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# **MONITORING PROGRAM DESIGN FOR GRAIN HANDLING AND TRANSPORTATION**

## **I. BACKGROUND**

### **PURPOSE OF THIS DOCUMENT**

The purpose of this document is to describe a program for monitoring the performance of the grain handling and transportation system for prairie grain, with a focus on grain that is subject to the revenue cap under the *Canada Transportation Act* (CTA).

### **OBJECTIVES OF THE MONITORING PROGRAM**

The objective of the monitoring program is to provide information and analysis on the performance of the grain handling and transportation system (GHTS), including the impact of the government's May 10, 2000 policy announcement. The information and analysis will be used to identify any problems or opportunities to improve the system further, so that the government will be in a position to take appropriate policy action.

Monitoring will assess:

- the effects on farmers
- whether the Canadian Wheat Board (CWB) marketing mandate is affected
- the effect on grain handling efficiency
- the effect on railway efficiency
- the effect on port efficiency, and
- the overall performance of the GHTS.

### **CRITICAL SUCCESS FACTORS**

The monitoring program is designed to track system changes related to:

Commercial Accountability: including competition, accountability, and the use of commercial tools (such as a greater use of contracts, incentives and penalties) to clarify roles and encourage good system performance.

Operational Efficiency: the ability of the system to handle large volumes of grain efficiently, to optimize capacity utilization, and to minimize system costs.

Customer Service: simply stated - getting the right grain to the right place at the right time.

Maximizing Producer Value: pursuing improvements in the producer netback (i.e. grain price less transportation and handling costs) plus other benefits for producers from an improved system.

Continuous Improvement: the monitoring program should provide up to date information on GHTS operations.

## **ROLE OF THE MONITOR**

The Monitor's role will be to provide information and analysis on the performance of the GHTS by collecting and analyzing data and other relevant information, assessing this information, and providing reports to the Minister of Transport, the Minister of Agriculture and Agri-Food, and the Minister responsible for the Canadian Wheat Board. The Monitor will perform these duties in an independent, neutral, and professional manner. The Monitor will not have any authority to direct industry stakeholders to change their policies, practices, or procedures. It is not intended that the Monitor act as a facilitator or mediator to resolve disputes among industry stakeholders. The Monitor will not set performance targets or benchmarks for the industry.

The Monitor's assessments and reports will not include recommendations.

## **MONITORING CONCEPTS AND APPROACH**

The Monitoring program is based on a number of concepts and approaches.

### **Dynamic Nature of Monitoring Program**

The system has been evolving over a number of decades and will continue to evolve, especially since the government's policy decision was aimed at encouraging the move to a more commercial system.

In this context, it is expected that the monitoring program design will be refined as the Monitor gains experience with the monitoring function and as the system evolves and new commercial arrangements are introduced. As a result, the Monitor will be authorized to suggest adjustments to the design, either to add new features or to drop features that no longer serve a useful purpose. Adjustments to the monitoring design will be subject to approval by representatives from Transport Canada and Agriculture and Agri-Food Canada.

### **Monitoring Long-Term and Short-Term Performance**

Monitoring is intended to track both long-term and short-term performance of the system. Long-term monitoring will assess, on an annual basis, whether the system is becoming more efficient, less costly, and more reliable. The Monitoring design also includes a component to track the short-term operational performance of the system.

#### Ad Hoc Reports and Special Studies

The Monitor may be asked to provide ad hoc reports from time to time in the event short-term operational problems arise or are anticipated.

#### Monitoring Elements

The monitoring program consists of the following elements (as more fully described in subsequent sections):

- Industry Overview
- Commercial Relations
- System Efficiency Service
- Reliability
- Producer Impacts
- On-Going Performance Monitoring

#### Performance Indicators and Descriptive Analysis

The monitoring program uses both statistical indicators and descriptive analysis to track changes in the system. Operational and financial indicators are useful tools in summarizing trends that are taking place. A number of such indicators have been included in the program design. Examples include changes in the export basis, turnover rates for elevators, and rail car cycle times. However, some changes do not lend themselves to statistical analysis and require more of a narrative description. Examples include the introduction of new service or pricing packages that influence grain logistics or the sale of the government hopper cars.

#### Base Period

Trend analysis is an important feature of the monitoring program. To facilitate such analysis, the performance indicators used in the monitoring design should be determined for a base period. The base period will be the 1999-2000 crop year, which preceded the implementation of the May 10<sup>th</sup> policy announcement.

#### Monitoring of Revenue Cap

The Monitor will not monitor the railways' compliance with the revenue cap since this is a responsibility of the Canadian Transportation Agency.

## **DATA SOURCES AND ISSUES**

The performance indicators contained in the monitoring design will be developed from data from a number of sources. Primary data sources include the Canadian Grain Commission, Transport Canada, the CWB, the grain companies, the railways, and the Canadian Port Clearance Association. Attachment B lists each performance indicator and the relevant data source(s).

To the extent possible, the Monitor will make arrangements to obtain the relevant data from the various sources. Wherever possible, data should be obtained at an aggregated level to protect the confidentiality of the information. This does not preclude the Monitor from accessing non-aggregated data.

In some cases, it may be more practical to obtain data from a third party who may wish to charge the Monitor for the incremental costs of providing information to the Monitor. The government will compensate the Monitor for reasonable charges levied by third parties.

Additional data gaps and issues may be identified as the monitoring program is implemented and evolves. Government officials will work with the Monitor to address these

## **II. INDUSTRY OVERVIEW**

### **Background**

The physical infrastructure of the GHTS has been undergoing rationalization for a number of decades through the abandonment of branch lines and consolidation of country elevators. In addition, there have been significant developments in the structure of the grain industry, with the entry of a number of new players as well as restructuring among the dominant producer co-operatives (e.g. mergers and public offerings). In the last few years structural changes have been accompanied by significant shifts in production and sales patterns.

Changes in crop production and sales patterns, handling and transportation infrastructure, and industry structure can have an impact on the grain handling and transportation system. Conversely, changes in the system can influence production and sales. By reviewing the structure of grain companies, railways, terminal operators and processors, and observing changes in market behavior (pricing, changes in infrastructure, market focus, etc.), the Monitor will be better able to understand their resulting impacts on the system's performance.

## **Purpose**

The purpose of this monitoring element is to track shifts in grain handling and transportation infrastructure, industry structure, and crop production and sales. These factors can have a large influence on the efficiency, effectiveness, and competitiveness of the GHTS. These are also important factors in understanding changes in traffic patterns, demand for particular services and fluctuations in asset utilization.

## **Approach**

The approach to this task is both quantitative and descriptive. Performance indicators related to production, sales, traffic, and infrastructure are specified in the following section. The Monitor should also describe major changes in industry structure, such as the merger of grain companies or significant changes to short line railways. Changes in industry structure can be monitored from a general knowledge of the industry and from the performance indicators related to transportation and handling infrastructure.

## **Methods/Measures**

The process of tracking trends - with respect to production patterns, grain industry structure and grain handling and transportation infrastructure - will involve a series of analytical tasks including data compilation, trend analysis and documentation. While the work may involve some limited interpretive efforts, as well as some mapping of grain production and flows, the focus will be on the following quantitative measures that will be used in preparing the Monitor's annual report:

### **Production/Supply:**

- Western Canadian crop production for major grains
- Changes in carry-forward stocks for major grains will also be documented to track overall supply of grain.

### **Traffic**

- Rail traffic volumes, by corridor (Vancouver, Prince Rupert, Thunder Bay, Churchill, direct rail to eastern Canada), and by railway

### **Country Elevator Infrastructure**

- Number of delivery points and elevators including storage capacity, by railway and grain company as of August 1<sup>st</sup>.

- Number of elevators capable of loading cars in incentive rate blocks
- Number of elevators by elevator size (size classes to be developed)
- Number of new elevators and total capacity by province
- Number of elevator closures by province
- Number of locations accounting for 80% of producer deliveries

#### Railway Infrastructure

- Class I railways - miles of grain dependent lines, including number of miles abandoned and transferred to short line operators
- Annual grain volumes - broken down by origin between branch lines and other
- Short line railways - miles of track and annual grain volumes
- Fleet size for main line carriers – by month and annual average
- Grain market shares for Class I and short line operators
- For branch lines and main lines - number of elevators and delivery points, including storage capacity

#### Terminal Elevator Infrastructure

- Number of terminal elevators by port and capacities
- Traffic volumes by port, including railway share

### **III. COMMERCIAL RELATIONS**

#### **Background**

The objective of the government's May 10<sup>th</sup>, 2000 policy announcement was to move towards a more commercial grain handling and transportation system.

Industry stakeholders are expected to develop new commercial relations that will lead to improved accountability. Examples of potential changes are new service packages from the railways and revisions to the CWB's practices for allocating its share of cars. The commercial arrangements between the key stakeholder groups may, in fact, evolve over time as adjustments are made to the new environment.

## **Purpose**

The purpose of this monitoring element is to track and assess changes in commercial relations between grain industry stakeholders, including the impact of these changes on system efficiency, accountability, and competitiveness.

## **Approach**

The monitoring program will include quantitative measures related to the CWB's tendering and advance car awards program activities. This monitoring element will largely track "process" related aspects of the tendering and advance awards programs. This would include such things as the overall level of bidding, the extent to which bids meet CWB tender specifications and the extent to which tenders are awarded on a basis other than lowest price with respect to the tendered movements. With regard to advance car awards, it would include the distribution of advance awards both geographically and by commodity, by origin, destination as well as an assessment of how the program is being used by the industry.

Other elements of the monitoring program will draw comparisons between tendered, non-tendered, and non-Board grains, in terms of service reliability, operating efficiency (i.e. system performance), and producer impacts.

Given that the system is in transition, other changes in commercial relations will largely be tracked through more of a "descriptive" approach, i.e. the monitor will report on key changes to industry policies, practices, and procedures that affect logistics. As these changes occur, the Monitor will make suggestions on how the impacts could be tracked through quantitative reporting measures. One qualitative measure of improvements in accountability that the Monitor will track is the amount paid out in demurrage.

In fulfilling this mandate, the Monitor will track the movement of CWB tendered grain discretely from non-tendered movements. Information will be collected and grouped into data sets that allow valid comparisons. The majority of data related specifically to tendered shipments resides with the CWB. The railways, elevator companies and terminal operators do not presently have the capability of tracking tendered shipments in a manner that is discrete from other movements. For example, a grain train may be loaded with both tendered and non-tendered shipments, and jointly unloaded without the benefit of being recorded separately. In order to facilitate these comparisons, the Monitor will work with the CWB and other parties to develop procedures to capture information separately for tendered and non-tendered movements.

## **Methods/Measures**

In order to monitor CWB tendering, the following information will be tracked on an annual basis:

- Number of tenders called (absolute number and tonnage volume) (by grain and grade)
- Number of bids (absolute number and tonnage volume)
- Volume of grain moved by the tendering process (tonnes and %) relative to the total volume of CWB grains moved to the four eligible ports, by grain and grade
- For tenders that were only partially awarded, a breakdown of the volumes not filled by category, e.g. insufficient volumes bid, price not acceptable, non-compliance with tender specifications
- Number of tenders and tonnage not awarded to the lowest bidder
- Percentage of tenders for grain in store vs. FOB (at spout)
- Distribution of tenders by port
- Distribution of tender movements by railway
- Distribution of tendered grain by size of car block
- Number and type of penalties
- Distribution of origins by province and elevator classification
- Distribution of tenders by month
- Average tendered Block size for tendered grain
- Average rail car cycle – Tendered vs. Non tendered
- Max accepted tender bid – Wheat, Durum and Barley
- Market Share of tendered movement – Major and Non Major Grain Companies
- Percentage of Advance Car awards as a proportion of total movements
- Total volume of Advance car award movements
- Distribution of Advance Car awards – Multiple car blocks
- Average rail car cycle – Advance award Grain

The Monitor will use the information gathered from both the quantitative and qualitative analysis to prepare an annual evaluation of commercial relations. This evaluation will include a comparison of commercial practices plus incentives and penalties for tendered, non-tendered and non-Board shipments. The Monitor will also track the proportion of grain moving under incentive rates by Board and non-Board grains.

## **IV. SYSTEM EFFICIENCY**

### **Background**

One of the aims of moving towards a more commercial system was to improve efficiency. A more efficient system will enhance the competitiveness of Canadian grain and grain products in international markets for the benefit of all stakeholders.

This monitoring element will examine the efficiency of the system and its sub-components in terms of: costs, operations and the logistic cycle (how long it takes for grain to move through the system). The focus will be on rail transportation and handling activities in the country and at port since information is most readily available for these components. It is acknowledged that improvements in the efficiency of grain handling and rail transportation can have an impact on other elements of the system such as increased trucking and road costs.

### **Purpose**

The primary purpose of this monitoring element is to measure changes in the efficiency and cost of the GHTS. Changes to the basic capacity of the system (and of its components – primary elevators, railways and port terminals) will be documented as part of the “industry overview” monitoring element. This element will deal with the utilization of that capacity. System efficiency can also be assessed in terms of its impact on system effectiveness and competitiveness.

The performance measures described in this monitoring element will indicate whether the performance of the GHTS system and its components is improving or deteriorating over time by tracking key performance indicators. Short term operational performance will be tracked separately under the monitoring element entitled “On-Going Performance Monitoring”. This monitoring element will also provide the basis for tracking seasonal trends in traffic flows within the crop year.

A comprehensive set of financial and operational performance measures will help assess the effects of system performance. Because of their operational nature, these measures will also assist the Monitor in identifying system disconnects and

failures. This data will also be used to track the geographical impact of the revenue cap on rail rates.

### **Approach**

Performance will be monitored using performance indicators that measure workload, system cost, and system velocity. Beyond physical measures of efficiency (e.g. elevator throughput, railway traffic density, etc.), the monitoring efforts will be equally focused on cost performance by measuring changes in freight and elevator rates borne by shippers or producers. In addition, monitoring will determine if there are any long-term changes in the time it takes grain to move through the system, from country elevator to vessel. While dealing with each system component separately (in terms of volume, cost, and timing), monitoring efforts will also address system-wide efficiencies and cost performance. There will also be an effort to draw comparisons between different grains – Board vs. non-Board and tendered vs. non-tendered.

The monitoring efforts will include compilation of data on posted charges to establish average unit costs (to the producer) for rail freight, country-elevator charges, and terminal charges. The posted rates for a representative sample of delivery points will be documented for one day of each month throughout the crop year. This analysis would offer considerable detail by grain type, region, and railway.

### **Methods/Measures**

#### **Trucking**

- Commercial trucking rates will be tracked on a quarterly basis.

#### **Country Elevator**

- Total volume throughput for all major grains
- Annual average elevator turns (by elevator class)
- Average days in store as determined by dividing 365 days by the average inventory turnover ratio
- Average weekly stock-to-shipment ratios for major grains
- Average handling charges based on monthly tracking of posted rates at a representative sample of delivery points for major grains

#### **Rail Operations**

- Total volumes by corridor, by railway

- Average car cycle time (by event) by corridor (average and range)
- Volumes shipped – single and multiple cars (split into 25's, 50's, and 100's)
- Incentive shipments relative to total shipments (tonnes)
- Traffic density for grain branch lines
- Average freight rates and incentive rates based on tracking posted rates for a representative sample of prairie locations for major grains
- Effective freight rate per tonne adjusted for length of haul based on CTA analysis of revenue cap compliance.

#### Terminal Elevator and Port Performance

- Annual port volume throughput for major grains
- Annual volumes and turns for principal terminals aggregated by port
- Average days in store as determined by dividing 365 days by the average inventory turnover ratio
- Average weekly stock-to-shipment ratio for major grains by port
- Average and distribution of vessel time in port
- Distribution of number of vessel berthings by port
- Annual demurrage costs and dispatch earnings by port for Board and non-Board grains
- Average handling charges by port based on monthly tracking of each terminal's posted rates for major grains
- Distribution of vessel arrival windows for CWB and non-CWB grain
- Logistics cycle - aggregate of car cycle, country elevator dwell time and terminal elevator dwell time

## **V. SERVICE RELIABILITY**

### **Background**

The Canadian Wheat Board, grain companies, railways and other stakeholders all agree that delivering the “right product at the right time to the right customer” is a critical success factor for the GHTS. Having product out of place can result in higher costs, congestion and inefficiencies throughout the GHTS, and international damage to Canada’s reputation as a supplier.

### **Purpose**

The purpose of this monitoring element is to determine if grain is moving through the system on a timely basis in response to customer needs. In particular, is the right grain at port when vessels arrive to pick it up.

### **Approach**

Most grain should enter and flow through the system in a timely manner based on sales commitments. Grain should be in position at port when vessels arrive and should spend as little time as possible in the handling and transportation system before it is loaded on a ship.

The Monitor is required to track the reliability of the system by focusing on the inter-face at port between vessels and terminals using information that is more readily available and indicators that are commonly used by industry. This will enable the Monitor to at least track reliability at port, where grain is transferred from the domestic system to vessels. In addition, the Monitor will track changes to industry practices, policies, and procedures related to logistics (reference the monitoring element on Commercial Relations). This will provide an opportunity for qualitative assessment of the impacts of logistics changes on reliability.

### **Measures/Methods**

- Measures related to performance at port
  - Average weekly ratio of terminal stocks to vessel requirements by grain and grade, by port (Vancouver and Thunder Bay)
  - Average weekly stock-to-shipment ratio for Board and non-Board grains (Vancouver and Thunder Bay)
  - Vessel Port Times – Annual distribution of vessel waiting time by number of waiting days, percent of vessels loaded on time, and number of vessels loading at multiple berths.

- Vessel Related Financials – Annual vessel shifting costs, annual vessel demurrage, and annual dispatch earnings.
- Annual terminal storage and inventory carrying costs or storage days for Board and non-Board grains
- Measures related to performance in the country
  - Annual storage and inventory carrying costs or storage days for Board and non-Board grains

## **VI. PRODUCER IMPACTS**

### **Background**

In moving towards a more commercial system, one of the Federal Government's primary policy interests lies with the producer. The reform initiatives targeted at the efficiency of the GHTS and the role of the CWB are ultimately aimed at furthering producer interests. Accordingly, the Federal Government is committed to monitoring producer impacts to ensure that producers share in the benefits from the reform initiatives.

Handling and rail costs are borne by producers, either directly or indirectly, through the net price received when grain is delivered to an elevator, i.e. price at port less the costs of getting the grain to port. Note that changes in handling and rail freight rates are being tracked through the System Efficiency monitoring element.

Over and above adjustments in the handling and transportation basis, there may be other benefits and costs from changes to the system that affect producers' netback. As an example, a more efficient and reliable system may mean that more grain can be exported when prices are at their peak, thereby resulting in higher revenues to producers.

### **Purpose**

The purpose of this section is to monitor changes in the export basis – the costs associated with movement from farm gate to export position – and in the producer netback – a measure of the net value producers receive from the marketing of their crops – for selected commodities over time.

### **Approach**

In principle, netback can be calculated quite simply – the revenues producers receive after all transportation, handling and selling costs are removed. The sum of these cost elements is generally referred to in the industry as the “export basis”. Over time, changes in the netback to producers will reflect fluctuations in

world prices (largely a function of supply and demand) as well as changes in the export basis.

Separate approaches must be utilized when studying CWB and non-CWB commodities. When analyzing CWB grains (wheat and durum), changes in handling and rail freight rates have a direct impact on the export basis, as they constitute deductions from producer's receipts upon delivery. When studying non-Board grains (canola and large yellow peas), changes in handling and freight rates have an indirect impact on producer netback as they are factors taken into consideration when grain companies calculate their "basis" which is the difference between their cash price for the commodity and that of the nearby futures month. Other considerations in this calculation are opportunity costs and risk premiums.

### **Methods/Measures**

The monitoring system should incorporate "netback" analysis (at a provincial level) for four major crops – wheat, durum, barley, and canola – following these basic steps:

- Determine the "export basis" for each major crop shipped from selected points in each region and in western Canada as a whole (adjusting for all discounts and premiums).
- Based on analysis of the export basis, determine the degree of impact due to each component for each crop by region and western Canada as a whole.
- Determine an annual export price reflective of that received by producers. For CWB grains, use the in-store Vancouver or St. Lawrence final price. For canola, determine the Vancouver cash price, and for large yellow peas, determine an average of the dealer closing price.
- On an annual basis, determine the percentage change in "producer netback" attributable to export prices and the "export basis".
- Provide a verification mechanism for the components of the export basis, such as an analysis of the data from a sample of cash tickets provided by grain companies.

The Monitor should also report on the access producers have to producer car loading facilities and track changes in the utilization of producer cars.

In addition, to the above net-back analysis, the Monitor is asked to identify the types of indirect costs and benefits to producers that can reasonably be attributed to changes in the grain handling and transportation system, identify performance indicators to track the impacts (to the extent possible) and make recommendations on how special studies could be used to assess the costs and

benefits. For example, a more commercial system would ideally place grain in position during periods when the marketer is best able to capitalize on favourable market opportunities. Tracking traffic flows for a particular commodity against price data may provide some insight into the flexibility and responsiveness of the system.

## **VII. PRODUCER NETBACK CALCULATOR**

### **Background**

One of the principal objectives set for the GMP is gauging the overall logistics cost associated with moving prairie grain to market – what is commonly referred to as the “export basis” – and the resultant “netback” arising to producers. By definition, both the export basis and the producer netback are location-specific calculations, and include charges for elevation, elevator cleaning and storage, and transportation (be it road, rail or marine).

An area of the GMP Export Basis calculation that is difficult to gain specific data is the trucking component. A prime issue with many stakeholder groups is the impact that the shrinking GHTS network has had on the length of truck haul from farm gate to elevator. While the fact that truck hauls are increasing because of the reduced number of delivery points is intuitive, even an approximate amount of this increase is not known. At the same time, many stakeholder groups have expressed an interest in obtaining a greater level of detail on the producer netback to allow the ability for a producer to better assess their own situation.

The concept of the Producer Netback Calculator came about in the pursuit of an answer to both the above-mentioned issues.

### **Purpose**

The purpose and objective of the Producer Netback Calculator is to develop a methodology that allows for the gathering of data relative to the delivery behavior of producers that is cost effective while placing a minimal burden upon the stakeholder community, the producers in particular.

Using a web based system the Netback Calculator provides producers with a tool that allows for an estimate of the export basis and netback for their own specific situation. The system uses the data and methodologies developed in the GMP producer netback measures. The Producer Netback Calculator is intended for the use of producers who ship CWB grains subsequently the system will initially cover only wheat and durum.

In performing this calculation the producer is required to identify both their home location and the delivery point for their grain, and the basic data needed for the

GMP to gauge the distance grain is moved from farm gate to the country elevator.

### **Approach**

The Netback Calculator's process is based on the GMP Export Basis and Producer Netback methodology. The producer netback calculator allows producers to perform comparative analysis using portions of the producer netback information and to more easily gain access to published tariff data on freight and elevation charges.

The producer will perform calculations after entering the basic information on the movement they wish to estimate. They are then provided with a tabular accounting of the estimated export basis and producer netback based on the CWB Pool Return Outlook (for both the binned at and paid at grades). They can run as many estimates as they wish for comparative purposes, giving them the ability to compare the dominant variable costs associated with the logistics of grain moving from farm gate to country elevator – and with it the ability to make more informed decisions on the delivery of their grain.

The Grain Monitoring Project gains valuable data and information on the behavior of producer's in the delivery of their grain by retaining a record of all the individual transactions and performing analysis on issues such as length of haul to elevator, determination of modal utilization and other farm gate to elevator delivery behaviors

### **Methods/Measures**

Data gathered through the Producer Netback Calculator will allow for the following measures to be developed:

- Average Length of Haul to Elevator, by region, province etc.
- Type of equipment used
- Percentage of producers utilizing commercial trucking alternatives vs. self
- Average trucking costs
- Percentage of producers gaining blending promotions
- Confirmation of Trucking premiums

## **VIII. ON-GOING PERFORMANCE MONITORING**

### **Background**

As articulated throughout this report, the Government wishes to monitor the long-term performance of the GHTS with as little intrusion into commercial relations as possible. It also wishes to build “warning” or “alert” features into the monitoring system to identify potential capacity constraints, bottlenecks or other operational failures that may occur in the short term. These requirements necessitate a more continuous element in the monitoring process that can provide an early diagnostic capability – in other words, an element that can provide the government with timely information on short-term problems.

### **Purpose**

The purpose of this monitoring element is to monitor short-term operational performance of the system in order to identify and analyze potential problems or bottlenecks. This monitoring element involves a continuous process of information collection of operational data and performance measures that will indicate either that performance is good, or alert the government that bottlenecks or other types of system failures are or might be occurring.

### **Approach**

This monitoring element requires access to sources of information on a continuous basis – which are described in more detail below. This information will be used to prepare assessments on an as-required basis if short-term problems arise or are anticipated. The information will also be used to provide an assessment of system performance during the crop year through quarterly reports.

### **Measures/Methods**

Short-term performance monitoring will require the collection of the following information on an on-going basis:

#### **Country Performance**

- Producer deliveries (aggregate and by commodity)
- Primary elevator stocks (aggregate and by commodity).
- Elevator stocks to working capacity ratio
- Available country elevator space

#### **Terminal Elevator and Port Performance**

- Unloads by port and railway
- Terminal stocks by port (aggregate and by grain and grade)
- Vessel requirements by grain and grade
- Terminal stocks to working capacity ratio by port
- Vessel disposition by port - cleared, loading, waiting, and due (including tonnes)
- Stocks in store to vessel volume ratio (by port and commodity)
- Shipment to stock ratios for Board and non-Board grain for Vancouver and Thunder Bay
- Major grain exports (Vancouver, Prince Rupert, Churchill, Thunder Bay)

## **IX. REPORTS**

A main feature of the monitoring program design is the Monitor's annual report to Ministers, complemented by three quarterly reports.

The annual report will provide a "high level" commentary on system performance. It will consist of a narrative section that highlights the major changes that have taken place for each of the six monitoring elements during the past year and discusses key multi-year trends. The report should address what is happening to overall system costs and the grain logistics cycle, key changes and trends in infrastructure, industry structure and system reliability, changes in commercial relations, and impacts on stakeholders. The narrative report will be accompanied by charts, tables and appendices to provide more detailed information.

The annual report will be complemented by three quarterly "progress" reports on key developments in the handling and transportation system that occur during the crop year. The reports will be primarily narrative in nature but will include summaries of the key performance indicators for the period.

Ad hoc reports may be prepared from time to time in the event short-term operational problems arise or are anticipated.

## **X. CONFIDENTIALITY AND CONFLICT OF INTEREST**

Section 21 of the Memorandum of Agreement with the CWB states the following:

The Corporation (CWB) shall provide all necessary information and

assistance as may be requested by such an independent, professional third-party as shall be designated for this purpose by the Government of Canada. In doing so, the CWB may require that third-party to maintain such confidentiality of supplied information as may be commercially reasonable or as required under The Privacy Act.

It is intended that the CWB will provide information directly to the Monitor.

The contract with the Monitor will include the provisions on confidentiality and conflict of interest contained in the Request for Proposals.

### Measures

In addition to its contractual obligations, the Monitor will implement the following measures.

- All staff must receive a security orientation briefing on confidentiality and conflict of interest standards and procedural rules, and professional ethics. The Monitor and staff must also be accountable for establishing procedures to ensure that unauthorized persons do not have access to confidential information, including safety measures to protect the integrity of information systems.
- To ensure the security of information and communication (both data and voice) systems, policies and procedures must be developed by the Monitor's office that includes:
  - Establishing human resource controls (e.g., span of control, separation of duties, background checks, and personnel awareness) to prevent unauthorized persons from gaining access.
  - Controlling access to systems (e.g., passwords, encryption protection, etc.) as well as rules regarding who has access to specific information resources and the type of access permitted, such as read, write, update, or delete.
  - Implementing system operating procedures to ensure that routine system activities (user support, software support, configuration management, system backups, documentation, and maintenance) are secure.
- Security monitoring measures will be established by the Monitor to detect and correct security breaches.
- The Minister reserves the right to conduct an audit of the procedures and measures the Monitor has in place with respect to confidentiality and conflict of interest.

## **Attachment B**

### **DATA SOURCES FOR PERFORMANCE INDICATORS**

#### **INDUSTRY OVERVIEW**

<b><u>INDICATOR</u></b>	<b><u>SOURCE</u></b>
Western Canadian crop production for major grains	Statistics Canada
Changes in carry-forward stocks for major grains	Canadian Grain Commission (CGC)
Rail traffic volumes, by corridor (Vancouver, Prince Rupert, Thunder Bay, Churchill, direct rail to eastern Canada), and by railway	CGC
Number of delivery points and elevators including storage capacity, by railway and grain company as of August 1st	CGC
Number of elevators capable of loading cars in incentive rate blocks	Grain companies or railways
Number of elevators by elevator size (size classes to be developed)	CGC
Number of new elevators and total capacity by province	CGC
Number of elevator closures by province	CGC
Number of locations accounting for 80% of producer deliveries	CGC
Class I railways - miles of grain dependent lines, including number of miles abandoned and transferred to short line operators	Railways
Annual grain volumes - broken down between branch lines and other	Railways
Short line railways - miles of track and annual grain volumes	Railways
Grain market shares for Class I and short line operators	Railways
For branch lines and main lines, number of elevators and delivery points, including storage capacity	CGC/ Railways
Number of terminal elevators by port and capacities	CGC

Traffic volumes by port, including railway share	CGC
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**COMMERCIAL RELATIONS**

<b><u>INDICATOR</u></b>	<b><u>SOURCE</u></b>
Performance indicators for CWB tendering	CWB
Proportion of grain moving under incentive rates by Board and non-Board grains	CWB/ Railways

**SYSTEM EFFICIENCY**

<b><u>INDICATOR</u></b>	<b><u>SOURCE</u></b>
Commercial trucking rates on a monthly basis	Grain and Trucking Industry Sources
Total volume throughput for all major grains (country elevators)	CGC
Annual average elevator turns (by elevator class) (country elevators)	CGC
Average days in store as determined from the average inventory turnover ratio	CGC
Average weekly stock-to-shipment ratios for major grains (country elevators)	CGC
Average handling charges based on monthly tracking of posted rates at a representative sample of delivery points for major grains	CGC/ Grain Companies
Total rail volumes by corridor, by railway	CGC
Average car cycle time (by event) by corridor (average and range)	Railways
Volumes shipped - single and multiple cars (split into 25's, 50's and 100's)	Grain companies or railways
Incentive shipments relative to total shipments (tonnes)	Railways
Traffic density for grain branch lines	Railways
Average freight rates and incentive rates based on tracking posted rates for a representative sample of prairie locations for major grains	Railways
Effective freight rate per tonne adjusted for length of haul based on CTA analysis of revenue cap compliance	CTA
Annual port volume throughput for major grains	CGC/ CPCA
Annual volumes and turns for principal terminals aggregated by port	CGC
Average days in store as determined from inventory turnover ratios (terminal elevators)	CGC
Average weekly stock-to-shipment ratio for major grains by port	CGC
Average and distribution of vessel time in port	Canadian Port Clearance Association
Distribution of number of vessel berthings by port	Clearance Association

Annual demurrage costs and dispatch earnings by port for Board and non-Board grains	Grain companies and CWB
Average handling charges by port based on monthly tracking of each terminal's posted rates for major grains	Monitor responsible to track monthly rates
Distribution of vessel arrival windows for CWB and non-CWB grain	Clearance Association
System performance - cost	Calculated by Monitor
System performance - logistics cycle	Calculated by Monitor

**SERVICE RELIABILITY**

<b><u>INDICATOR</u></b>	<b><u>SOURCE</u></b>
Ratio of terminal stocks to vessel requirements by grain and grade, by port (Vancouver and Thunder Bay)	CGC/Clearance Association
Average weekly stock-to-shipment ratio for Board and non-Board grains (Vancouver and Thunder Bay)	CGC
Annual distribution of vessel waiting time by number of waiting days	Clearance Association
Percent of vessels loaded on time	Calculated by Monitor
Number of vessels loading at multiple berths	Clearance Association
Annual vessel shifting costs	Grain companies and CWB
Annual vessel demurrage	Grain companies and CWB
Annual dispatch earnings	Grain companies and CWB
Annual terminal storage and inventory carrying costs or storage days for Board and non-Board grains	CWB and grain companies/ CGC for storage days
Annual storage and inventory carrying costs or storage days for Board and non-Board grains (country elevators)	CWB and grain companies/ CGC for storage days

**ON-GOING MONITORING**

<b><u>INDICATOR</u></b>	<b><u>SOURCE</u></b>
Producer deliveries (aggregate and by commodity)	CGC
Primary elevator stocks (aggregate and by commodity)	CGC
Country elevator stocks to working capacity ratio	CGC
Available country elevator space	Derived from previous indicator
Unloads by port and railway	CGC
Terminal stocks by port (aggregate and by grain and grade)	CGC
Vessel requirements by grain and grade	Clearance Association
Terminal stocks to working capacity ratio by port	CGC
Vessel disposition by port -cleared, loading, waiting and due (including tonnes)	Clearance Association
Stocks in store to vessel volume ratio (by port and commodity)	CGC/ Clearance Association.
Shipment to stock ratios for Board and non-Board grains for Vancouver and Thunder Bay	CGC
Principal grain exports (Vancouver, Prince Rupert, Churchill, Thunder Bay)	CGC