us through the Dispatch.

As is obvious, this April issue of the Dispatch is not arriving in April or even in May. What's wrong you ask. The January issue was late also you say. As explained before, I held the January issue until we had sufficient membership renewals for us to use bulk mail. The postage cost savings are significant by using bulk mail. This April issue is late partly because of a lack of time to commit to it on my part, but also I was waiting for the flyers on the annual meet to arrive to be sent with this issue. We normally send those in the July issue but because of the earlier date of the Meet this year, it was decided to send them in this one. However, the parties responsible for producing the flyer kept giving me delivery dates for the flyer, but in the end due to problems they had, finally advised me that they would not have it ready even by late May so I should go ahead with April without it, and we'll put it in the July issue after all. That's how we got to this period in time for the Dispatch.

We need to (and will) do better than this. As soon as this issue is gone to the printer I will start on the July issue, and I WILL have it in the mail no later than July 1st. We will stay on our schedule from now on, barring only flood, fire, earthquake, bankruptcy, computer failure, or other natural disaster. I also will not delay the January issue for 1993 as its not fair to the members who have renewed on time to wait for the Dispatch. We will mail with whatever renewals we have in January regardless of bulk mail or not, so it is very important to renew for 1993 by January 1st.

Technical improvements (I hope). I now have a scanner on my computer that allows me to scan text or graphics directly into the computer and make then part of a document so that they may then be printed out as an original, as part of the Dispatch. The first examples of this use are in this issue. Most of the stories were scanned in rather than having to be retyped by me. This will save me much time as I'm not a skilled typist. Also, the Cold Springs track diagram with Bill Wilkerson's story is reproduced in original print from a scanned drawing in Bill's article. I also finally am able to have the MilWest heading on page 1 as part of the original document rather than having to do a paste-on after the master is printed. The future impact of this is that I should be able to scan and print much of the material in the MilWest historical collection. Reproduction of much of this material would not be possible any other way. We can all judge the results in future issues.

- Rocky Gibbs

Vol. 5, Issue No. 2
April, 1992
MilWest Dispatch
444 W. 15th
Spokane, WA 99203-2110

Its bell ringing, the #17 Olympian eases away from the Missoula depot on this warm day in July 1951. Should the crewman in the side window be checking on the cause of the smoke behind him?

Warren Wing/Ron Hamilton Collection

Waiting patiently as part of the eastbound consist in the yard at Black River, Washington in 1949, Bi-polar E-3 awaits its three-day trip to Chicago where it will pose prominently on the shore of Lake Michigan as a part of the Chicago Railroad Fair. Page two of Fred Hyde's new pictorial book, *The Milwaukee Road* shows the unit on-site in full color display.

Warren Wing/Ron Hamilton Collection