

RAILROAD ACCIDENT INVESTIGATION

Report No. 3853

CHICAGO AND NORTH WESTERN RAILWAY COMPANY

WAUKEGAN, ILL

JULY 29, 1959

INTERSTATE COMMERCE COMMISSION

Washington

SUMMARY

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| | | |
|--------------------|---|---------------------------------------|
| DATE | July 29, 1959 | |
| RAILROAD | Chicago and North Western | |
| LOCATION | Waukegan, Ill | |
| KIND OF ACCIDENT | Rear-end collision | |
| TRAINS INVOLVED | Freight | Passenger |
| TRAIN NUMBERS | Extra 4097C East | 120 |
| LOCOMOTIVE NUMBERS | Diesel-electric units 4097C, 4094B | Diesel-electric units 5010B, 5027A |
| CONSISTS | 128 cars, caboose | 14 cars |
| SPEEDS | 10 m p h | 20 m p h |
| OPERATION | Timetable, train orders, automatic block-signal system, yard limits | |
| TRACK | Double, 0°30' curve, level | |
| WEATHER | Cloudy | |
| TIME | 9 32 p m | |
| CASUALTIES | 1 killed, 1 injured | |
| CAUSE | Movement of a train against the current of traffic on a track which had not been cleared of opposing trains | |
| RECOMMENDATION | That the carrier immediately take the necessary measures to secure proper compliance with its operating rules | |

INTERSTATE COMMERCE COMMISSION

REPORT NO 3853

IN THE MATTER OF MAKING ACCIDENT INVESTIGATION REPORTS UNDER
THE ACCIDENT REPORTS ACT OF MAY 6, 1910

CHICAGO AND NORTH WESTERN RAILWAY COMPANY

November 10, 1959

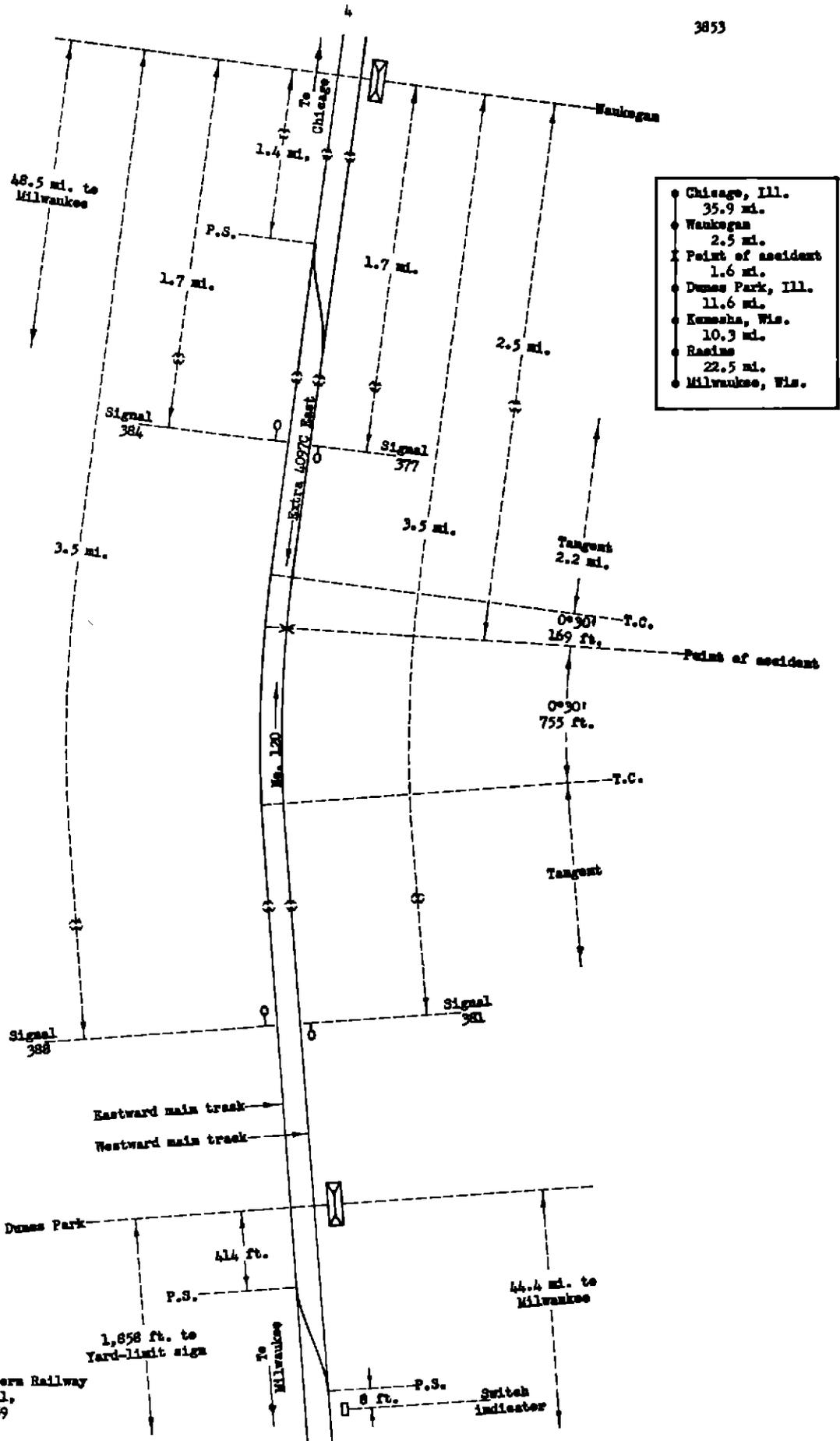
Accident at Waukegan, Ill , on July 29, 1959, caused by movement of a train against the current of traffic on a track which had not been cleared of opposing trains

REPORT OF THE COMMISSION ¹

FREAS, Commissioner

On July 29, 1959, at Waukegan, Ill , there was a rear-end collision between a freight train and a passenger train on the Chicago and North Western Railway, which resulted in the death of one train-service employee and the injury of one train-service employee. This accident was investigated in conjunction with representatives of the Illinois Commerce Commission

¹ Under authority of section 17 (2) of the *Interstate Commerce Act* the above-entitled proceeding was referred by the Commission to Commissioner Freas for consideration and disposition



- Chicago, Ill. 35.9 mi.
- Waukegan 2.5 mi.
- ✕ Point of accident 1.6 mi.
- Dunes Park, Ill. 11.6 mi.
- Kewaunee, Wis. 10.3 mi.
- Racine 22.5 mi.
- Milwaukee, Wis.

Chicago and North Western Railway
 Waukegan, Ill.,
 July 29, 1959

Location of Accident and Method of Operation

This accident occurred on that part of the Wisconsin Division extending between Milwaukee, Wis and Chicago, Ill , 84.4 miles. In the vicinity of the point of accident this is a double-track line over which trains are operated by timetable, train orders, and an automatic block-signal system supplemented by an intermittent, inductive automatic train-stop system for movements with the current of traffic, which is to the left. Timetable directions are east and west, and these directions are used in this report. Dunes Park and Waukegan, Ill , are located, respectively, 44.4 miles and 48.5 miles east of Milwaukee, and are within yard limits. The west yard limit sign is located 1,858 feet west of the station at Dunes Park. Two crossovers, which are trailing-point for movements with the current of traffic, connect the main tracks within yard limits. The east switch of one crossover is 414 feet west of the station at Dunes Park, and the east switch of the other crossover is 1.4 miles west of the station at Waukegan.

The accident occurred within yard limits on the westward main track at a point 2.5 miles west of the station at Waukegan. From the west there are, in succession, a tangent of considerable length, and a 0°30' curve to the right 755 feet to the point of accident and 169 feet eastward. From the east, there is a tangent 2.2 miles in length and the curve on which the accident occurred. The grade is level in the vicinity of the point of accident.

Automatic signals 388 and 384, governing eastbound movements on the eastward main track, are located, respectively, 3.5 miles and 1.7 miles west of the station at Waukegan. Automatic signals 381 and 377, governing westbound movements on the westward main track, are also located, respectively, 3.5 miles and 1.7 miles west of the station at Waukegan. These signals are of the searchlight type and are continuously lighted. The aspects applicable to this investigation and the corresponding names and indications are as follows:

| Signal | Aspect | Indication | Name |
|------------|--------|---|------------------|
| 388 381 | Red | Stop, Then proceed in accordance with Rule 509(a) * * * | STOP AND PROCEED |
| 388 377 | Yellow | Prepare to stop at next signal Train exceeding thirty miles per hour must at once reduce to that speed | APPROACH |

The controlling circuits on the eastward main track are so arranged that when the block of signal 388 is unoccupied and the block of signal 384 is occupied or a switch in the block of that signal is lined for other than movement on the eastward main track, signal 384 will display a "Stop and Proceed" aspect and signal 388 will display an "Approach" aspect. In the event that the block of signal 388 is occupied, that signal will display a "Stop and Proceed" aspect. The controlling circuits on the westward main track are so arranged that when the block of signal 377 is unoccupied and the block of signal 381 is occupied or a switch in the block of that signal is lined for other than movement on the westward main track, signal 381 will display a "Stop and Proceed" aspect and signal 377 will display an "Approach" aspect. In the event that the block of signal 377 is occupied, that signal will display a "Stop and Proceed" aspect.

Switch indicators of the two-aspect semaphore type are provided at each switch of the two crossovers. The switch indicator associated with the west switch of the crossover at Dunes Park is located on the south of the westward main track at a point 8 feet west of the switch. When the westward main track is occupied at any point throughout a distance of about 3 miles east of the crossover, the semaphore arm of the switch indicator will be in horizontal position.

This carrier's operating rules read in part as follows:

DEFINITIONS

Restricted Speed — Proceed prepared to stop short of train, obstruction, or switch not properly lined and to look out for broken rail, but not exceeding twenty miles per hour.

14 ENGINE WHISTLE SIGNALS

Note — The signals prescribed are illustrated by "o" for short sounds, "—" for longer sounds * * *

| SOUND | INDICATION |
|---------|---|
| (a) — o | When running against the current of traffic * * * (2) Approaching passenger or freight trains and when passing freight trains |

73 Extra trains are inferior to regular trains.

86a In automatic block * * * districts an inferior train must be clear of the main track in time so that a following first-class train will not receive a restrictive indication.

93 * * * Within yard limits * * * extra trains, * * * may use the main track clearing first class trains when due to leave the next station where time is shown, but not less than five minutes.

Within yard limits * * * extra trains, * * * may use the main track without protection as prescribed by Rule 99, except in case of failure to clear first class trains as required, * * *

* * * extra trains * * * must move within yard limits at restricted speed unless the main track is seen or known to be clear.

Note — Where an automatic block signal system, * * * is in service, "known to be clear" includes where track is known to be clear by signal indication.

The "next station" means the next station in the direction of any approaching first class train.

D-93a When running against the current of traffic all trains and engines must move within yard limits at restricted speed.

99 When a train stops under circumstances in which it may be overtaken by another train, the flagman must go back immediately with flagman's signals a sufficient distance to insure full protection, placing two torpedoes and when necessary, in addition, displaying lighted fuses.

D-152a When necessary to move a train against the current of traffic train order D-R will be used, and these orders must, when practicable, be addressed to all trains on both tracks and to all operators in the district in which a movement is being made against the current of traffic, * * *

* * * Manual Block Rules will be complied with for both opposing and following movements.

FORMS OF TRAIN ORDERS

D-R

Providing for a Movement Against the Current of Traffic

- (1) No 1 has right over opposing trains on No 2 (or — track) C to F

The designated train must use the track specified between the points named and has right over opposing trains on that track between those points. Opposing trains must not leave the point last named until the designated train arrives

* * *

A train must not be moved against the current of traffic until the track on which it is to run has been cleared of opposing trains

MANUAL BLOCK SYSTEM RULES

Operators

327 To permit a train or engine * * * to cross from one main track to another, the operator must examine the block record, and if all the blocks affected are clear of approaching trains he must provide or arrange for block protection before permission is given, and until movement is complete and block clear, other trains will not be admitted to the block except with Permissive Form C, or Permissive train order

335 For blocking trains moving against the current of traffic, operators will use Clearance Form A and in addition, if block is occupied Permissive Form C or Permissive train order will be used * * *

Engine and Train Crews

361 For blocking trains moving against the current of traffic, Clearance Form A and in addition, if block is occupied, Permissive Form C or Permissive train order will be used * * *

AUTOMATIC BLOCK SYSTEM RULES

773 When trains are moved against the current of traffic with Form D-R train orders, the train dispatcher must instruct operators to block trains as prescribed by Rule D-152a and Manual Block Rules

The maximum authorized speed in the vicinity of the point of accident is 80 miles per hour for passenger trains and 50 miles per hour for freight trains. The speed of all trains, however, is restricted to 10 miles per hour while moving through crossovers, and to "Restricted Speed" while operating against the current of traffic within yard limits

The locomotive of No 120 was equipped with a speed recorder. On the day of the accident, however, this device was not provided with tape

Description of Accident

Extra 4097C East, an eastbound freight train, consisting of diesel-electric units 4097C and 4094B, coupled in multiple-unit control, 115 cars and a caboose, departed from Milwaukee at 6 06 p m. After stopping at Kenosha, Wis., 32.8 miles east of Milwaukee, where 13 cars were added to

the train, it departed from that point at 8 43 p m . About 9 17 p m , this train stopped on the eastward main track with the rear end east of the crossover at Waukegan . Shortly thereafter it proceeded to move backward through the crossover to the westward main track and about 9 32 p m , while moving westward on the westward main track at an estimated speed of 10 miles per hour, the rear end was struck by No 120 at a point 2 5 miles west of the station at Waukegan .

No 120, an eastbound first-class passenger train, consisting of diesel-electric units 5010B and 5027A, coupled in multiple-unit control, 3 baggage cars, 1 express car, 7 coaches and 2 express cars, in the order named, departed from Milwaukee at 8 20 p m , on time, and stopped at Racine, Wis , 22 5 miles east of Milwaukee, where another express car was added to the rear of the train . The cars were of all-steel construction, and the 5th to 11th cars, inclusive, were equipped with tightlock couplers . This train departed from Racine at 8 45 p m , on time, and about 30 minutes later it stopped short of signal 388, which was displaying a "Stop and Proceed" aspect . After the conductor obtained verbal permission to operate against the current of traffic between Dunes Park and Waukegan, the train was moved through the crossover at Dunes Park to the westward main track and proceeded eastward against the current of traffic . While moving at an estimated speed of 20 miles per hour, it collided with the rear end of Extra 4097C East .

No 120 stopped with the front end 95 feet east of the point of accident . The two diesel-electric units were derailed and stopped upright on the track structure . The 1st unit was considerably damaged .

The caboose of Extra 4097C East, and the 125th to 128th cars, inclusive, were derailed and stopped in various positions on or near the track structure . The caboose and 2 of the derailed cars were destroyed . The other 2 derailed cars were heavily damaged .

The flagman of Extra 4097C East was killed, and the fireman of No 120 was injured .

It was cloudy at the time of the accident, which occurred at 9 32 p m .

Discussion

Shortly before Extra 4097C East departed from Kenosha, the front brakeman communicated by telephone with the train dispatcher to obtain information concerning the movement of No 120, which was scheduled to leave Kenosha at 9 10 p m . He said the train dispatcher informed him that No 120 was operating on time and that it was all right for Extra 4097C East to proceed to Waukegan . The front brakeman said he then told the train dispatcher that Extra 4097C East would probably clear the eastward main track for No 120 by moving through the crossover at Waukegan to the westward main track . Extra 4097C East departed from Kenosha at 8 43 p m . About 9 17 p m , on the time of No 120, it stopped on the eastward main track at Waukegan with the rear end east of the crossover . The front brakeman, who alighted from the locomotive before the train stopped, informed the yardmaster by telephone that before performing switching operations at Waukegan, Extra 4097C East would be moved through the crossover to the westward main track to clear No 120 . The yardmaster approved this proposed movement, and the surviving members of the crew said that about 9 21 p m , Extra 4097C East began to move backward through the crossover and onto the westward main track . The flagman, who had assisted the front brakeman in lining switches for the crossover movement, boarded the platform at the west end of the caboose as it moved westward in the immediate vicinity of the crossover .

As Extra 4097C East was moving westward through the crossover at Waukegan, its speed was about 10 miles per hour. The enginemen and the conductor were in the control compartment at the front of the locomotive. The front brakeman was standing on the ground in the immediate vicinity of the crossover, and the flagman was on the caboose. The brakes of the train had been tested and had functioned properly when used en route. The front brakeman said that the flagman was standing on the platform at the west end of the caboose and was holding a lighted red fusee as the caboose moved westward on the westward main track from the crossover. As the locomotive was clearing the eastward main track at the crossover, the brakes of the train became applied in emergency. The members of the crew had not been informed that No. 120 was operating against the current of traffic on the westward main track, and the surviving members did not know that their train had collided with No. 120 until several minutes after the emergency application of the brakes of Extra 4097C East. Since the flagman, who was the sole occupant of the caboose, was killed in the accident, it could not be determined whether the brakes had been applied by the flagman or became applied as a result of the collision.

As No. 120 was approaching Dunes Park, the enginemen observed signal 388 displaying a "Stop and Proceed" aspect and the engineer stopped the train near the station and short of the signal. The conductor then alighted from the train, proceeded to the station, and communicated by telephone with the train dispatcher to ascertain the cause of signal 388 displaying a "Stop and Proceed" aspect. After being informed by the train dispatcher that Extra 4097C East was on the eastward main track ahead of No. 120, the conductor requested permission to operate No. 120 against the current of traffic on the westward main track between Dunes Park and a point east of the station at Waukegan. After receiving this request, the train dispatcher communicated by telephone with the operator at Waukegan to determine whether Extra 4097C East had arrived at that point. The operator looked to the west through a window of the station, observed the headlight of a locomotive on the eastward main track, and informed the train dispatcher that Extra 4097C East had arrived at Waukegan at 9:20 p. m. The train dispatcher then told the operator that he desired to operate No. 120 against the current of traffic on the westward main track between Dunes Park and Waukegan, and instructed the operator to establish a block on the westward main track for the proposed movement. The operator informed the train dispatcher that a clear block was established on the westward main track at 9:24 p. m. for movement of No. 120 between Dunes Park and Waukegan. The operator provided the train dispatcher with this information without first ascertaining from the yardmaster as to whether any road or yard movements were occupying the westward main track. No arrangement was made with the yardmaster to insure protection of the block within yard limits. After being informed by the operator that a clear block had been established on the westward main track, the train dispatcher gave the conductor of No. 120 verbal permission by telephone to operate that train against the current of traffic on the westward main track. The train dispatcher did not issue a train order authorizing this movement as prescribed by rule, nor did any member of the crew of No. 120 request train order authority for the movement.

The conductor of No. 120 informed the other members of the crew that the train dispatcher had authorized movement against the current of traffic, and the front brakeman and the flagman proceeded to line the switches of the crossover at Dunes Park for movement to the westward main track. Neither of these crew members looked at the switch indicator associated with the west switch of the crossover, as required by rules, to determine whether the westward main track was occupied within the limits of the circuits of the switch indicator. No. 120 moved through the crossover to the westward main track and about 9:30 p. m., after the switches of the crossover were restored to normal position, it departed eastward on the westward main track. At this time, the conductor noticed that signal 388 was displaying an "Approach" aspect.

As No 120 was approaching the point where the accident occurred, the enginemen and the conductor were in the control compartment at the front of the locomotive, and the other members of the crew were in cars of the train. The brakes of the train had been tested and had functioned properly when used en route. The headlight and the oscillating headlight were lighted brightly. The engineer said that the speed of the train varied between 18 and 20 miles per hour as it was moving against the current of traffic on the westward main track. He said that he first observed the caboose of Extra 4097C East at a distance of 600 to 700 feet, and that a lighted red fusee was being displayed from the west end of the caboose. The engineer assumed that the caboose was on the eastward main track. He did not at any time sound the prescribed whistle signal to indicate that his train was moving against the current of traffic. The engineer said that when the distance between No 120 and the caboose had been reduced to about 165 feet he realized that the caboose was on the westward main track, and that he immediately initiated an emergency application of the brakes. The conductor and the fireman first observed the caboose about the same time as the engineer, and the fireman alighted from the locomotive immediately before the collision occurred.

The rules of this carrier provide that extra trains are inferior to regular trains. In automatic block signal districts an inferior train must be clear of the main track in time so that a following first-class train will not receive a restrictive indication. Within yard limits extra trains may use the main track without protection as prescribed by Rule 99 except in case of failure to clear first-class trains as required. Train orders in the prescribed form will be used when necessary to move a train against the current of traffic and, in addition, manual block rules will be used under such circumstances. When running against the current of traffic all trains and engines must move within yard limits at restricted speed.

The investigation disclosed that on various occasions prior to the date of the accident, first-class trains have been authorized to move against the current of traffic in this territory on oral instructions without issuance of train-order authority in the prescribed form, and that oral arrangements have been made for manual block protection for the movements without the use of the prescribed procedures and forms as required by the rules. In the instant case, Extra 4097C failed to clear No 120 as required by the rules and also failed to provide adequate flag protection against that superior train. After Extra 4097C East arrived at Waukegan, a member of the crew informed the yardmaster that this train would be moved through the crossover to the westward main track to clear the following superior train. This information, however, was not communicated to the train dispatcher or to the operator at Waukegan. As a result neither the train dispatcher nor the operator at Waukegan were aware that Extra 4097C East had entered the westward main track at the time arrangements were being made to move No 120 against the current of traffic on that track. It is apparent that the presence of Extra 4097C East on the westward main track at this point was not disclosed in the records of the open offices between which the manual block in which the accident occurred extended. In this case Extra 4097C East entered the westward main track and moved westward about the same time that No 120 was permitted to move against the current of traffic on that track. Members of the crew of Extra 4097C East were not aware that a manual block had been established on the westward main track at the time their train entered it. Members of the crew of No 120 had received information that the block in which their train was moving was clear and they were not aware that Extra 4097C East was occupying the track ahead until immediately before the collision occurred.

Cause

This accident was caused by the movement of a train against the current of traffic on a track which had not been cleared of opposing trains

Recommendation

It is recommended that the carrier immediately take the necessary measures to secure proper compliance with its operating rules

Dated at Washington, D C , this tenth
day of November, 1959

By the Commission, Commissioner Freas

(SEAL)

HAROLD D McCOY,
Secretary

Interstate Commerce Commission

Washington 25, D. C.

OFFICIAL BUSINESS

RETURN AFTER FIVE DAYS

**POSTAGE AND FEES PAID
INTERSTATE COMMERCE COMMISSION**