

PENN CENTRAL

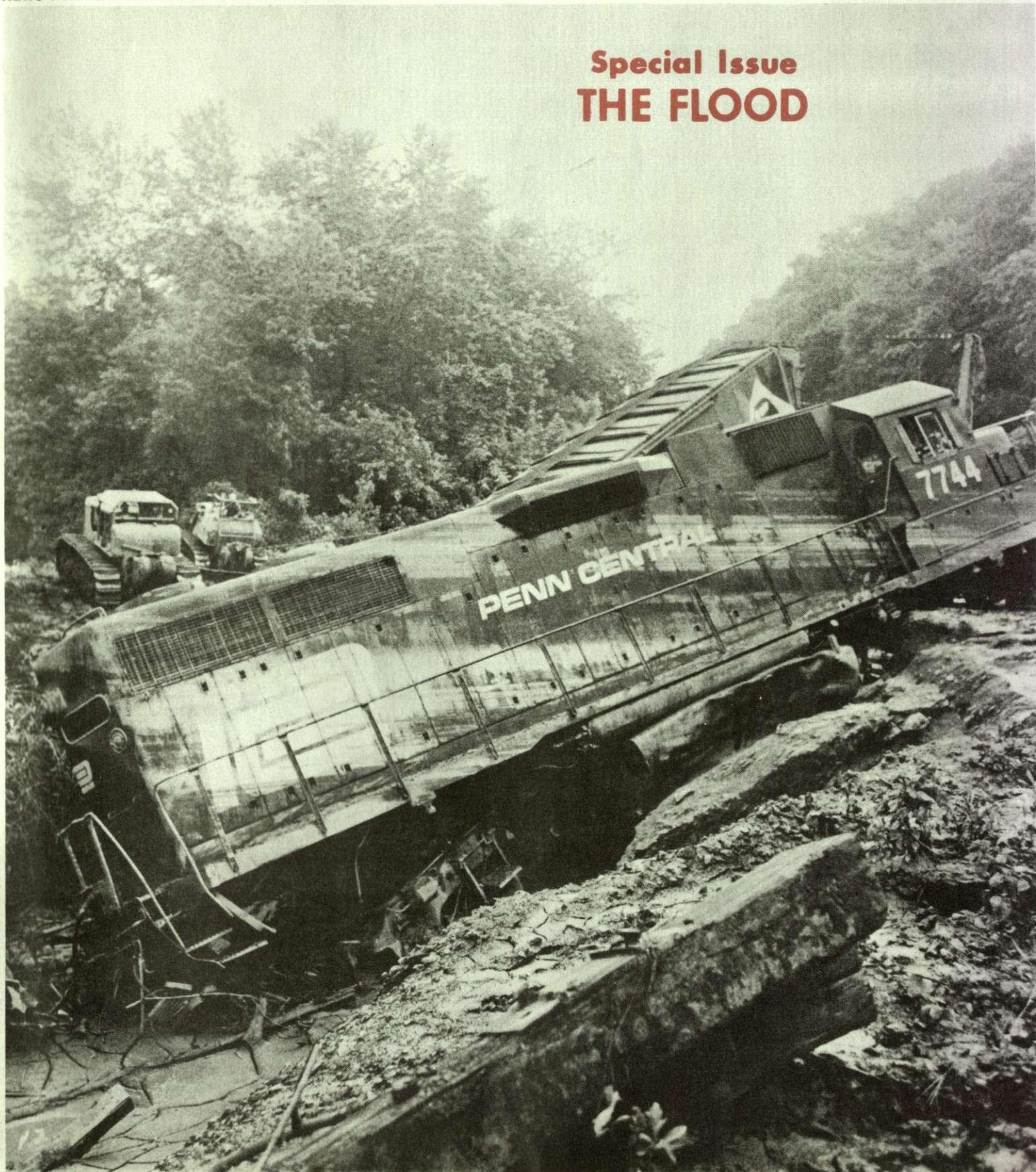


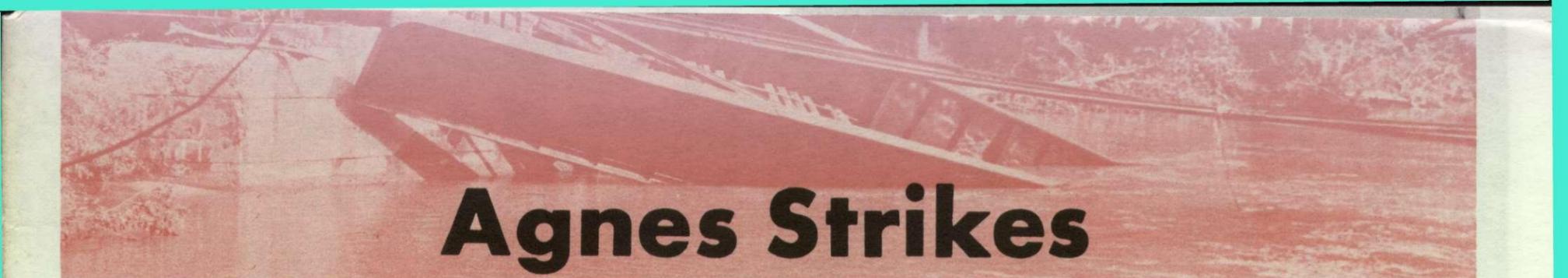
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NEWS FOR AMERICA'S LEADING RAILROAD FAMILY

AUGUST-SEPTEMBER 1972

**Special Issue
THE FLOOD**





Agnes Strikes

Tropical Storm Agnes splashed destruction across a mammoth swath of Penn Central territory.

The storm's heavy hand was felt at points along more than 4,000 miles of the Railroad's right-of-way.

From Syracuse, N.Y., on the north to Popes Creek, Va., on the south. . .

From Steubenville, Ohio, on the west to Leetes Island, Conn., on the east. . .

Mud and rock slides, washed-out roadbed, wrecked bridges, fallen communication lines, damaged freight cars and waterlogged locomotives told the story of a historic railroad disaster.

No one anticipated the erratic and ferocious course of this storm—"a once in a lifetime thing," said Dr. Maurice K. Goddard, head of Pennsylvania's Department of Environmental Resources.

Tropical Storm Agnes had thrashed Florida and Georgia with hurricane fury on June 18, then lost most of its power as it rolled through the Carolinas, flicked across the Virginia Coast and headed out to sea on June 20.

But instead of fading away, as normally happens, this tropical storm perversely picked up speed and moisture, and came charging inland again on June 21.

It lashed across New York State, looped down around Pittsburgh and turned eastward across Pennsylvania and Maryland.

Above the Susquehanna River Valley on June 22, Agnes ran head-on against a mass of cold air, which blocked its path.

And the storm center stayed there, discharging all its tremendous accumulation of moisture.

A normal four months' rain came down in two days, surpassing all previous records for the area. The rain poured onto hills and fields already saturated with the previous weeks' heavy rains, and ran off into streams and rivers, transforming them into raging torrents.

The Susquehanna River rose higher than ever before—more than 17 feet above flood level. Its tributaries participated in producing a massive flood that pounded fields, farms, towns and railroad yards and tracks.

William H. Moore, president of Penn Central Transportation Company, joined the presidents of three other bankrupt Eastern railroads in an appeal to the Senate Commerce Committee for approval of a bill providing loans for flood repairs.

Standing before a six-foot map, Mr. Moore pointed out the impact of Agnes on Penn Central territory from the Ohio-Pennsylvania border to the Atlantic Coast. He told the Senators:

"Our main traffic artery connecting this entire territory to points in the Midwest is this line which runs east from a major classification yard (Conway) near Pittsburgh through Altoona to Enola—another large yard just across the river from Harrisburg—where freight is reclassified for distribution along these radiating lines serving the entire eastern seaboard south of New York City.

"Traffic to and from New England moves over the northern route running through Buffalo, Syracuse and Albany. Freight from this area destined south of New York moves over two North-South lines which also converge at Enola, near Harrisburg.

"The central path of the storm was right through the area where all these lines converge—beginning at Washington, then Harrisburg, Williamsport and Wilkes-Barre, through Corning and Elmira and on north.

"The effect on the northern line (Buffalo-Syracuse-Albany) was not too severe, but on the main lines and branch lines which criss-cross the remainder of this area it was devastating."

The floods cut the main lines in eastern and central Pennsylvania and portions of Maryland and southern New York State.

Sixty-eight Penn Central branch lines and secondary and industrial tracks were hit by slides and washouts.

Twenty-five PC railroad bridges were demolished, and 23 others were damaged.

The biggest victim was the 2,200-foot bridge that carries freight traffic over the Susquehanna at Shocks Mills, Pa. The stone-arch bridge sturdily withstood the pounding waves—it held out for 10 days—and then, early on July 2, its central section collapsed into the river.

Another major casualty was the bridge over the Chemung River at Corning, N.Y. Three spans were torn off their piers and washed downriver.

Penn Central people labored through the worst of the storm to continue service. Bypassing flooded lines, they kept freight moving by longer, roundabout routes. Temporary repairs were rushed on a number of lines, making them fit for service but at severely reduced speeds. All this added to the costs of operation.

In his August 2 statement to the Senate Commerce Committee, Mr. Moore gave the following picture of the financial effects of Tropical Storm Agnes:

- **"Through June and July we have been deprived of about \$10 million of revenues from lost traffic and delayed collections because of the destruction of our own facilities and damage to our customers' plants.**

- **"Damage to our tracks and bridges exceeds \$14.4 million.**

- **"Damage to our locomotives and cars exceeds \$2.4 million.**

- **"These figures must be increased by a minimum of \$2.9 million for added transportation expenses for the delay and detouring of traffic and other disruptions caused by the storm."**

Thus, Penn Central faced added expenses of \$19.7 million, with revenues depleted by \$10 million, or an unfavorable revenue-expense factor of almost \$30 million.

Mr. Moore pointed out that even before the flood, Penn Central had forecast an extremely tight cash position through July, August and into September, because of several factors: Retroactive wage increases, failure to obtain approval of the requested amount of rate increases, and freight traffic lagging 2.9 percent below last year's figures because of slow resurgence of major industries served by Penn Central.

Nevertheless, he said, the Company had anticipated getting through the summer without having to use the \$15 million remaining from the \$100 million loan obtained in January, 1971, under a government guarantee. And it was expected that the Railroad's cash position would be improved somewhat during the last quarter of the year by the usual seasonal increase in traffic volume.

"Hurricane Agnes drastically changed the cash picture," Mr. Moore told the Senators.

Penn Central's Trustees now had to ask the Federal Court for permission to withdraw the last \$15 million of the loan money in order to meet payrolls and other operating expenses necessary for continued operation.

The flood damage and business losses resulting from Agnes also made it necessary to furlough approximately 1,000 employees in many crafts.

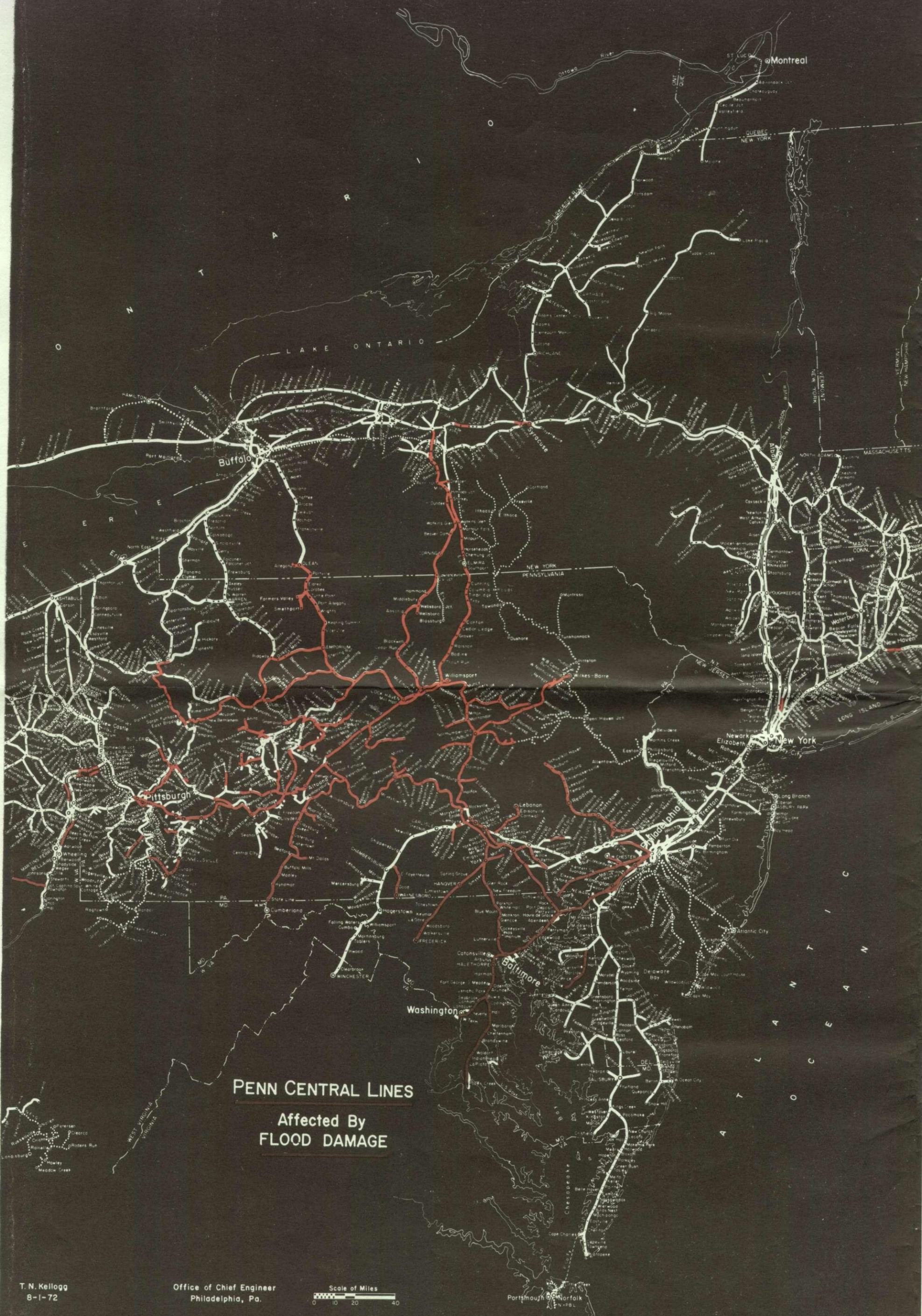
And the Company had to postpone improvement programs.

The Company has already spent about \$6.8 million to restore vital rail links, Mr. Moore told the Senators, but this has been done by diverting PC forces and material from other important projects previously approved by the Federal Court in charge of the Company's reorganization. To complete the restoration, \$12.9 million more must be spent.

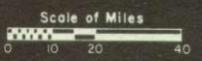
"If we are to make progress toward a successful reorganization and if we are not to take drastically backward steps in the achievement of quality rail service to the public, we need additional sources of cash to permit the early restoration of our plant," Mr. Moore declared.

The bill being considered by the Senate, "The Emergency Rail Facilities Restoration Act," which would authorize loans for repair of flood damage, "could therefore be an important ingredient in our survival," he said.

"But I must point out," Mr. Moore concluded, "that while the loans would cover the damage to our tracks, bridges and equipment, a substantial part of the other losses which I have described would still have to be borne by us without assistance."



PENN CENTRAL LINES
 Affected By
FLOOD DAMAGE





Only the catenary electric-power poles at Pequea, Pa., indicate the path of the flood-covered Columbia and Port Deposit Branch, key freight route.

The Log of the Flood

The first report of high water was phoned in to Penn Central headquarters at 8:28 A.M. on Wednesday, June 21, 1972.

Jim Van Cleave, on duty in the Operating Department, wrote it down in the log which is maintained by him and others around the clock.

"Main Line Harrisburg to Buffalo, Milepost 91-Milepost 92, north of Port Allegany, water reported 4 feet deep for 300 feet.

"Work train ordered to scene with 33 cars of ballast."

It had been a rainy two weeks throughout the eastern part of the Penn Central System, but water suddenly flooding the tracks was new and ominous.

Later in the day came a report from another part of the same route:

"Three feet of water over rail at Milepost 78.1."

And six hours later:

"Eight feet of water over rail at

Milepost 78.1."

The trouble spread rapidly. Through the early morning hours of Thursday, June 22, the reports tumbled in.

Thursday, June 22

12:40 A.M., Halethorpe, Md.: "Track No. 2 washed out for 200 feet."

1:15 A.M., Control Point JG, east of Syracuse, N.Y.: "No. 1 track is undermined for a distance of 25 feet. No. 8 track, eastward siding, completely washed out for 80 feet, and has a 25-foot deep hole in roadbed."

1:27 A.M., Patuxent, Md.: "Tree reported in catenary."

3:33 A.M., Wilkes-Barre Branch, east of Sunbury, Pa.: "Train CSB-7, Engineer I. Stover, Conductor J. Butler, derailed all units and 3 cars. No personal injuries. Cause: Culvert over Gravel Run was running full due to heavy rain—road-



This is PC's electrified East-West main line near Harrisburg Station. (Photo by H. E. Baer)

bed west of culvert undermined."

The Harrisburg Wreck Train was ordered to the scene of the derailment. It was blocked by an earth slide covering the tracks at Rockville, Pa. Immediately, the wreck train at Newberry Junction was ordered. It too was blocked; there was a washout just above Northumberland, Pa.

By dawn on the 22nd, it was clear that a major disaster was engulfing the eastern portion of the Penn Central.

The rain seemed endless. Streams and rivers had become raging torrents, threatening bridges, roadbeds, communication lines, shops, stations. Yards were becoming lakes. Mud and debris piled up against freight cars. Record river levels were predicted.

Penn Central Maintenance-of-Way employees struggled through rain, wind and mud to keep the railroad going. They brought in trainloads of ballast to restore washouts, shored up bridges, removed debris covering tracks. But often they found the storm undoing their work.

For example, these June 22 reports from Bowie, Md.:

2:08 A.M.: "All signals out."

3:03 A.M.: "All signals restored."

4:05 A.M.: "All signals out again."

4:54 A.M.: "All signals re-

stored."

At 9:05 A.M., J. B. Addington, vice president-operation, ordered a 30-mile-per-hour speed limit on all trains in the Eastern Region. During the next hour, the same restriction was placed on all trains in the Northeastern and Metropolitan Regions.

The public was notified of possible 5-hour delays on passenger trains between New York and Washington—3-hour delays between New York and Harrisburg.

At Conewago, Pa., Passenger Train 606, Harrisburg to New York, was marooned with a mud slide ahead and a washout behind. A few miles to the west, Passenger Train 30, the National Limited, was similarly trapped with washouts before and behind.

Buses were chartered and sped through some still-passable highways to pick up the passengers.

Continuing track washouts, mud slides, rock slides and damaged bridges were beginning to close off whole branches.

The flood ripped down a bridge at Parkton, Md., splitting the Northern Central Branch; the link between Baltimore and York, Pa.

A rock slide at Spruce Creek, Pa., and water across all four tracks at Tyrone, cut the main line between Enola and Altoona, Pa.

A washout between Minnick and

Continued on Page Four

The flooding affected many of the railroad's customers. Here is the scene at Steelton, Pa., as the Susquehanna's overflow flooded Bethlehem Steel plant and rows of freight cars.



Continued from Page Three

Quarry, Pa., and deep flooding at Pequea, Pa., closed off the Columbia & Port Deposit Branch. This is the vital railroad route for freight movements to and from Wilmington, Baltimore, Washington and the South.

By mid-afternoon on the 22nd, widespread damage to tracks and bridges on the Corning and Elmira Branches compelled E. L. Claypole, assistant vice president, operation-east, to stop service on these branches.

Situation reports on late Thursday, June 22, gave an idea of how far the damage had spread:

Mohawk-Hudson Division: **Newton Falls Branch washed out north of Milepost 35 between Carthage and Natural Bridge for about 15 feet.**"

Watkins Glen Secondary Track: **"Slide between Rock and Himrods Jct., N.Y."**

Morrison Cove Secondary Track: **"Out of service account high water."**

Watsonstown Branch: **"Water at track level and rising."**

Oil City Industrial Branch: **"Under water."**

York, Pa.: **"Yard completely under water, 6 feet deep in places."**

Bainbridge, Pa.: **"Train TV-21 standing with pantographs burnt fast to catenary."**

Wilmington, Del.: **"Pulling cars to high ground from Edgemoor Yard."**

Harrisburg, Pa.: **"Everything in the area about 3 to 4 feet under water, nothing moving at all."**

Meanwhile, Penn Central people were trying to move trains. Routes were reshuffled to skirt the flooded areas. Trains from the West, scheduled to pass through Enola, Pa., were classified instead at Conway Yard, north of Pittsburgh, then dispatched via the northern main line along the Lakes. Westbound TrailVan trains normally moving through Harrisburg were routed via Selkirk, N.Y.

But trains that were caught in flood territory had a hard time getting out. Westbound Freight TH-1, moving out of Wilmington, Del., got as far as Perryville, Md., but had to stop and go back. A hopper train was caught near Bowie, Md., on the Popes Creek Branch, and had to be left there. Many freights were stored at Bay View Yard, Baltimore, and at Potomac Yard, south of Washington, D.C. The key yard at Enola, Pa., was jammed with freight cars, and no route open to get them out.

The primary job of the Maintenance-of-Way Department was to reopen routes wherever possible and as quickly as possible. A June 22 memo from C. T. Popma, chief



Normally placid Chemung River became a raging torrent that tore down and scattered the spans of the PC bridge at Corning, N. Y.

engineering officer, said: **"Track forces will continue patrolling during the night and M-of-W forces will fill in the washouts and remove the slides during the daylight hours tomorrow."**

But it was obvious that tomorrow—Friday, June 23—would be the roughest day of all. This was the day, the Army Engineers predicted, when the Susquehanna and other rivers would begin to crest at record levels.

Friday, June 23

Scattered locations that previously hadn't reported trouble now appeared on the situation report as the rains continued.

High winds across Lake Erie

drove waves across the tracks at points on the Cleveland Division. Number One track on the Lake line at Cleveland was out of service because of a washout near DB interlocking station. At Hoboken, N.J., there was tidewater over the tracks during the pre-dawn hours.

New slides of mud and rocks were found at four places on the Main Line east of Pittsburgh. New washouts were reported at Hollands and Cockeysville, Md. Water was more than six feet over the rails at Hanover Street in Pottstown, Pa.

Near Safe Harbor, Pa., mud and rocks tumbling down a hill hit a bridge foundation, bending the bracing; and another slide derailed two cars of a standing train. Near

Black Lick, Pa., flood-washed track gave way under a train of coal bound for Pennsylvania Power and Light Company, and 15 cars were derailed.

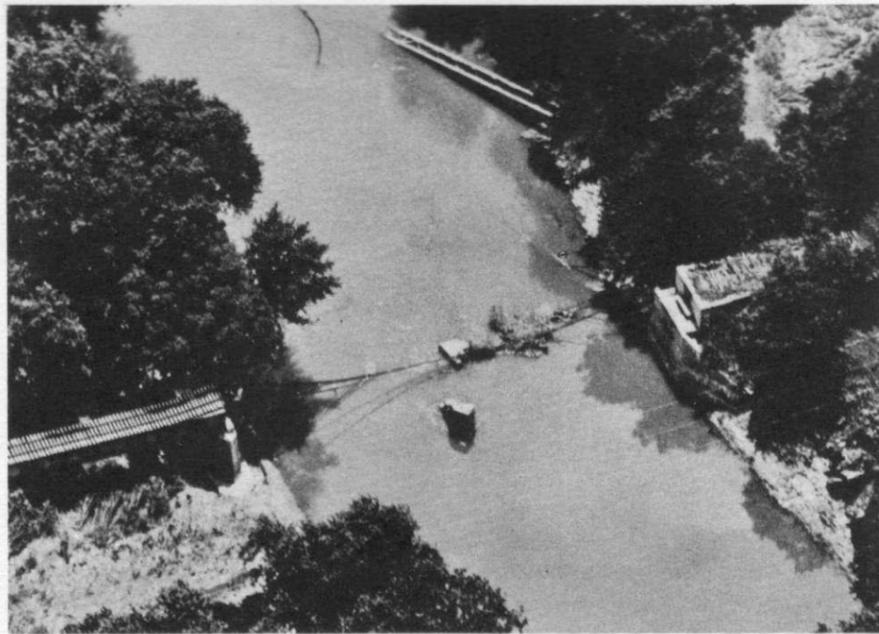
On the Main Line near Tuscarora, Pa., 50 feet of track was undercut 20 feet deep ("carpenters waiting for water to recede in order to shore up"). Near Petersburg, Pa., there was a washout of 1500 feet of track ("with rail sagging 15 to 20 feet deep—needs a lot of cribbing").

High water drowned the air plant at the block towers at Radebaugh and Conpitt Junction, Pa., making it impossible to operate the switches. Diesel locomotives were run to both locations, and the diesels' air compressors were connected by hoses to the block towers' air lines, providing pressure to operate the switches.

At Mifflin, Pa., with water two feet over the Main Line tracks and rising, a tie-laying gang in a camp train had to be evacuated. At Miles Tower, on the Bald Eagle Valley Branch, the block operator had to be taken out during the night.

Many branch lines were out of service, including the Columbia & Port Deposit, Atglen and Susquehanna, Wilkes-Barre, York Haven, Shell Pot, Corning, Elmira, Bald Eagle Valley, Schuylkill Valley.

On the Corning Branch, things went from bad to impossible. The Chemung River had been savagely pounding the Penn Central bridge for two days, and PC people placed 15 loaded coal hopper cars on the



At Frederick, Md., two spans were ripped from piers and washed away in Monocacy River.

Bodine, Pa., Elmira Branch: Lycoming Creek washes out the bridge at Milepost 16.39.



Another bridge (at Milepost 17.60) is wrecked by flood on Elmira Branch at Bodine, Pa.



bridge to steady it. But at 5:20 A.M., the river won. The bridge's three central spans, plus the 15 cars, toppled into the rampaging river.

The cost of restoring the bridge would be close to \$1 million.

The passengers who had been taken off Trains 606 and 30 the day before were put up for the night in a church at Middletown, Pa. Now school buses picked them up at the church and brought them to Lancaster, Pa., where a special train of three Silverliner cars brought them to Philadelphia. There Amtrak representatives helped them make connections to New York City or other destinations.

Passenger service between Boston and Washington went back to normal speeds, except for a 50 MPH restriction between Wilmington and Washington. Westbound travel, however, remained blocked by the flood waters continuing to rise at Harrisburg.

Train 40 from Chicago and 30 from St. Louis, which normally pass through Harrisburg, were terminated at Pittsburgh, and passengers were carried by bus to destination. Westbound Amtrak trains that normally go from Penn Station, New York, through Philadelphia and Harrisburg were rerouted to start at Grand Central Terminal and travel via Buffalo and Cleveland.

New arrangements were worked out for the many freight trains normally handled at Enola and Harrisburg, Pa., or moving via the Buffalo-to-Harrisburg main line or the Columbia and Port Deposit Branch—all out of service. These trains were sent via the northern Lake shore route, and the necessary classification was done at Conway, Pa.; Elkhart, Ind.; Selkirk, N.Y.; and Kearny and Meadows Yard, N.J.

The situation report late on June 23 included such items as:

Elmira Branch: "Bridge 15.60, 35-foot girder washed out. Bridge 16.39, 85-foot girder washed out. Bridge 17.60, south abutment washed out and south end of truss down."

Allegheny "B" Division: "Entire Division out of service."



Creek at Tioga, Pa., jumped its banks and totally undercut the track to the bridge.

Milepost 210, Main Line, Harrisburg to Altoona: "1500 feet of No. 1 track out; 1500 feet of No. 2 track washed half way under track; No. 3 covered with water, numerous slides and washouts."

Atglen and Susquehanna Branch: "Susquehanna Bridge embankment washed out for 180 feet; No. 1 track swinging for 40 feet, No. 2 track scoured out underneath—can't get to it."

Ellsworth Branch, Pittsburgh Division: "Out of service, slides at 7 locations."

Berwick Branch, Harrisburg Division: "Milepost 10.6, roadbed washed out 700 feet long, 8 feet deep. Milepost 10.9, roadbed washed out 1000 feet long, 8 feet deep."

And the cresting had begun.

High Water Marks

When a river rises to the top of its banks, that's flood stage. Every inch above flood stage means water spilling into fields and streets. Every foot above flood stage means flooded cellars. Five feet above flood stage means heavy damage.

But Agnes boosted river levels as much as 18 feet above flood stage at some places. This surpassed the destructive flood of 1936, a vivid and painful memory to veteran railroaders.

Army Engineers, charting the downpour and the rate of runoff into the rivers, were able to alert the communities as to approxi-

mately when and how high the rivers would crest. However, how deep the water would be on a specific field or street would depend on the elevation at that point.

The high water marks—the cresting of the rivers—took place as follows at some representative Penn Central cities:

At **Renovo, Pa.**, the west branch of the Susquehanna reached 27 feet at 8 A.M. on June 23. The level at which the river would flood over its banks was 16 feet; it rose 11 feet higher than that.

At **Lock Haven, Pa.**, the river rose to 32.7 feet at 2 P.M. on June 23. That was 11.7 feet above flood stage.

Jersey Shore, Pa., reached 37 feet at 6 P.M.—11 feet above flood stage.

Williamsport, Pa., 31.5 feet at 9:30 P.M.—11.5 feet above flood stage.

Sunbury, Pa., 35.7 feet at 1 A.M. on June 24—11.7 feet above flood stage.

Harrisburg, Pa., 34 feet at 12:30 P.M. on June 24—17 feet above flood stage.

Wilkes-Barre, Pa., on the east branch of the Susquehanna, reached a record 40.6 feet at 7 P.M.



Track leading off the Corning Branch at Lawrenceville, Pa., is route to nowhere, after flood and debris broke the rails and washed away about 400 feet of track.

on June 24. That was 18.6 feet above flood stage, and Wilkes-Barre suffered the greatest devastation among the cities in the flooded territory.

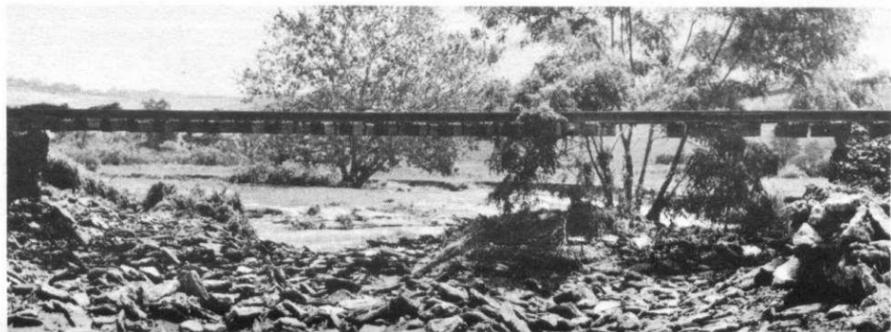
Mapleton, Pa., on the Juniata River: 33 feet at 10 A.M. on June 23—13 feet above flood stage.

Newport, Pa., on the Juniata River: 32 feet at 7 A.M. on June 24—10 feet above flood stage.

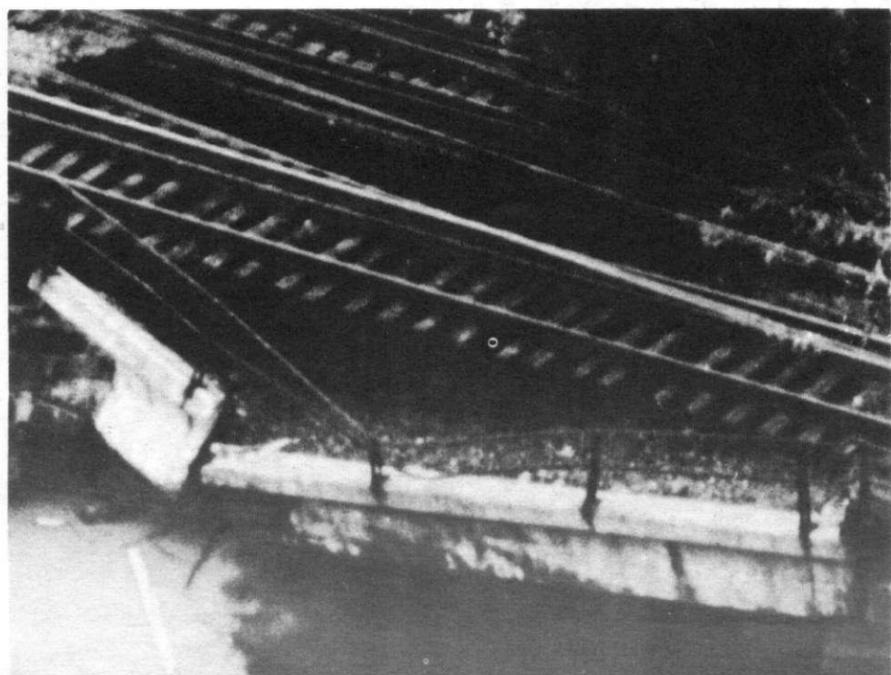
At the "Point" in **Pittsburgh**, where the Monongahela and Allegheny Rivers join to form the Ohio, the crest was 35.8 feet at 5:30 A.M. on June 24—10.8 feet above flood stage.

At **Steubenville, Ohio**, the Ohio River crested at 43.5 feet at noon on June 24—10.5 feet above flood stage.

As the water level went down during the succeeding days, and the rivers returned to the riverbeds, Penn Central Maintenance-of-Way people were able to fully assess the damage. An intensive repair program went forward, giving priority to restoring the most essential lines.



Rails are left hanging in air after washout near Parkton, Md., Northern Central Branch. The flood fractures a bridge at Millersburg, Pa., on the Harrisburg-Buffalo main line.



Stone arch of bridge collapsed at Smyser, Pa., leaving rails suspended across the gap. Tracks are shredded at the bridge at Milepost 86.5, Lawrenceville, Corning Branch.





Rolling Stock... Rolling Rivers

It was a shocking thing to railroaders to see freight cars standing in the flood like sea creatures, with water lapping into journal boxes, into boxcar doors, in some cases all the way up to boxcar roofs.

Several yards became inland seas, with destructive effects on cars and locomotives.

Some cars were marooned on branches and spur lines, impossible to pull to safety because of washed-out track or wrecked bridges.

At Shenks Ferry, Pa., a landslide sent coal cars tumbling off the tracks. Near South Danville, Pa., a bridge gave way under a train, and a four-unit locomotive and several freight cars went crashing down a 30-foot embankment into a stream bed. At Fair, Pa., three locomotives were derailed, plunging into water and mud.

When the flood waters receded, PC Maintenance-of-Equipment men faced a dismal and costly task of repair and clean-up.

Twenty-two locomotives needed heavy repairs, up to complete overhaul. About 1,400 other locomotives—a third of Penn Central's entire fleet—had to be individually gone over for water damage. Wherever water was found in the lubricating oil—in journal boxes, suspension bearings or traction motors—the oil had to be drained, the parts cleaned and dried, and new oil put in. Damaged parts had to be replaced. Thick, clinging mud had to be cleaned out of motors, generators, even locomotive control cabinets.

The work has been done by Penn Central men at locomotive servicing points across the System:

St. Louis, Indianapolis, Colum-

bus, Chicago, Elkhart, Toledo, Detroit, Conway, Enola, Harrisburg, Buffalo, Syracuse, Selkirk, Harmon, New Haven.

An on-the-ground inventory showed 2,291 freight cars affected by the flood and needing repairs, replacement of parts, cleaning, new lubrication or other attention.

Brake valves are taken off and sent to Samuel Rea Shop, Hollidaysburg, Pa., to be dismantled, cleaned, reassembled and tested. Brake lines are blown out. Journal boxes are cleaned out, brass bearings are replaced if scratched, new lubricator pads are put in. If the cars have roller bearings, these are removed and sent to the shop for cleaning and greasing. Many cars were swamped with mud and debris, and had to be given a thorough cleaning.

This work has been done by PC

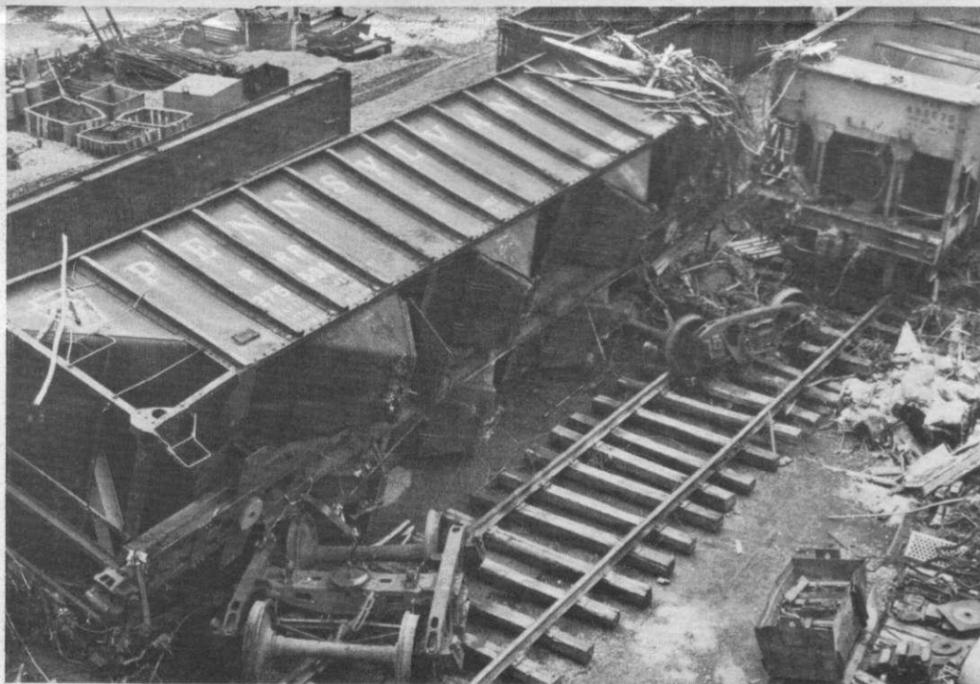
men at many car shops:

Corning, Northumberland, But- tonwood, Clearfield, Lock Haven, Enola, Altoona, Lewistown, York, South Philadelphia, Edgemoor, Bay View, Morrisville, Reading, Phillipsburg, Meadows.

Retrieving some of the marooned cars proved extremely difficult. A typical tough assignment involved 17 boxcars caught by the flood at New Freedom, Pa., south of York on the Northern Central line. The line was cut by numerous track washouts and damaged bridges.

Truck-tractors with low-bed trailers were driven to the site, together with two highway cranes. The boxcars were unloaded. They were hoisted in the air by the cranes, and the boxcars' wheel trucks were removed.

Then the cranes laid the boxcars on their sides on the trailers; and the cars, like wounded storm vic- tims, were trundled away.



At Reading, Pa., on the Schuylkill Branch, flood water knocked hopper car off its trucks.

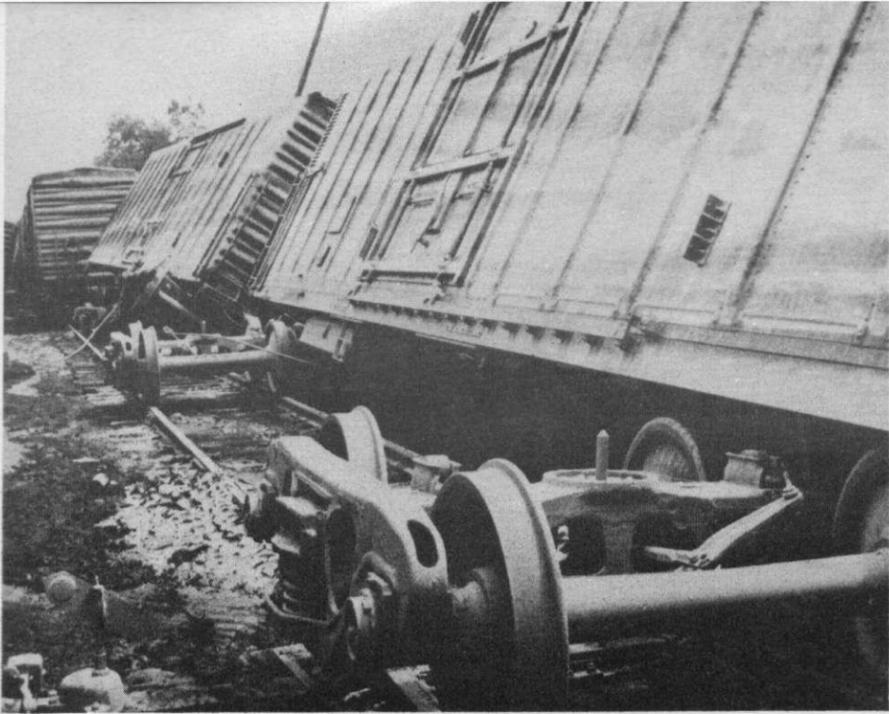


Force of flood at Reading, Pa., carried car 250 feet. (Photo by Jeffrey Wagoner)

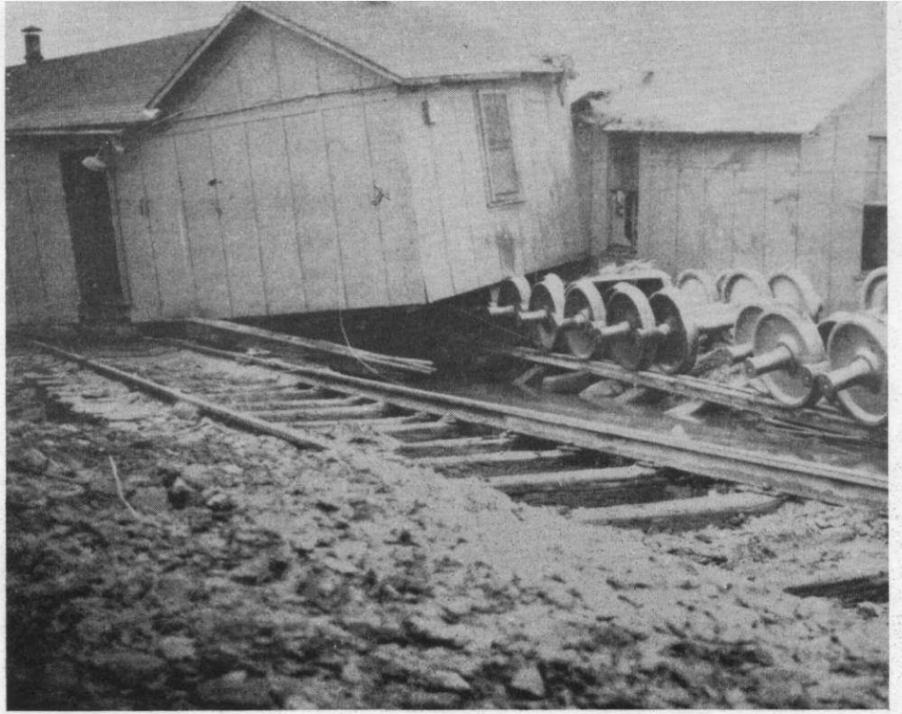
Battered locomotive was lifted from a derailment near South Danville, Pa.

Wreck near South Danville, Wilkes-Barre Branch, occurred when flood-weakened bridge collapsed.





Flood disassembled cars at Buttonwood, Wilkes-Barre. Water here was about 15 feet.



Welfare building at Buttonwood was slammed 20 feet, landing on wheel storage track.

The Story of Three Yards

Wilkes-Barre Disaster

Wilkes-Barre was the city hit hardest in Pennsylvania's flood territory. And Buttonwood Yard, on the western side of Wilkes-Barre, was the hardest hit of Penn Central yards.

"We'd had a lot of rain during the preceding two weeks, and the Susquehanna was rising, but we didn't expect serious trouble," said Jim O'Boyle, second-trick yardmaster.

"But then the river spilled over the dikes on June 23, and that was the end."

More than 100,000 people were evacuated from Wilkes-Barre and nearby towns as the water rapidly rose to second-story level.

During the final hours, the Buttonwood Yard crew worked feverishly to make up Train CSB-7 and get it moving down the Wilkes-Barre Branch.

"Good—at least we go that out," Yardmaster Kenneth Thoma told his men.

But CSB-7 traveled only 40 miles. Near South Danville, a bridge collapsed under the four-unit locomotive and sent the head end of the train tumbling into a stream bed.

About 300 freight cars were still left in Buttonwood, and the yard crewmen were working to move them to the highest part of the yard. But then the flood came rolling in, making their task hopeless, and the men saved the two switching engines by running them to the Delaware & Hudson Yard.

Buttonwood Yard disappeared under a muddy sea, 20 feet high in the deepest places.

Yardmaster O'Boyle drove his wife, Eleanor, and 11-year-old daughter, Colleen, to the home of his married daughter, Judith, located above flood level in Hanover Township.

"I was luckier than thousands of other people—the water never got to more than a foot deep in my basement," he said. "But Buttonwood Yard—that was something else."

"When the police and National Guard finally let us go back in there on June 28, the place was a wreck, deep in mud."

"We forced open the door of the yard office. The water had been four feet deep on the second floor.

We'd lost everything—all the records, teletype, car reporting machine, telephones. You tried to open a desk drawer and it fell apart. We couldn't salvage anything.

"During the days after that, General Car Foreman Bob Piantek's men cleaned and re-oiled the cars, and they were moved out by way of the Lehigh Valley.

"But Buttonwood Yard... where I've worked 23 years... Buttonwood Yard looked like a place that had been bombed out."

Northumberland Mud

When they came to work on the morning of June 22, everything looked all right.

"But by 3 P. M., we knew we were in big trouble," said Bill Greis, car control clerk at the Penn Central yard in Northumberland, Pa. "We got the order to shut down the yard. The two yard crews were told to hurry home before they got stranded."

In the middle of the night, Track Supervisor Bryan Holmes, who had only recently moved into his new house, had to pack up his wife and two children and flee. He reached the home of Trainmaster Bob Carbaugh, across the Susquehanna River, where the Holmes family was given shelter.

The next day, Bryan Holmes was able to hitch a ride on an Army helicopter and get back to the yard area. But there was nothing that could be done. It was all under water.

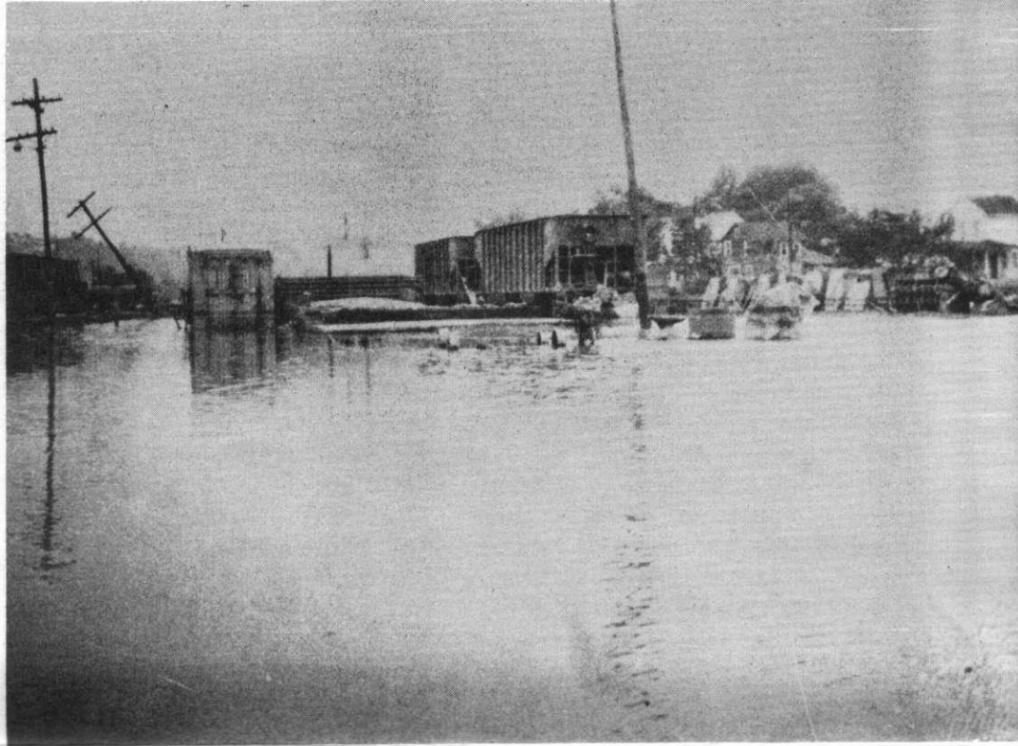
"We couldn't get back to work until June 27," said Yard Clerk Paul Mincemoyer.

"When we got there, we found that water had been four feet deep in the yard office. There was mud all over. The Flexowriter, IBM machine and teletype were all out of commission.

"Some of the desks swelled up and came apart. In others, the drawers were stuck so tight, you had to pull the ends out to get inside. And then you found all the records soaked or caked with mud."

Yardmasters, clerks and everybody else went to work with hoses, mops and buckets, and cleaned out the mud and debris.

Then they started salvaging records. Clerk Dorothy Beachell strung a clothesline, and she and



Car shop area at Buttonwood, Wilkes-Barre, as flood subsided. (Photos by J. F. Roseman)

others began hanging soggy, muddy papers with clothespins. Trainmaster's records, correspondence, car service rules, trainmen's and enginemen's records all went up on the line.

"Some of them took a week to really dry out," Dorothy said.

"Many important records were preserved—a wonderful salvage job," said William P. Gaskins, supervisory agent.

York in Trouble

Mill Creek, which runs along the west end of the PC yard at York, Pa., is normally a peaceful little country waterway.

"But on June 22, it looked like the Susquehanna River," said Trainmaster Mike Bruzina.

"It flooded the whole western side of the yard. We had about 200 cars in the yard at the time, and we did what we could in preparation. We moved as many cars as possible to the east end, the higher part of the yard.

"The men on the first trick, under Yardmaster Michael J. Lydon, and second trick, under Yardmaster John F. Lonsdorf, did a good job in limiting the damage—but there was still plenty."

"Cars standing in water, drowned switches, dunnage and debris floating around, and mud everywhere—it looked like Dante's Inferno," said Mr. Lonsdorf.

"You know, I came down to this territory from Scranton in 1940, and the men here have told about a



At Northumberland, Pa., soaked and muddy railroad documents are hung to dry by Dorothy Beachell, Norman Bolig.

big flood in 1936. But they say this one was worse."

The York yard was shut down till June 27, but the yard office and repair track, which are on higher ground, could continue to operate.

"After the flood waters went down," Mr. Bruzina said, "Track Supervisor Joe Ciganik's men cleaned the debris out of the yard, oiled the switches, spread new stone, and did a marvelous job of restoring the place."

Said Yardmaster Lydon: "I don't want to see another event like this for the next hundred years."



Storm mangled the main and passing tracks on Wilkes-Barre Branch at Nescopeck, Pa.



Track was washed clear off bridge at Cockeysville, Md., on Northern Central Branch.

Agnes Rides Down the Tracks

Reviewing what has been done in restoring flood-damaged lines, PC engineering officials find themselves staring at staggering figures.

A quarter of a million tons of new ballast have been spread on Penn Central tracks.

Almost 90,000 tons of rock—what engineers call “riprap”—have been piled against railroad banks to halt erosion.

Repair and rebuilding is going on or is completed on 37 major railroad bridges, and more than 4,000 other bridges in flood territory have been individually checked for safety by PC inspectors.

Washouts and landslides have been corrected at locations scattered over more than 4,000 miles of line.

“Enclosed in these statistics is

the story of PC people doing a notable job under the most difficult circumstances,” says Charles T. Popma, chief engineering officer.

“Drenched in rain and mud, hampered by difficulties in bringing in supplies, working through the night in many cases, they restored service on major Penn Central lines in commendably short time.”

Men whose own homes were flooded, and families evacuated, faithfully reported for duty, says Albert S. Barr, engineer in charge of Maintenance-of-Way for the Central Region.

“Real railroaders,” he says. “They knew the tracks had to be fixed and the trains rolling again to provide essential service.”

Maintenance-of-Way employees were put up in camp cars, in motels, in hotels—wherever quarters

could be found. At some outlying points, food had to be rounded up by sending M-of-W truck drivers out hunting for grocery stores that had escaped flood destruction. Water often had to be trucked to work locations because local supplies were shut off or were polluted.

Mr. Barr left his Pittsburgh headquarters and set up shop at Williamsport, Pa., in the heart of flood territory. From there he rode a helicopter to get a quick reading of the damage and what was needed for restoration. Riding just above treetop level, with track charts in his lap, he could identify locations and closely estimate the length and depth of washouts and landslides.

“There was widespread devastation on every main route, every branch,” Mr. Barr says. “In one area, between Lock Haven and Williamsport, there were thirty washouts in three miles.”

In many cases, the track men had to build cribbing—temporary timber support for rails over a washout. This made it possible to push hopper cars far enough over a hole to dump fill material.

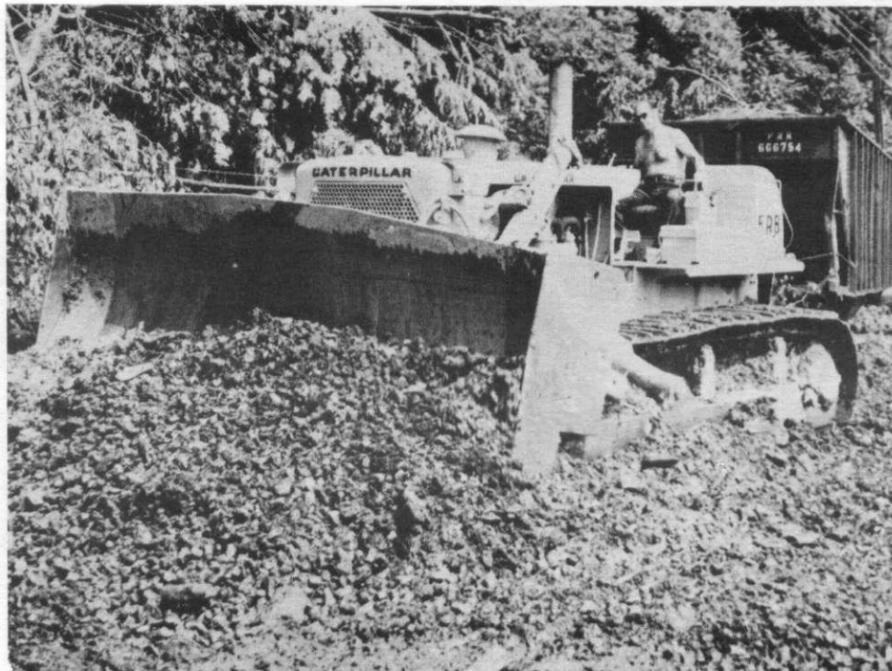
“It’s an old railroad technique, but some of our men had never had occasion to use it,” says Hal E. Richards, division engineer at Williamsport. “Veteran railroaders showed them how.”

One of the most urgent jobs was at Harrisburg, where rail lines had

to be rearranged to provide new routings because the collapse of Shocks Bridge had cut off the main route into Enola Yard.

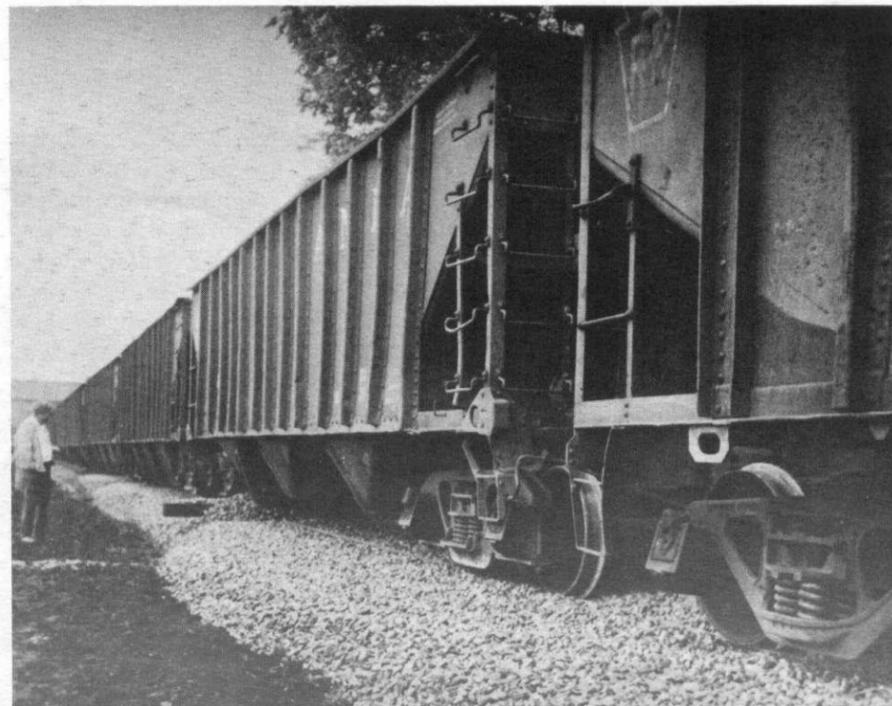
“Our men worked for almost two months after the flood, installing new crossovers and new relay tracks, and upgrading existing tracks in the Harrisburg terminal area,” says Donald A. Shoff, division engineer at Harrisburg.

The behavior of Agnes could be odd and capricious. East of Montandon, Pa., there are two bridges side by side—one for the main track, one for a siding track. The flood knocked out the first, didn’t

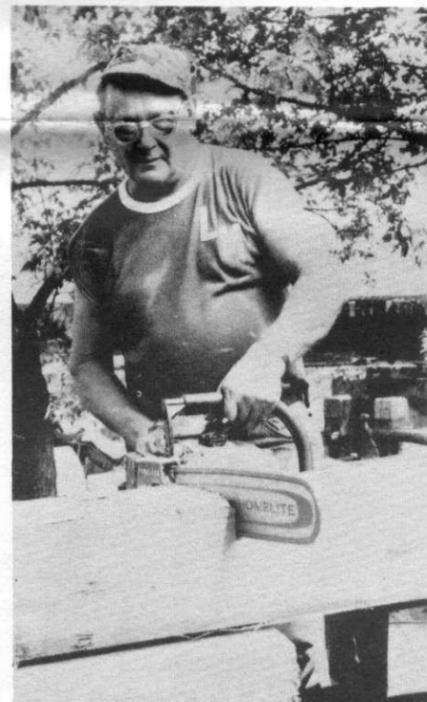


Clean-up of one of over 30 slides and washouts on Columbia & Port Deposit Branch.

New ballast is spread on tracks at Montandon, Pa., on Harrisburg-Buffalo main line.

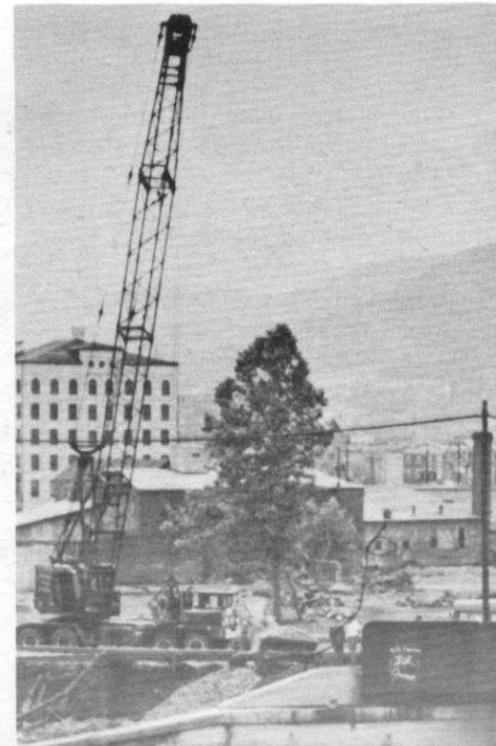


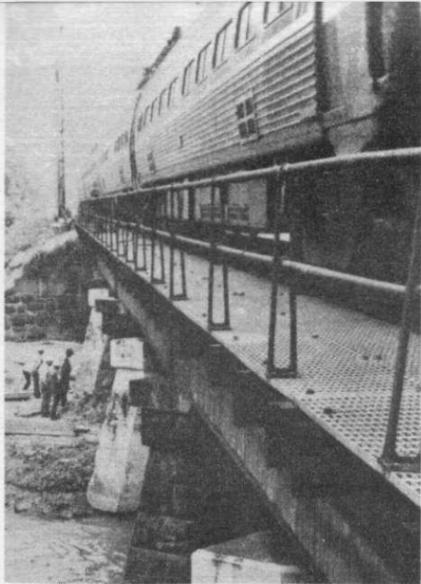
Robert J. Ragan’s torch cuts away rails that were damaged by landside near Pequea, Pa., Columbia & Port Deposit Branch.



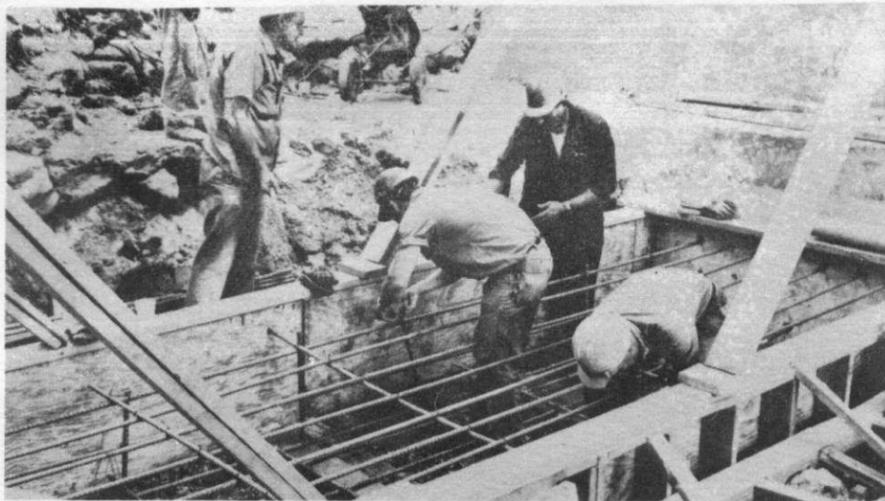
At Wellsboro, Pa., Carl F. Pietron cuts wood for cribbing, or temporary support, in repair of bridge undermined by flood.

Repairs proceed at bridge over Schuylkill River at Reading, Pa. Subsoil under approach track was washed out 8 feet deep.





PC men reinforce flood-weakened pier of bridge over Patuxent River at Odenton, Md.



General Foreman Harry Reid's men build the form and install the steel reinforcing rods.



Sam Galatolo guides flow of concrete into the form, providing new support for pier.

harm the second.

"So, as a temporary expedient, our men simply cut the main track into the siding track," says Mr. Shoff.

"In some cases, a section of track was lifted by the flood waters and laid down neatly half a dozen feet to one side," says James T. Sullivan, System engineer of track. "In other cases, the roadbed was bodily deposited in a nearby field. Our men went out with front-end

loaders, picked up the fill and put it back."

A maddening element was the thick, sticky layer of mud left on the tracks by the retreating flood.

"To clear it, our men used bulldozers, front-end loaders with buckets, cranes, even a sweeper train," Mr. Sullivan says.

"It was awfully hard to get rid of.

"Just a final annoying memento of Agnes's visit."

The Power Struggle

Back during the flood of 1936, the Susquehanna River at Harrisburg, Pa., rose to a record height of 30.3 feet.

The Engineering Department, which was then completing designs for the railroad's electrification project, immediately modified the plan for the Harrisburg power substation by elevating the control room on steel stilts two feet above the 1936 flood level.

Nobody could conceive of a flood that would exceed 1936's all-time record.

But Agnes did it.

The water climbed clear up the stilts and reached a foot and a half above the control-room floor.

Robert M. Grab, foreman of substations, standing with binoculars on a bridge a block away, watched with sinking heart as the water rose.

He hitched a ride on a River Rescue motorboat, but the fierce swirls made it too risky to go close to the substation. The next day, the current slowed somewhat, and the boat carried him right over the 9-foot fence to the control room.

"I found that 14 relays on the bottom part of the control board—about 10 percent of the total relays—had water damage," Bob Grab says. "I felt we were lucky. Every additional inch would have meant more damage."

To get this key installation back in service, relays were borrowed from standby equipment at substations in Providence and Parkersburg, Pa.

Penn Central's 81 substations are a basic part of the electrified system that powers electric trains from New Haven, Conn., to Washington, D. C., and as far west as Harrisburg. The substations' function is to receive 132,000-volt power and step it down to 11,000 volts, which is fed into the overhead "trolley wires" from which electric locomotives draw current. On portions of the former New York Central, the power is transmitted through third rails instead of overhead wires.

The substations are operated by remote control from five offices manned around the clock by load dispatchers and power directors.

Agnes kept these men hopping, as they strove to keep power on vital circuits or shut off power when required for the safety of Maintenance-of-Way employees repairing flood damage.

As the flood continued to rise, it knocked out cables that provide remote control from the offices to the substations. So somebody had to travel to the substations whenever power had to be turned on or off.

This was rough going where highways were washed out. Young Electrician Jay Sanders, who was dispatched on such an errand to the Safe Harbor (Pa.) substation, had to trek back and forth on back-country roads through the hills before he found a way to get there.

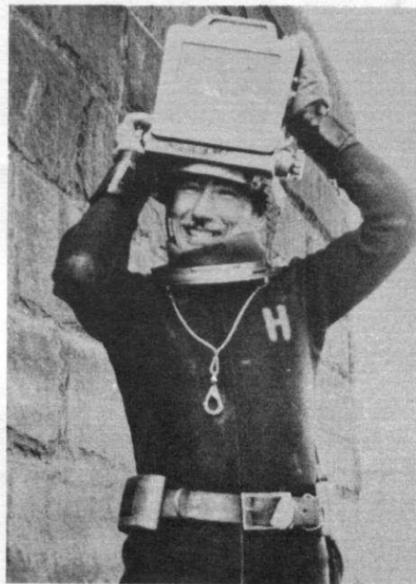
"We were fortunate that only one of our steel catenary poles was knocked down, when the center spans of the Shocks Bridge collapsed into the Susquehanna," says Harold W. Clarke, engineer of electric traction for the Eastern Region.

"But we had a big problem with trees toppling onto trolley wires, high-voltage transmission wires and signal power wires, grounding them and shutting off power.

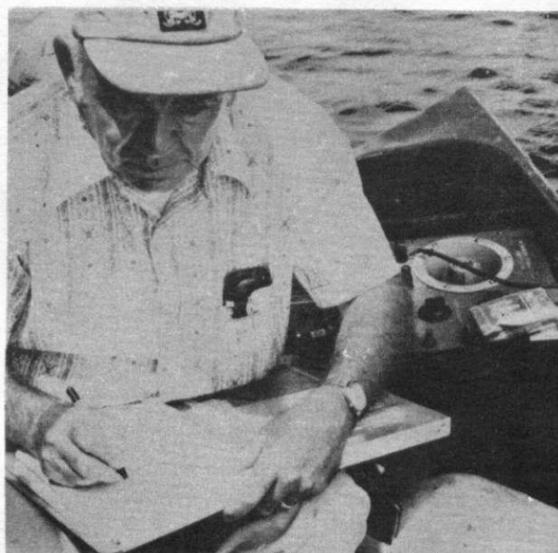
"The worst situation was on the Columbia & Port Deposit Branch between Perryville, Md., and Columbia, Pa., where landslides carried trees down on the wires. The men of Foreman Paul Tiller's Wilmington Wire Train and Foreman Joe Consentino's Baltimore Wire Train tackled this job.

"It frequently happened that when they removed the obstructions at one spot and moved to another area, they found that more trees had fallen in the location they had just cleared.

"But working around the clock, in mud up to three feet deep, they had all the wire on that troubled branch restored in 40 hours."



At Washington, Hal Lowe gets set to submerge for inspection of PC's Long Bridge.



The diver's underwater reports come up by phone line into amplifier on boat, and are recorded by B&B Inspector Paul E. Lytle.

Signals in the Storm

Men in the Communications and Signals Department are all familiar with trouble.

"In my 23 years on the Railroad, I've worked on damage due to snowstorms, hurricanes, wrecks, floods," says Jack E. Hartfield, engineer of C&S maintenance, Eastern Region.

"But never anything like this Agnes disaster."

Signal equipment such as roadside relay cases and switches were drowned under 12 to 15 feet of water in some places. More than 50 trees toppled onto telephone lines, cutting communications. Mud clogged sensitive gear—"never saw such mud—like glue," Mr. Hartfield says.

"Our men were out working to restore communications and signal lines long before the water subsided. Some crews worked in water up to their waists to get a telephone cable back in service.

"One crew was out of touch with headquarters for more than three days. When we finally got through to them, we found they'd organized themselves without direction from us. They'd made inspections, assessed the damage, and were well along on the needed repairs."

The magnitude of the damage was staggering, says Lawrence E. Light, engineer of C&S maintenance for the Central Region.

"At Lock Haven alone," he says, "we had to change out 382 relays, 55 rectifiers, 345 cells of batteries, 57 pieces of overlay track equipment, and 16 transformers.

"When the water receded in the Lock Haven area, a deposit of sludge containing some metallic substance was left between the rails, causing short circuits. So the track had to be cleaned and raised with new ballast before we could

properly restore the signal circuits."

Telephone pole lines were badly damaged by washouts in the area of Williamsport, Mifflin and Duncannon, Pa., and Corning, N. Y. There was damage at a number of interlockings—the key signal-and-switch arrangements that prevent train collisions. At North Eldred, near the Pennsylvania-New York border, there was high water in the building containing Centralized Traffic Control, and this expensive gear had to be replaced.

The C&S men had to set up a "laundry service" for mud-clogged equipment such as relays, rectifiers, electric switches and air-compressor motors, Larry Light says.

"The equipment was washed out by using a tank-type garden sprayer," he explains. "Then it was baked dry by using a home-made oven, which usually consisted of a box with either electric strip heaters or light bulbs mounted in it.

"Finally all the damaged parts were replaced, the assembly was tested, and returned to service."

In the Eastern Region, the focus of major C&S effort was the Harrisburg area, particularly when the collapse of Shocks Bridge necessitated quick arrangements for alternate routes.

"Our C&S men put in the necessary electrical controls," Jack Hartfield says. "This job, like all the others, was done on a round-the-clock basis.

"All through this territory, you'd see C&S men working at night with flashlights or lanterns.

"Merely getting to the job site was difficult. We'd take the men as far as we could go by truck or rail-highway car. From there they often had to walk miles through clinging mud."



Unprecedented fury of Susquehanna chews away at foundations of Shocks Bridge.



The center steadily sinks. Fierce current prevents action to halt erosion under the piers.

The Bridge at Shocks Mills

Few bridges on the Penn Central are busier than the one that crosses the Susquehanna River at Shocks Mills, Pa.

Railroaders call it "Shocks Bridge." It's 2,200 feet long and consists of 28 stone arches—an impressive sight.

Rolling westward across it is a steady parade of freight trains from North Jersey, Philadelphia, Baltimore, Washington and the South. The trains funnel into Enola Yard—across the river from Harrisburg—and are classified for further movement to the West.

Coming in the other direction, freight from the West moves out of Enola Yard and crosses Shocks Bridge for destinations in North Jersey, Philadelphia, Baltimore, Washington and the South.

At least, that was the picture before Agnes struck.

Starting on June 22, the raging Susquehanna pounded the stone piers. The bridge, which was built in 1904 and reinforced several times since, had successfully weathered previous storms and floods. But none were as rough as Agnes.

On the morning of June 27, Locomotive Engineer William D. Mader guided Train PF-6 with 90 cars of mixed freight out of Enola Yard,

bound for the Philadelphia area. He ran the train down the west bank of the Susquehanna, then turned slowly onto Shocks Bridge.

And promptly stopped the train.

"Something looks funny down there," he said to Brakeman Albert Miller.

They climbed down from the locomotive and started walking across the bridge.

They soon saw that the track at the middle of the bridge had sunk at least six inches.

Gingerly, they walked across this section, then hurried to the east end of the bridge. Engineer Mader grabbed the wayside phone and alerted R. H. Emanuel, operator at the nearby block tower. Word was flashed to Division headquarters at Harrisburg.

Immediately the order went out: Close Shocks Bridge.

Track Supervisor C. H. Kaufman sped to the scene and verified Engineer Mader's report. Inspections during the following days showed that the middle of the bridge was steadily sinking as the flood waters chewed away at the foundations beneath the piers.

On the night of July 1, some of the piers began to give way. By dawn of Sunday, July 2, the bridge

looked as if it had been hit by a laser-directed bomb:

Six of the 28 spans—the six in the very middle—had collapsed into the roaring Susquehanna.

Robert A. Herman, superintendent of the Harrisburg Division, later wrote to Engineer Mader:

"Your alertness during the trying and difficult days of the disastrous flood unquestionably saved the lives and equipment of any train that would have followed you on the bridge across the Susquehanna.

"Your action is another example of the high-caliber and efficient men of the Penn Central Transportation Company, and there is no question in my mind that your deed will go down in the history book of this Company."

President William H. Moore, in a report on flood damage presented on August 2 before the Senate Commerce Committee, emphasized the vital role of Shocks Bridge and the urgent need for its restoration:

"Shocks Bridge is a vital link because it provides the means for east-west freight traffic to bypass the City of Harrisburg in reaching our large classification yard at Enola.

"Its loss has deprived us of up to 75% of our operating capacity at

this critical location on our system. The result has been an operating nightmare that we have been able to handle with only modest impairment in service, only because of the unusually low level of freight moving at this time.

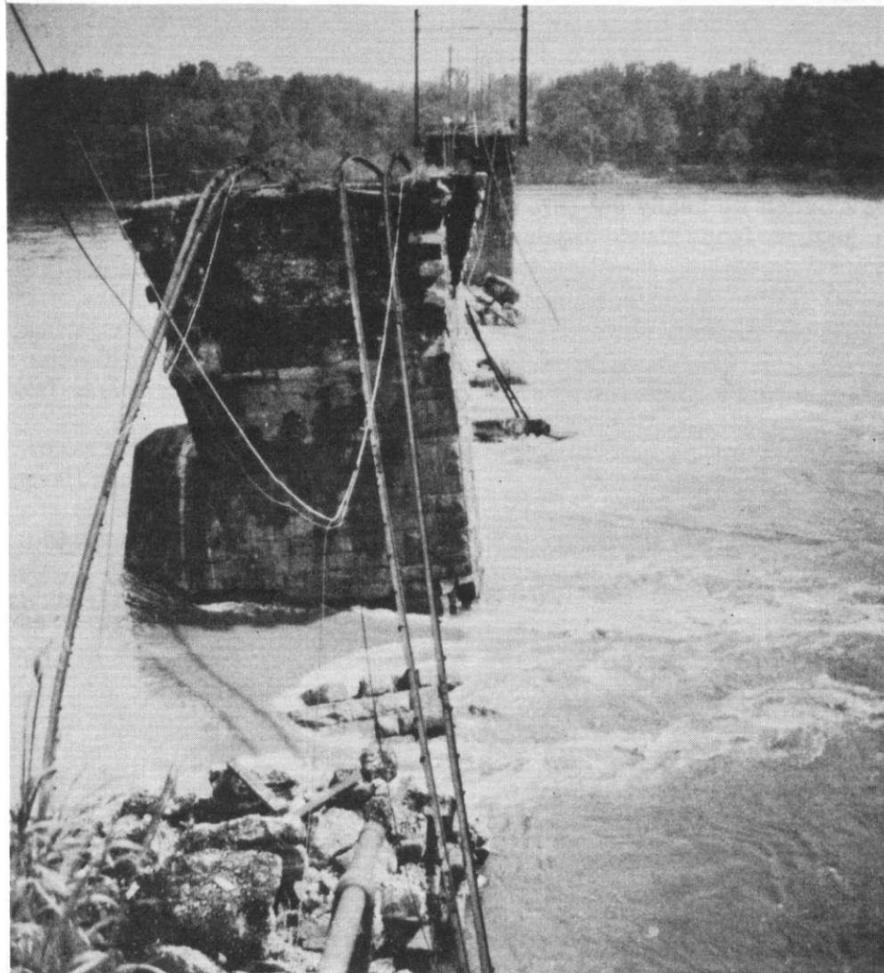
"Even so, we are incurring excess transportation costs by the re-routing of freight, classification of cars at remote locations, and other inefficiencies which are the direct result of the storm. Without this bridge we will find it extremely difficult to maintain an acceptable quality of service with an appreciable increase in traffic volume."

The Trustees called the attention of the Reorganization Court to the particular urgency of the Shocks Bridge situation. Judge John P. Fullam authorized them to restore the bridge, at an estimated cost of approximately \$4½ million.

The Trustees also petitioned for authority to rebuild wrecked bridges at Millersburg, Mountville, Tioga, Lawrenceville and Selinsgrove, Pa.; and Corning, N.Y.

The Railroad hoped that the required money would be obtained by long-term loans that would be made available if Congress voted approval of the Emergency Rail Facilities Restoration Act.

Early on July 2, key center pier shifted and four other piers crumbled into the river.



As soon as current subsided, crew went out to make test borings and assess the damage.

Families in the Flood



John Kind, Penn Central clerk, found little left intact when he came back to his home.

"An eerie feeling."

John Kind, clerk in the master mechanic's office at Harrisburg, Pa., went on a vacation trip to Bermuda with his wife, Irene, and daughter, Kathy.

They returned on Friday, June 23.

"We hadn't read the newspapers," Mr. Kind says. "We didn't have any idea of what was going on until we were halted by police and told there was a flood and we couldn't possibly get to our home.

"We went to stay with my wife's mother. Finally the roads were opened on Tuesday and we went to our home, which is between the Susquehanna and the old Pennsylvania canal.

"We were dumbfounded.

"All the windows and doors were gone. The front porch was washed away. The foundations were cracked. Our daughter's house-trailer lay on the ground with just about everything gone.

"We went into our house. There was practically nothing left. Couches, chairs, stereo—all gone. As if somebody had brought a moving van and cleared everything out.

"It gave us an eerie feeling.

"The water had reached within three inches of the second-floor ceiling. The mud was six inches deep on the floor.

"Outside, pieces of our furniture were all downstream or hanging in trees.

"My 1970 auto was totaled. But at least the insurance will pay off on that. That was the only insurance protection we had.

"The vegetable garden I worked

on weekends—that was gone too, of course.

"Our dog, though, was saved by one of the neighbors.

"The first thing we tried to find in the house was our photo albums. We found four of them. We also found some of our pictures sticking to the ceiling.

"I know we shed some tears.

"Well, now we have to clean up.

"But . . . where to start?"

"Get out fast!"

Clifford E. Thomas, crew dispatcher at Buttonwood Yard, lives in Wilkes-Barre, Pa.

At 4:30 A.M. on Friday, June 23, he was awakened by a call from his good friend and neighbor, Mr. Pisarcik:

"Get out fast! The water's coming up!"

Cliff Thomas and his wife (their five children were away on vacation) joined the Pisarcik family in flight to higher ground.

"Then we remembered an old neighbor who lived alone," Mr. Thomas says. "So we went back and got him. It was a good thing we did. The water later rose to 18 feet.

"It was Tuesday before the National Guard let us go back to our homes.

"What can I say? I lost everything."

The U. S. Department of Housing and Urban Development provided the family with a large trailer.

"This is the third flood I've been in," Cliff Thomas says. "You'd think I'd be discouraged, but I'm not. I'm going to rebuild."

He stares out at his ground,



Household goods of Clerk John Frace's family become items for the trash collectors.

strewn with debris.

"A woman neighbor told me she was looking at my beautiful tank swimming pool, with the water clear as crystal," Cliff Thomas says. "Then she watched the river rise and overflow the pool with brown muck.

"Another neighbor has a garage that was picked up and floated over the fence by the flood, and then it made a 360 degree turn and floated back. It landed within six inches of its original position.

"The crazy things that happen."

"A dead world."

John Frace, Jr., car clerk at Buttonwood Yard, lives in Kingston, Pa., across the river from Wilkes-Barre. He and his wife, Mary, have one daughter, Susan, a student at Bloomsburg (Pa.) State College.

"When we saw the water rising on Friday morning," Mr. Frace says, "we went to stay with friends at Huntsville, which is on higher ground.

"But we didn't think the water would go very high, so we didn't take anything from our house except what we had on our persons.

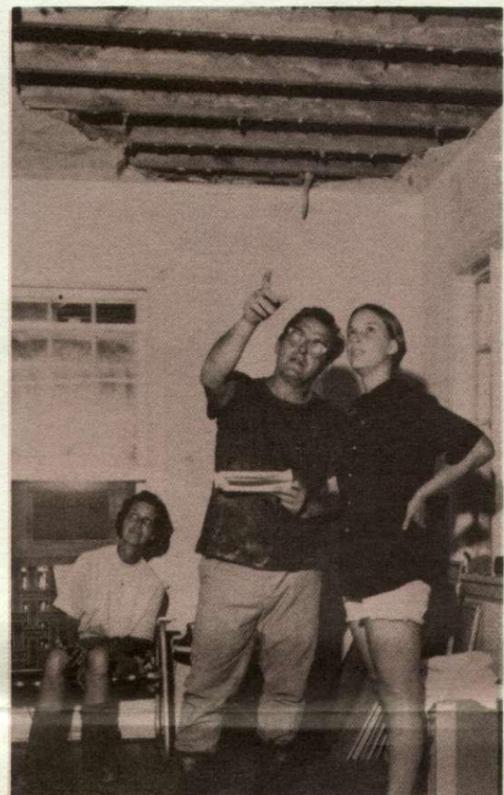
"Well, finally we heard that the river rose to more than forty feet, flooding the city with water 18 feet high—enough to cover our house.

"And it did.

"We returned on Wednesday. You couldn't believe the sight. It was as bad as what I saw in World War II. It was a dead world—the house, the street, everything around us.

"Practically the only thing we had left was the lawn furniture.

"All along the curb were couches, chairs, beds, stoves, refrigerators—all kinds of appliances set out for trash.



John Frace and his wife Mary and daughter Susan take inventory of flood damage.

"In most cases, it was everything the people owned.

"It took us three weeks to finally get the mud out of the house. I don't know the extent of damage to the structure, but I think the house will have to be completely rebuilt.

"The Department of Housing and Urban Development will make a final inspection. We'll probably get a trailer to live in, at least for a while.

"One of the few things we have left is our phone. The telephone company was able to get the line fixed.

"You know, just recently, before the flood, we had new rugs put in. Cost us more than a thousand dollars."

Somehow this light still works at Cliff Thomas's home. Appliances were ripped from wall.



John Kind helps his daughter Kathy clear away the wreckage of her new house trailer.



Service ... when the going is tough

Many industries were caught in the destructive sweep of Tropical Storm Agnes. They were affected by damage to their property, or by loss of transportation service, or both.

And they appreciated the strenuous efforts of Penn Central people to get things moving again as quickly as possible.

Here is a letter from Graemer K. Hilton, Vice President and General Manager of Standard Steel, a division of Baldwin-Lima-Hamilton Corporation, at Burnham, Pa.:

"During the recent flood disaster in Central Pennsylvania, Standard Steel was severely hit and sustained extensive damage to the Penn Central rail facilities serving our plant.

"We were quite concerned over our ability to ship products to our customers. But the excellent cooperation of the Penn Central, through Mr. J. E. Rosenbaum, Division Engineer, and Mr. T. J. Patterson, Trainmaster-Lewistown, resulted in the restoration of our service in a prompt manner.

"I want to thank you for this fine service."

What had happened was that the Milroy Secondary Track, serving this industry, was put out of action by extensive track washout and five damaged bridges.

"In some cases, the track was left hanging in the air, with all the ballast and subgrade missing beneath," said Mr. Rosenbaum.

"An excellent job was done by the track gangs working under Foreman Kenneth E. Richardson and Foreman W. J. Otto, with the supervision of Track Supervisor W. W. Naylor, Assistant Supervisor R. A. Kerr, and General Foreman A. J. Alexander."

"Their fast repairs," said Trainmaster Patterson, "enabled us to restore service in good time."



Even industries far from the flooded territory were affected by flood-caused delays to their shipments moving through the East.

The rapid restoration of Penn Central service meant a lot to many—for example, Tee-Pak, Inc., a subsidiary of Continental Can Company, Inc., which ships sausage casings from a plant at Danville, Illinois, via PC TrailVan service.

Walter L. Weart (*above*), Corporate Traffic Manager, wrote to Larry Taylor, PC sales representative at Indianapolis, to commend the work of Penn Central people:

"I am writing to express our sincere appreciation for the work which you did for us in spite of the ravages of Hurricane Agnes.

"The fact that your railroad was operating was significant in itself, but the level of service which you were able to protect bordered on the fantastic.

"I want you to know that we at Tee-Pak are indebted to you for the cooperation and assistance which you gave us, even at the height of the flood and storm damage with its strains and hardships."



It was a giant generator.

The rotor part weighed 430,000 pounds; the stator part (*photo below*) weighed 923,000 pounds.

Loaded separately on special cars, they were to be transported from Westinghouse Electric Corporation's plant at East Pittsburgh, Pa., to Port Elizabeth, N.J. There they were to be put on a barge for delivery to a power plant.

Penn Central people had efficiently handled a number of similar loads in the past.

But this time there was a difference: The Flood.

"During the height of the flood and shortly thereafter, we requested the movement in a special train so as to arrive at Port Elizabeth, New Jersey, on July 10," wrote Robert J. Crosby, Westinghouse Traffic Manager.

"The close coordination for unloading, rigging and preparation of the barge to move the 923,000-lb. stator and 430,000-lb. rotor necessitated arrival of the cars exactly on July 10.

"Missing this schedule could have resulted in additional costs of several thousand dollars per day.

"We were greatly relieved to know the cars arrived on July 10 and thus adhered to the schedule."

Mr. Crosby added:

"Our doubts regarding a fast return to normal operations after the flood were quickly dispelled when we became aware of the outstanding efforts and speed to rejuvenate your railroad."