



RAILWAY OCCURRENCE REPORT

**CN NORTH AMERICA
CANADIAN PACIFIC LIMITED
HEAD-ON COLLISION
CN 1559 SARCEE YARD ASSIGNMENT
AND
CP 1500 OGDEN PARK YARD ASSIGNMENT
MILE 0.45, F-200 FOOTHILLS INDUSTRIAL LEAD
OFF MILE 131.88 OF THE DRUMHELLER SUBDIVISION
CALGARY, ALBERTA
03 DECEMBER 1993**

REPORT NUMBER R93C0103

Canada

MANDATE OF THE TSB

The Canadian Transportation Accident Investigation and Safety Board Act provides the legal framework governing the TSB's activities. Basically, the TSB has a mandate to advance safety in the marine, pipeline, rail, and aviation modes of transportation by:

- conducting independent investigations and, if necessary, public inquiries into transportation occurrences in order to make findings as to their causes and contributing factors;
- reporting publicly on its investigations and public inquiries and on the related findings;
- identifying safety deficiencies as evidenced by transportation occurrences;
- making recommendations designed to eliminate or reduce any such safety deficiencies; and
- conducting special studies and special investigations on transportation safety matters.

It is not the function of the Board to assign fault or determine civil or criminal liability. However, the Board must not refrain from fully reporting on the causes and contributing factors merely because fault or liability might be inferred from the Board's findings.

INDEPENDENCE

To enable the public to have confidence in the transportation accident investigation process, it is essential that the investigating agency be, and be seen to be, independent and free from any conflicts of interest when it investigates accidents, identifies safety deficiencies, and makes safety recommendations. Independence is a key feature of the TSB. The Board reports to Parliament through the President of the Queen's Privy Council for Canada and is separate from other government agencies and departments. Its independence enables it to be fully objective in arriving at its conclusions and recommendations.



The Transportation Safety Board of Canada (TSB) investigated this occurrence for the purpose of advancing transportation safety. It is not the function of the Board to assign fault or determine civil or criminal liability.

Railway Occurrence Report

CN North America
Canadian Pacific Limited
Head-on Collision
CN 1559 Sarcee Yard Assignment
and
CP 1500 Ogden Park Yard Assignment
Mile 0.45, F-200 Foothills Industrial Lead
off Mile 131.88 of the Drumheller Subdivision
Calgary, Alberta
03 December 1993

Report Number R93C0103

Synopsis

A head-on collision occurred on an industrial lead track between a CN North America (CN) yard assignment and a Canadian Pacific Limited (CP) yard assignment. The impact derailed two locomotives and injured three employees.

The Board determined that the two yard assignments collided because the respective crews did not provide adequate vigilance under conditions which provided marginal protection from a normally suitable speed restriction.

Ce rapport est également disponible en français.

Table of Contents

	Page
1.0 Factual Information	1
1.1 The Accident	1
1.2 Damage to Equipment	1
1.3 Other Damage	1
1.4 Personnel Information	1
1.4.1 CN Crew	1
1.4.2 CP Crew	1
1.5 Train Information	1
1.5.1 CN Yard Assignment	1
1.5.2 CP Yard Assignment	2
1.5.3 Mechanical Information	2
1.5.4 Headlight Information	2
1.6 Method of Train Control	2
1.6.1 Speed Requirements	2
1.7 Weather	2
1.8 Recorded Information	2
1.9 Occurrence Site Information	3
1.10 Tests and Research	3
1.10.1 Simulations	3
1.10.2 Laboratory Analysis	3
1.11 Other Information	4
1.11.1 General	4
1.11.2 The CN Yardman	4
1.11.3 The CN Locomotive Engineer	4
1.11.4 The CN Yard Foreman	5
1.11.5 The CP Locomotive Engineer	5
1.11.6 The CP Foreman and Yardman	6

2.0	Analysis	7
2.1	Introduction	7
2.2	Consideration of the Facts	7
2.2.1	Mechanical Condition of Locomotives	7
2.2.2	Communication between Railways	7
2.2.3	Actions of CN Crew	7
2.2.4	Reduced Speed	7
3.0	Conclusions	9
3.1	Findings	9
3.2	Cause	9
4.0	Safety Action	11
4.1	Action Required	11
4.1.1	CROR Rule 105 - Speed on Other Than Main Track	11

1.0 *Factual Information*

1.1 *The Accident*

CN North America (CN) 1559 Sarcee Yard Assignment (CN Yard Assignment) commenced work at 1600 mountain standard time (MST), on 03 December 1993. Switching was performed in Sarcee Yard and on adjacent industrial trackage after which the movement returned to Sarcee Yard. The yardmaster then issued further switching instructions for the Foothills Industrial Park. At approximately 2113 MST, the CN Yard Assignment proceeded eastward onto the F-200 Foothills Industrial Park lead track.

Canadian Pacific Limited (CP) 1500 Ogden Park Yard Assignment (CP Yard Assignment), commenced work at 1500 MST, on 03 December 1993. Switching in Ogden Park, Ogdendale and Alyth yards in Calgary, Alberta, and the Foothills Industrial Park area was completed at approximately 2100 MST. The single locomotive then proceeded westward onto the F-200 Foothills Industrial Park lead track.

At 2116 MST, the two yard assignments collided at Mile 0.45 of the F-200 Foothills Industrial Park lead track. Three crew members sustained very minor contusions and/ or sprains.

1.2 *Damage to Equipment*

Locomotive CP1589 sustained substantial damage to the coupler, draft gear, buffer plate, frame and right footstep. Engine

coolant and oil pipes were broken. Locomotive CN1163 sustained a bent coupler and right rear step.

1.3 *Other Damage*

Two hundred feet of track received minor damage.

1.4 *Personnel Information*

1.4.1 *CN Crew*

The crew of the CN Yard Assignment consisted of a yard foreman, a locomotive engineer and a yardman. They were qualified for their respective positions and met fitness and rest standards established to ensure the safe operation of trains.

An off-duty yardman was travelling with the crew on a familiarization trip.

1.4.2 *CP Crew*

The crew of the CP Yard Assignment consisted of a yard foreman, a locomotive engineer and a yardman. They were qualified for their respective positions and met fitness and rest standards established to ensure the safe operation of trains.

1.5 *Train Information*

1.5.1 *CN Yard Assignment*

The CN Yard Assignment consisted of locomotives CN1163 and CN1151 operating with their long hoods coupled together. They were 110 feet in length and weighed 258 tons. At the time of the occurrence, the

CN Yard Assignment was travelling eastward with locomotive CN1163 leading; the yardman was positioned in the cab of this locomotive. The locomotive engineer was seated at the controls on the south side in trailing locomotive CN1151 and the yard foreman and off-duty yardman were seated across from the locomotive engineer, on the north side of the cab.

1.5.2 CP Yard Assignment

At the time of the occurrence, locomotive CP1589 was travelling westward, with its long hood forward. It was 56 feet in length and weighed 130 tons. The locomotive engineer was seated at the controls on the south side in the locomotive cab. The yardman was seated on the north side and the yard foreman was standing in the middle of the cab.

1.5.3 Mechanical Information

The brake systems of the CN and CP locomotives were tested and inspected by each crew before their tour of duty and by railway mechanical personnel after the accident. The brakes of both yard assignments were found to be working properly in each instance.

1.5.4 Headlight Information

Both crews stated that they were operating with their locomotive headlight displaying full power.

1.6 Method of Train Control

The Foothills Industrial Park trackage is used jointly by CN and CP. Yard

assignments are governed by Rule 105 of the Canadian Rail Operating Rules (CROR) and applicable special instructions contained in the current time table of each railway.

1.6.1 Speed Requirements

CROR Rule 105 reads as follows:

SPEED ON OTHER THAN MAIN TRACK

Unless otherwise provided by signal indication, a train or engine using other than a main track must operate at reduced speed....

According to the CROR, reduced speed is "a speed that will permit stopping within one-half the range of vision of equipment."

Both CN and CP instructions place further maximum speed limits on train movements in the Foothills Industrial Park. CN movements are further restricted to 10 mph and CP movements to 15 mph.

1.7 Weather

It was cloudy with a light wind, good night visibility and the temperature was zero degrees Celsius.

1.8 Recorded Information

The event recorder data from locomotive CN1151, when adjusted for wheel size, indicated that, at a time recorded as 2116:26, the yard assignment

was proceeding at 11 mph (16 feet per second) with the throttle in the idle position after having experienced a short burst of throttle (position No. 4) three seconds previously. At this point in time, brake cylinder pressure began to rise and an emergency brake application is shown. Within one second (2116:27), the brake cylinder pressure increased to 38 pounds per square inch (psi) and train speed decreased to 10 mph. At 2116:28, train speed suddenly decreased to 3 mph, and one second later, movement stopped.

Locomotive CP1589 was not equipped with an event recorder nor was it required to be by regulation.

1.9 Occurrence Site Information

The Foothills Industrial Park, located in southeast Calgary, is owned by the City of Calgary. It is approximately 1,000 acres in size and includes more than 200 industries. The railways operate on joint lead tracks that serve the industries within the park.

The collision occurred on the F-200 lead track in the body of an eight-degree left-hand curve for the eastward CN movement on an ascending gradient of 0.6 per cent.

Visibility was restricted by truck trailers parked north of the track. At the beginning of the west end of the curve, a 45-foot trailer used for storage was parked parallel to the track. At the approximate mid-point of the trailer, a spur branched southward. The switch controlling access to the spur was designated switch F-214. Approximately 280 feet east of switch F-214,

13 empty trailers were parked in an approximately northwest orientation, between 17 feet and 25 feet north of the track. A bright light on the building north of the curve illuminated the parking lot where the trailers were parked.

The yard assignments came to rest with their respective leading ends (points of impact) approximately 135 feet east of switch F-214. There were friction scratches (abrasions) at three locations and wheel-created burns on the head of the south rail and a wheel flange mark on the web of the south rail under the CP locomotive. There were also wheel marks on the head of the south rail under locomotive CN1163.

1.10 Tests and Research

1.10.1 Simulations

On 06 December 1993, simulations of the movements of the respective yard assignments on the curve were conducted with locomotives of the same type as the ones involved in the accident.

It was determined that, on average, the CP locomotive travelling at a speed of 8 mph could stop in 40 feet with an emergency brake application.

On average, the CN locomotives travelling at a speed of 11 mph could stop in 43 feet with an emergency brake application.

The sight-line distance from the east corner of the most eastwardly of the group of truck trailers to the west corner of the

singular westwardly truck trailer was 283 feet, as measured on the rail.

1.10.2 Laboratory Analysis

Sample sections incorporating the abrasions on the head of the south rail under the leading truck of the CP locomotive were delivered to the University of Calgary for examination and it was determined that the wheels of the locomotive were turning at the time of impact.

The TSB Engineering Laboratory studied the event recorder data and concluded that the CN locomotives were travelling at 9 mph at the time of impact, and at 3 mph after the impact. Calculations using the respective weights of the three locomotives involved were then made, and it was concluded that the CP locomotive was either stopped or travelling at a low speed when the collision occurred.

1.11 Other Information

1.11.1 General

CP and CN yard assignments use the Foothills Industrial Park lead track without exchanging information concerning the switching movements or operating procedures of the other railway.

No formal arrangements had been made between the CN crew members whereby the yardman, while riding in locomotive CN1163, would provide a continuous lookout ahead while reversing

and radio instructions to the locomotive engineer in the controlling locomotive.

1.11.2 The CN Yardman

The three seats in the control cab of locomotive CN1151 were occupied; therefore, the yardman had entrained on locomotive CN1163 and sat in the seat on the north side of the cab as the yard assignment proceeded eastward on the lead track. As the yard assignment approached the 54th Avenue SE crossing approximately 925 feet before the point of impact, the yardman gave car length distances to the locomotive engineer with his hand-held radio so that the movement could be safely controlled over the crossing. The yardman then moved to the south side to identify the location of switch F-214.

As the movement approached the curve, the yardman's view was reduced to four or five car lengths by the truck trailer parked opposite switch F-214. He had only been on this track four or five times before; therefore, he was concentrating his attention on locating switch F-214 from where they would be lifting a car on their return movement. When locomotive CN1163 was at/ or slightly east of switch F-214, the yardman started across the cab, looked up and saw a bright light opposite the most westerly of the group of truck trailers. Realizing that it was the headlight of an approaching locomotive, he yelled on his radio to the locomotive engineer on CN1151: "that will do".

1.11.3 The CN Locomotive Engineer

The CN locomotive engineer was seated at the controls on the south side in locomotive CN1151. He stated that the headlight of locomotive CN1163 provided him with a view of the track ahead for a distance of four or five car lengths although the windshield was partly blocked by the speedometer, the two locomotive exhaust stacks and the cab of the other locomotive. The distance from the most forward point of leading locomotive CN1163 to the control cab in locomotive CN1151, where the locomotive engineer was seated, was 94 feet. As the assignment proceeded eastward, he increased the throttle to the No. 4 position to maintain his speed. He did not look at his speedometer but felt that the movement was travelling at 10 mph. His view was also partially obscured on the north side by a truck trailer parked parallel to the track opposite switch F-214. He reduced the throttle to idle as the movement entered the curve. He did not believe the speed was excessive.

When locomotive CN1151 was opposite the truck trailer at switch F-214, the locomotive engineer recognized a locomotive headlight ahead and fully applied the independent brake and placed the automatic brake valve handle in the emergency application position. As he was making the emergency application, he heard the yardman yell "that will do" on the radio. He estimated that the movement travelled another one-half of a car length before there was a heavy impact and a sudden stop.

1.11.4 The CN Yard Foreman

The CN yard foreman was seated on the north side of the cab of locomotive CN1151. He was checking his switch list and engaged in a conversation with the off-duty yardman who was seated on the north side of the cab behind him. He was in a position to observe the track ahead but could only see about four car lengths as his view was blocked by the truck trailer parked opposite switch F-214. He heard the locomotive engineer apply the independent brake, looked up and noticed that locomotive CN1151 was opposite the truck trailer at switch F-214. The locomotive engineer then initiated an emergency application of the air brakes as he heard the yardman on the leading locomotive say "that will do" on the radio. He saw the approaching headlight and realized that a stop could not be made in time to prevent a collision as a westward locomotive was only about one-half of a car length away from their other locomotive. There was a heavy impact and the movement came to a sudden stop when the locomotives collided.

1.11.5 The CP Locomotive Engineer

The CP locomotive engineer was seated on the south side of the cab of locomotive CP1589 with the back of his seat against the side cab window. He was looking westward through the back window as he operated the controls. The distance from the control cab of the locomotive to its front was 38 feet. He estimated their speed to be 10 mph on the tangent track before reaching the curve. He recalled that, as their movement approached the curve, the throttle was in the No. 1 position as he made a 10-pound application of the independent brake valve,

reducing their speed to about 8 mph. As they proceeded through the curve, his view was restricted to about one-half of a car length by the locomotive's long hood. The yardman suddenly yelled to "plug it" and he placed the locomotive brakes in an emergency brake application.

1.11.6 The CP Foreman and Yardman

Seated on the north side of the cab looking west and performing lookout duties for the locomotive engineer, the CP yardman concentrated his view on the truck trailer located at the west end of the curve by switch F-214. There was neither conversation between crew members in the cab nor radio communication to distract his concentration. When the movement reached the west end of the easterly group of truck trailers, the yardman saw a headlight at the westernmost end of the solitary truck trailer located at the west end of the curve. It took him a second or two (he estimated over 40 feet) to realize that it was moving eastward toward him, at which time he yelled "plug it". The locomotive engineer immediately made an emergency application and the yardman repeated, "plug it" and then told the yard foreman to "hang on". When the CN locomotives were about one car length away, the yardman turned and held on to the seat beside him.

The CP crew members stated that their locomotive was stopped at the time of the collision.

2.0 *Analysis*

2.1 *Introduction*

The analysis will explore the reasons why the collision occurred when there were speed restrictions and operating rules in place that have traditionally been considered adequate to prevent such events.

2.2 *Consideration of the Facts*

2.2.1 *Mechanical Condition of Locomotives*

The two CN locomotives and the CP locomotive were functioning as intended and, in particular, the brakes had been tested and inspected before and again after the collision and found to be without fault. Equipment malfunction is not seen to have been a causative factor.

2.2.2 *Communication between Railways*

On the night of the occurrence, neither crew were aware of another company's yard assignment operating on the same track. There was no communication between the two railways to provide such information.

2.2.3 *Actions of CN Crew*

Although CN instructions did not require an employee to be on the leading locomotive of a two-locomotive reversing consist, the yardman was on the leading locomotive and should have provided a lookout ahead. He should have then radioed the restricted sight-line instructions to the locomotive engineer in the trailing

locomotive while proceeding through the curve.

2.2.4 *Reduced Speed*

Both railways relied on their employees to operate railway equipment in accordance with the requirements of reduced speed (a speed that will permit stopping within one-half the range of vision) with additional maximum speed limitations, 10 mph for CN and 15 mph for CP. This has traditionally been considered adequate to avert collisions such as that which occurred.

The distance from the cab of locomotive CP1589 to the front of the locomotive was 38 feet. The similar distance from the controlling cab of locomotive CN1151 to the most forward point of locomotive CN1163, the leading locomotive, was 94 feet. Therefore, considering the average stopping distances of the respective locomotives, as determined by the simulations, the required minimum sight-line distance from the control cab to stop (provided an emergency brake application was made the instant the danger was seen) was 78 feet (38 + 40 feet) at 8 mph for the CP locomotive, and 137 feet (94 + 43 feet) at 11 mph for the CN locomotives. For a collision to have been averted, the total minimum sight-line distance between the two locomotive engineers of the facing movements would, under optimum conditions, have had to be approximately 215 feet (78 + 137). Therefore, under optimum conditions, both locomotives could have been brought to a stop before impact.

The locomotives came to rest approximately 157 feet east of the westerly end of the singular trailer. Given that the CN locomotives continued eastward for approximately one second at 3 mph after the collision, and would have travelled approximately another four feet eastward, the point of impact is considered to be approximately 153 feet into the restricted sight-line area between the trailers, travelling eastward and 130 feet into this area for the westward movement.

The halfway point in this restricted sight-line area and the imaginary stopping distance imposed by CROR Rule 105 is 141.2 feet. The CN Yard Assignment had nearly reached this point before braking was initiated and had little slowed before impact (130 feet westward into the restricted sight-line). Considering the point of impact and the fact that the physical evidence indicates that the CP Yard Assignment was in motion at the time of collision, it can be concluded that it may not have been brought to a stop within the rule either. In any event, it would have been struck by the CN locomotives.

As demonstrated by the simulation, under optimum conditions at their respective operating speeds, both yard assignments could have been stopped with 68 feet to spare. At impact, the CN locomotives were past their optimum stopping distance of 137 feet and still proceeding at approximately 11 mph and the CP locomotive, although nearly stopped, was beyond its optimum stopping distance by 75 feet. It is concluded, therefore, that neither crew immediately

noticed the other yard assignment as they entered the curve.

The speed of both yard assignments was within the speed required by CROR Rule 105 in that both could have been stopped within the required distance had both crews been exercising extreme vigilance.

3.0 *Conclusions*

3.1 *Findings*

1. The CN and CP equipment functioned as intended.
2. The lack of an event recorder on the CP locomotive prevented an automatic registration of the CP Yard Assignment speed and operating functions for evaluation.
3. Laboratory examination of the rail and analysis of the event recorder information taken from the CN locomotive indicated that the CP Yard Assignment was most probably moving slowly at the time of the collision.
4. Neither the CN nor the CP crew members were aware that a yard assignment of the other railway was operating on the joint track.
5. There were no instructions in place to ensure that crews would be notified of the presence of the other company's movements on the Foothills Industrial Park track.
6. CN instructions did not require an employee to be on the leading end of a reverse movement consisting of less than three locomotives.

7. The safety margin provided by the reduced speed rule, given the sight-line distance, locomotive configuration and locomotive stopping distance, together with crew reaction time, required extreme crew vigilance and immediate reaction to avert the collision.
8. Neither the CN or CP crew members were immediately aware of the respective opposing movements.

3.2 *Cause*

The two yard assignments collided because the respective crews did not provide adequate vigilance under conditions which provided marginal protection from a normally suitable speed restriction.

4.0 *Safety Action*

4.1 *Action Required*

4.1.1 *CROR Rule 105 - Speed on Other Than Main Track*

In March 1994, the TSB forwarded a Rail Safety Advisory to Transport Canada (TC) addressing the switching procedures in dual CN and CP territory. There were no formal communication procedures between the two railways when concurrent switching movements were taking place. Both companies were relying on CROR Rule 105 to provide a margin of safety in the event of conflict in their operations. The Safety Advisory stated that, in view of the potential for similar occurrences in both Calgary and other industrial areas, TC may wish to review railway communication procedures when operating on jointly-served trackage.

In its response, TC concluded that there did not appear to be a systemic communication problem on jointly-served tracks. In this particular occurrence, it was viewed by TC that the crews had failed to reduce speed in accordance with operating conditions, and that the collision occurred as a result of non-compliance with CROR Rule 105. Furthermore, in comments on the confidential draft report of this

REDUCED SPEED - A speed that will permit stopping within one-half the range of vision of equipment.

investigation, TC indicated that communication of movements on other than main track is considered impractical and could compromise safety by giving crews a false sense of security. However, following the occurrence, both CN and CP issued instructions for yardmasters to communicate when making switching movements on joint trackage in the Foothills Industrial Park. (These instructions were subsequently rescinded.) TC has contacted the Railway Association of Canada, suggesting that it reiterates the importance of CROR Rule 105 with all its member companies. Also, TC's Surface Group Regional Offices were instructed to identify other locations similar to the Foothills Industrial Park to ensure that proper procedures are being followed.

CROR Rule 105¹ governs speed as a function of the range of vision and the stopping capability of the train. To be in compliance with CROR Rule 105, crew members must assess the changing variables upon which the range of vision and stopping capability depend. Range of vision is affected by physical layout and obstructions, weather, and ambient lighting. The stopping distance depends on track characteristics, weight of the train, braking efficiency, and crew reaction time. Consequently, with many of these variables in play at any one time, the possibility of misjudging the speed from which a safe stop can be achieved is significant. Safe operating practices would, therefore, dictate that a safety factor be built into the required

1 CROR Rule 105: **SPEED ON OTHER THAN MAIN TRACK** "... train or engine using other than a main track must operate at reduced speed...."

stopping distance. For most circumstances, CROR Rule 105 does this. Application of CROR Rule 105 to determine the speed which would allow a safe stopping distance between a moving unit and a stationary object provides a safety factor of two, i.e., a speed that permits stopping within one-half the range of vision. However, when calculating the distance required by two moving units which unexpectedly meet head-on, as happened in this occurrence, it is found that the safety margin could be non-existent. In other words, if each moving unit utilizes the entire distance as permitted by its speed (one-half its range of vision), there could be virtually no space left between the two units after they brake to a stop. The Board does not question the validity of CROR Rule 105 with respect to its use to provide a safety buffer in the stopping distance between a moving unit and a stationary object. However, the Board is concerned that, in an opposing traffic situation, even the most competent crews would have difficulty assessing the variables in time to effectively comply with CROR Rule 105.

The rail industry is a competitive commercial environment and pressures, both real and perceived, exist to complete work schedules in a timely manner. Hence, rail crews tend to operate their units at the maximum authorized speeds. Also, with concurrent movements being conducted on joint trackage, at times without formal procedures to ensure that there are no conflicting movements, there will continue to be unexpected encounters of opposing traffic and the potential for head-on collisions. Given that the application of CROR Rule 105 to avert collisions between

opposing movements does not provide any real margin of safety, the Board recommends that:

The Department of Transport review the application of CROR Rule 105 with a view to ensuring that an appropriate safety factor is maintained with opposing movements.

R95-02

This report concludes the Transportation Safety Board's investigation into this occurrence. Consequently, the Board, consisting of Chairperson, John W. Stants, and members Zita Brunet and Hugh MacNeil, authorized the release of this report on 19 June 1995.

TSB OFFICES

HEAD OFFICE**HULL, QUEBEC***

Place du Centre
4th Floor
200 Promenade du Portage
Hull, Quebec
K1A 1K8
Phone (819) 994-3741
Facsimile (819) 997-2239

ENGINEERING

Engineering Laboratory
1901 Research Road
Gloucester, Ontario
K1A 1K8
Phone (613) 998-8230
24 Hours (613) 998-3425
Facsimile (613) 998-5572

REGIONAL OFFICES**ST. JOHN'S, NEWFOUNDLAND**

Marine
Centre Baine Johnston
10 Place Fort William
1st Floor
St. John's, Newfoundland
A1C 1K4
Phone (709) 772-4008
Facsimile (709) 772-5806

GREATER HALIFAX, NOVA SCOTIA*

Marine
Metropolitain Place
11th Floor
99 Wyse Road
Dartmouth, Nova Scotia
B3A 4S5
Phone (902) 426-2348
24 Hours (902) 426-8043
Facsimile (902) 426-5143

MONCTON, NEW BRUNSWICK

Pipeline, Rail and Air
310 Baig Boulevard
Moncton, New Brunswick
E1E 1C8
Phone (506) 851-7141
24 Hours (506) 851-7381
Facsimile (506) 851-7467

GREATER MONTREAL, QUEBEC*

Pipeline, Rail and Air
185 Dorval Avenue
Suite 403
Dorval, Quebec
H9S 5J9
Phone (514) 633-3246
24 Hours (514) 633-3246
Facsimile (514) 633-2944

GREATER QUÉBEC, QUEBEC*

Marine, Pipeline and Rail
1091 Chemin St. Louis
Room 100
Sillery, Quebec
G1S 1E2
Phone (418) 648-3576
24 Hours (418) 648-3576
Facsimile (418) 648-3656

GREATER TORONTO, ONTARIO

Marine, Pipeline, Rail and Air
23 East Wilmot Street
Richmond Hill, Ontario
L4B 1A3
Phone (905) 771-7676
24 Hours (905) 771-7676
Facsimile (905) 771-7709

PETROLIA, ONTARIO

Pipeline and Rail
4495 Petrolia Street
P.O. Box 1599
Petrolia, Ontario
N0N 1R0
Phone (519) 882-3703
Facsimile (519) 882-3705

WINNIPEG, MANITOBA

Pipeline, Rail and Air
335 - 550 Century Street
Winnipeg, Manitoba
R3H 0Y1
Phone (204) 983-5991
24 Hours (204) 983-5548
Facsimile (204) 983-8026

EDMONTON, ALBERTA

Pipeline, Rail and Air
17803 - 106 A Avenue
Edmonton, Alberta
T5S 1V8
Phone (403) 495-3865
24 Hours (403) 495-3999
Facsimile (403) 495-2079

CALGARY, ALBERTA

Pipeline and Rail
Sam Livingstone Building
510 - 12th Avenue SW
Room 210, P.O. Box 222
Calgary, Alberta
T2R 0X5
Phone (403) 299-3911
24 Hours (403) 299-3912
Facsimile (403) 299-3913

GREATER VANCOUVER, BRITISH COLUMBIA

Marine, Pipeline, Rail and Air
4 - 3071 Number Five Road
Richmond, British Columbia
V6X 2T4
Phone (604) 666-5826
24 Hours (604) 666-5826
Facsimile (604) 666-7230

*Services available in both official languages