



September 27, 2018
The Honourable Marc Garneau, P.C., M.P.
Minister of Transport
330 Sparks Street
Ottawa, ON
K1A 0N5

Re: CP 2018/19 Winter Contingency Plan Report

Dear Minister Garneau:

As required under section 151.01(2) of the *Canada Transportation Act*, I am writing to report Canadian Pacific's (CP) contingency plan that will enable us to move grain, along with other traffic, when faced with winter weather conditions during the upcoming 2018/19 winter.

Sincerely,

A handwritten signature in black ink that reads "Keith Creel".

Keith Creel

President and Chief Executive Officer



**2018 - 2019
Winter Contingency Plan**





CP 2018-19 Winter Contingency Plan

Canadian Pacific (CP) has been railroading in challenging winter conditions since 1881. We are proud to have pioneered safe and efficient winter railroading, particularly through the steep mountain ranges of Alberta and British Columbia. Although winter is unavoidable in Canada, the type and severity of conditions, and their geographical scope, can vary dramatically from year to year.

While the winter cannot be predicted with absolute certainty, our submitted plan reflects CP's proven improvements in winter performance, driven by sophisticated weather prediction modelling, sustainable volume targets, robust contingency plans, significant investments in track infrastructure and rolling stock, and proactive coordination and planning with our customers and the broader supply chain.

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2018-19 Winter Forecast and Modelling

CP is in the process of refining its long range forecast for this winter. CP uses sophisticated winter prediction modelling and data from numerous meteorological services. Early winter forecast models show this winter will likely be influenced by an El Nino weather pattern. El Nino's usually bring warmer temperatures and above average precipitation on the west coast and mild, drier conditions on the western half of the prairies.

This is an early forecast. Higher probability forecasts begin to become available by mid-October. We are continuing our forecast modelling as higher probability data becomes available.

As with any forecast, it is never certain that the anticipated weather will materialize. We must therefore always be prepared for any winter scenario. That being said, the expert meteorological data analysis and prediction models provide important guidance for CP's winter planning.



Moving grain and other commodities during the 2018-19 Winter Months

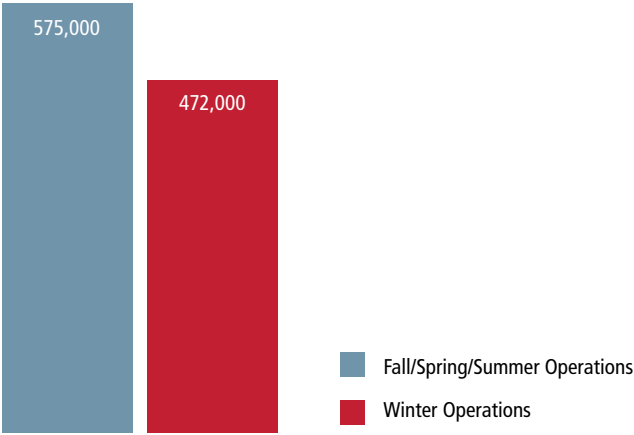
Based on current forecasts of grain volume, CP's operating team has a target of spotting approximately 5,500 hopper cars for Canadian grain weekly through the fall, until the closure of the Port of Thunder Bay on the St. Lawrence Seaway. Achieving this target is subject to an efficient and effective supply chain and is based on continued communication and collaboration. When the seaway closes, CP plans to target approximately 4,000 cars per week, based on the same factors. CP sizes its operating plan carefully to match supply chain capacity, and the plan assumes the supply chain will run at or near capacity throughout the season. With the cooperation of all components of the supply chain, and if demand is robust, we hope to exceed these supply forecasts.

Another critical factor in which the performance of the North American rail industry relies upon is the performance of interswitching cars in Chicago. Approximately 25 percent of all North American freight traffic moves through Chicago¹ where six Class 1 freight railways connect. It takes a train on average "30 hours to get through Chicago—about the same time it takes the same train to travel from Chicago to the East Coast."²

In this constrained environment, surges in freight volumes, severe weather and other adverse events can quickly lead to significant disruption, and that disruption can impact the movement of grain and the broader economy as a whole. Through better coordination between Class 1s and other connecting carriers, fluidity at the Chicago terminal has improved but it is still fragile, especially in winter.

For this reason, we urge customers to consider other routing options and gateways that do not involve the Chicago terminal especially in the winter months.

Figure 1: CP Grain & Grain Products Performance Target for the 2018/19 Crop Year: Metric Tonnes per Week



¹<http://business.financialpost.com/welcome-to-chokepoint-usa> by Kristine Owrarn, November 8, 2015

²Report on Amtrak Chicago Gateway Blue Ribbon Panel, October 19, 2015 ("Amtrak Report")

CP Network Contingency Plan

During the winter months, we have a sophisticated system in place to closely monitor conditions. In addition to our years of winter railroading experience, CP uses an outside weather service to provide the railway necessary information and guidance on existing and future winter weather. The suite of products provided to CP is extensive. They include twice daily weather condition/forecast planning reports by subdivision, real time monitoring and warning protocols, meteorologist network surveillance and consultation services, which are disseminated across the railway. In addition, our Hot Box Detectors give us real time track level monitoring of ambient temperatures across our network. This provides situational awareness of changing temperatures and winter operating conditions which informs our on the ground decisions in implementing the winter plan.

The primary winter impact to a railway is extreme cold – which requires operational changes to reduce train speed, length, and weight. Low coefficients of static and kinetic friction due to steel wheels on steel rails allows for the tremendous efficiency and fuel economy of the rail mode, but when temperatures drop below negative 25 degrees Celsius, the physics of steel wheels on steel rails, and the technology behind air brake systems, in particular, demand slower speeds, and shorter, lighter trains. Below negative 25 degrees Celsius, the rail system's overall capacity will fall and will fall further still when the temperature falls below negative 35 degrees Celsius. CP's winter contingency plans involve scheduled procedures that are executed when specific winter conditions are observed. CP's response to weather intensifies as conditions worsen.

Based on the preliminary winter forecast model, CP has developed winter contingency plans for each region, subdivision, rail yard, and facility across our network. CP's winter contingency plans also include:

- continuing to strategically employ distributed power to improve air pressure throughout a train and continuing the use of the power-on model for select Canadian grain customers to ensure air pressure is maintained while loading;
- strategically place assets and resources, such as snow removal equipment and sand, in appropriate locations across the network, to ensure rapid deployment when they are needed to respond to winter weather;
- ensuring that switch heaters have propane and other equipment, such as brooms and shovels, deployed at switches;
- developing specific contingency plans for our Train and Engine employees, Engineering and Mechanical personnel, and our Operation Centres in Calgary and Minneapolis;
- locating snow crews at targeted locations across the network;

- training snow plow/spreader operators, installing new snow fences and completing switch heater installation and renewal program;
- maintaining 900 switch heaters across our network;
- ensuring run-off does not impact the integrity of the railway track bed by monitoring drainage and cleaning culverts;
- preparing specialized trucks, backpack blowers, and heated blowers to remove snow from our tracks and switches; and
- continuing to add to our snow fighting equipment fleet.

These specific plans ensure safe operations in difficult winter conditions, wherever they may appear across the network. All the equipment is dedicated to the railway's 24/7 operation. Some of the equipment that CP deploys to clear snow and mitigate the impact of winter is shown below.



*Railway switch heater
Forced heated air directed through ductwork that melts snow and ice from switch components.*



*CP Plow/Spreader Consist
Heavy duty snow plow and sand spreading operations.*



*CP Snowfighter
Smaller multi-purpose snow clearing equipment plows, spreads sand and blows snow.*

Collaboration with government agencies

Each year, CP works with provincial and federal agencies to pro-actively develop pre-winter storm plans for the mountains in Alberta and BC. CP's western corridor route has unique challenges given mountain grades, sharp curves and proximity of steep mountain topography that may involve major avalanches. To safely and successfully transit this route daily, CP requires a comprehensive avalanche control program. This program includes a team of highly skilled avalanche contractor specialists, who provide a suite of deliverables to CP, including avalanche zone safety, search and rescue training, avalanche condition monitoring/control. In addition, the team is in tight coordination with other transportation corridor stakeholders (Parks Canada / BC Highways). This coordination ensures activities are synchronized to minimize disruptions and maximize safety, while operating through the numerous mountain passes where the railway and the highway are in close proximity. Parks Canada is an important partner in Banff and Glacier National Parks.



Snow Pack Monitoring

Collaboration with customers and supply chain participants

CP, customers, and supply chain participants all have a major role in preparing for winter. The following is an overview of activities that CP expects customers to undertake to ensure effective service during the winter months.

- Arrange the availability of resources, such as snow removal and sand, in advance of winter.
- Conduct a fall “housekeeping” inspection of their rail operation prior to the first snowfall to ensure walking areas are free of debris and tripping hazards.
- During the winter months, keep flangeways of tracks that run through private or public roads clear of snow, ice and debris at all times.
- Clear snow buildup caused by vehicles crossing over tracks, and snow which has slipped from adjacent roof tops onto siding tracks. Ensure that any snow build up well clear of tracks to avoid causing restricted or closed clearances.

CP and its supply chain participants, including port terminal operators, and our customers develop and implement communication protocols to alert each other of winter conditions that have or may disrupt operations.

- Inspect siding before service by train crews.
- Ensure all signage used to indicate restricted/closed clearances and/or track protection are displayed as required, unobstructed, and markings clearly visible.
- Keep all walking areas and switches at the customer facility free of snow, ice and debris and sure that they are properly drained.
- Communicate with CP's Operations Centre when the customer facility will be cleared of snow and ice so that we can schedule crews can service the facility.

CP and other supply chain participants, including port terminal operators, and our customers develop and implement communication protocols to alert each other of winter conditions that have or may disrupt operations. Full 24/7 operations also help with supply chain resilience and more rapid recovery after severe weather or an outage. Further, there is significant need to improve the ability to load grain in Vancouver during the rainy season from November through March.

CP is committed to strong customer communication and responsiveness. Our Sales and Marketing team is in regular contact with our customers to better understand their business and how CP can help meet their demand. We also utilize a number of other tools to facilitate direct communication and provide access to up-to-date shipment and network information. These tools include availability of shipment based information, carload and intermodal tools, as well as bulletins and messages on our website ([cpr.ca](http://www.cpr.ca)—Customer Station); the ability to reach CP representatives at our Network Service Centre day or night via toll free telephone (888-333-8111); email; and on-line messaging (“log an issue” feature). Further, we have a dedicated grain performance website <http://www.cpr.ca/en/customer-resources/grain>, which we initiated at the beginning of the 2017/18 Crop Year, to inform our customers and other stakeholders of our weekly grain performance. We believe this information, together with ongoing dialogue with our customers, is productive. We look forward to working pro-actively and collaboratively with our customers.

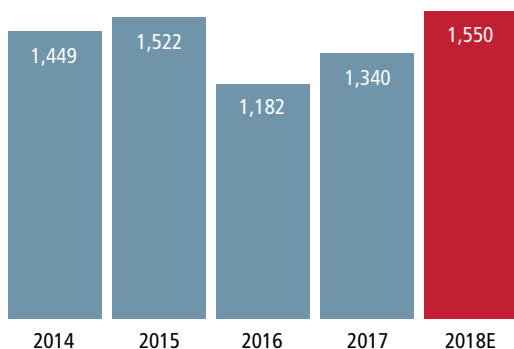
We take all steps necessary to expedite rapid system recovery from severe weather and major outages, including immediately deploying senior officers to the site, activating CP equipment as well as contractor resources for urgent deployment and working closely with other railways. CP works 24/7 until the railway gets back to normal operations.

CP capital investment

We expect our total network capital investment in 2018 will be \$1.55 billion (CAD). Investments in yard and track improvements are being undertaken as well as purchasing new grain hopper cars. CP has committed \$500 million over the next four years to purchase new grain hopper cars. We expect to receive 500 new hopper cars by the end of the year. The new car design is shorter, lighter and can carry more grain than the cars being retired from CP's fleet. The new cars feature a three-pocket design that can be loaded and unloaded more efficiently than the old four-pocket government cars. The new hopper cars can handle more than 15 percent greater volume and 10 percent greater load weight than the cars being retired, while featuring a shorter frame that enables more cars in a train of the same length. The cars will feature newly manufactured components that are more reliable, significantly reducing maintenance-related delays as well as preventing delays caused by hopper car equipment problems. These benefits will accrue year-round including in the winter, when demand to move grain is the highest.

In a continued effort to increase the capacity of our network to meet the growing need of our customers, CP will complete several siding extension projects this year. All of the extended sidings will be at least 10,000 feet in length. We are also constructing three new sidings while undertaking yard projects throughout our network. These important capacity enhancing projects will increase year round capacity and improve our ability to recover from severe weather or outages.

Figure 2: CP's Annual Capital Investment 2014-2018E



*CP is investing at record level to support safety, growth and efficiency.
\$1.55 Billion in 2018*

Conclusion

Through robust planning, predictive forecasting, and experience, we are confident that we have proper contingencies in place to prepare the railroad for winter. Our plan, expertise and experience ensures a resilient rail system that can continue serving the needs of our customers – and by extension the needs of the broader economy – even during the harshest winter operating conditions.



