

Quality Control (QC) Measures

Originally published: November 2019

Last updated: April 2024

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Quality Control (QC) Measures



Redemption centres (RCs) are paid a service fee to accurately sort and count deposit-bearing beverage containers. Inaccurate container counts can pose a financial burden on the New Brunswick Beverage Containers Program (BCP).

Quality Control (QC) is thus a high priority for Encorp Atlantic. It should also be a priority for your RC.

The QC measures Encorp has put in place since 2010 have proven beneficial to the New Brunswick BCP. These QC measures were also designed to help your RC business thrive by ensuring fairness for all RCs in the province, regardless of size and recycling volumes.

Encorp thanks RCs for their continued vigilance with deposit-bearing beverage container sorting and counting, as well as their cooperation and understanding towards these QC measures.



How QC Works to Your RC's Advantage

- QC measures validate if the processes you have in place (to ensure container count accuracy and protection from fraud in your RC) are working.
- QC measures are designed to be fair. They provide leeway for honest human errors and mistakes that are out of your control (examples: bulk bags ripping, bulk bags/tubs tagged incorrectly). The random sampling method used paints a true picture of accuracy in your RC over time – not based on one-time mistakes and isolated errors.
- QC measures enable the New Brunswick BCP to attain greater overall accuracy and recover revenues lost from ghost containers, so that it can continue to be sustainable. Encorp has been able to invest money recovered this way into recycling research and pilot projects to benefit all RCs. We are committed to helping RC operators improve their operational efficiencies, enhancing the consumer experience of returning and redeeming deposit-bearing beverage containers, and increasing public participation in recycling.

WHAT DO WE CHECK FOR DURING QC?

PROCEDURE FOLLOWED AT PROCESSING CENTRES

1. Encorp's *EnSys-Connex* scanner identifies bulk bags/tubs randomly for QC when drivers unload at the processing centre. Selected bags and tubs are sent to QC.
2. Dedicated QC personnel empty the contents of the bulk bag/tub being QC'd and proceed to count the containers in order to verify the total unit count against the count (quantity) indicated by the RC on the bulk bag/tub's yellow shipping tag.
3. Processing centre personnel reject and remove from the total unit count*:
 - a. containers that are non-deposit-bearing; and
 - b. containers which are not acceptable to Encorp due to being broken, contaminated, or unidentifiable.

**Note that "missorts" are not rejected/removed from the total unit count. Even if not in the right bulk bag/tub, if they are refundable (deposit-bearing), have the same deposit value, and are in acceptable condition, they count as a unit for which Encorp pays the RC a refund and service fee.*

NON-DEPOSIT-BEARING CONTAINERS

In New Brunswick, most ready-to-drink beverage products are deposit-bearing, but there are some exceptions.

The following types of ready-to-drink beverage products are not subject to a deposit, and their containers should not be refunded at RCs.

- **Milk.** (The beverage must be labelled as some sort of milk. This includes cow and goat milk labelled as "fat-free/skim milk (0% M.F.), partly skimmed milk (1% or 2% M.F.), or whole/homogenized milk (3.25% M.F.) It also includes flavoured milk, like strawberry or chocolate milk.)
- **Plant-based milk product alternatives that are fortified and a source of protein.** (The beverage must be labelled as "fortified." The label must also NOT have any type of warning indicating it is "not a source of protein.")
- **Unprocessed apple cider.** (The beverage's label must have no mention of being heated, pasteurized or otherwise processed.)
- **Concentrated beverages.** (These beverages are not considered "ready-to-drink", because they need to be mixed or diluted before drinking. Examples include cocktail mixes, frozen juices, syrups, condensed milk, coffee cream, cereal cream, flavour enhancers, etc.)
- **Infant formula.** (The beverage must be labelled as "infant formula.")
- **Meal replacements.** (The beverage must be labelled as "meal replacement.")
- **Formulated liquid diets.** (The beverage must be labelled as "formulated liquid diet.")

More information, as well as educational tools for RCs related to deposit-bearing vs. non-deposit-bearing beverage containers, are available on Encorp's website at encorpatl.ca (you will find this information on the *Beverage Container Lists* web page under the *RC Operators* menu).

NON-ACCEPTABLE CONTAINERS

On top of rejecting containers that are non-deposit-bearing, RCs should be on the lookout for and reject containers which are not acceptable to Encorp due to being broken, contaminated, or unidentifiable. RCs should be on the lookout as well for out-of-province containers, non-beverage containers and containers over 5 L, as these are not part of the BCP, yet are frequently returned by customers.

Broken Containers

- Container is shattered into tiny pieces – can no longer identify the container.
(However, Encorp understands that glass bottles often break in the sorting/shipping process. During QC, if the bottleneck is intact, then the container is accepted/counted.)

Contaminated Containers

- Container is filled with organic or hazardous waste (ex: dirt, garbage, sand, mud, rocks, needles, cigarette butts, dead mice, bodily fluids, etc.).
- Container is covered in excessive dirt, paint, or other significant residue.
- Container was modified for other uses (e.g.: drug pipe).
- Container is altered in a way that makes it unrecyclable.

Unidentifiable Containers

- Container has had its label removed (cannot identify any markings or see the *Return for Refund* message).
- Container is flattened like a hockey puck (cannot identify any markings or see the *Return for Refund* message).

Out-of-Province Containers

- How to identify them:
 - The label may be missing a *Return for Refund* message.
 - The label may still have the *Return for Refund* message; however, not in both of NB's official languages – English and French.
 - Content volume may be only in imperial measurement (ounces) not in metric (ml or L).

Non-Beverage Containers

- Container was not intended for a beverage (e.g.: chicken/beef broth, pasta sauce, olive oil, vinegar, vanilla extract, etc.).

Containers Larger Than 5 L

- Container's volume is larger than 5 L (only beverage containers up to a maximum of 5 L are deposit-bearing).

QC REPORTING

MONTHLY REPORTS

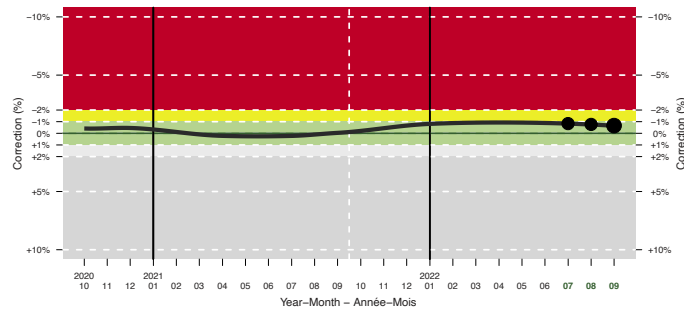
Every month, Encorp sends each RC a confidential *Accuracy Trend Report*, showing the RC's accuracy trend line as it evolves. The goal of this monthly reporting tool is to help RC operators stay on top of their QC results and take action earlier if they are under-reporting or over-reporting their container counts. RC operators receive these reports from Encorp via email.

The *Accuracy Trend Report* takes into account the average QC data for the RC from several months, which provides a reliable estimate of the accuracy over time, and is not affected by one-off mistakes. Encorp considers that RCs whose average container count errors on their bulk bags/tubs is between +2% and -2% to have a good accuracy trend – and no corrective actions are needed.

ACCURACY TREND TENDANCE DE L'EXACTITUDE



Redemption centre / Centre de remboursement : BC00-00 – Five Stars Recycling Inc.
Period ending at the end of the month / Période se terminant à la fin du mois : 2022-09



According to quality control data available:
– Your total count for the last month is very accurate.

Selon les données de contrôle de qualité disponibles :
– Votre décompte total pour le dernier mois est très précis.

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ACCURACY AWARDS

Twice per year (December and June) Encorp gives out *Accuracy Awards* to RCs that have shown excellent accuracy trends over the past 12 months (their estimated average error is between +1% and -1%, and their estimated relative standard deviation of the errors is less than 5%). Each RC that receives an *Accuracy Award* is sent a prize to share with member of its staff and management team so that all employees can be rewarded for their work. Encorp hopes this recognition among peers will foster the sharing of best business practices among RC operators, and will be looking at ways to facilitate this knowledge exchange.

WHAT IS A “TREND OF INACCURACY?”

A “trend of inaccuracy” means that a substantial number of the RC's bulk bags/tubs are reporting consistent errors. The RC's *Accuracy Trend Report* would thus show that in general, the average container count errors on bulk bags/tubs are over/above +2% or below/under -2%. Detecting a trend of inaccuracy below/under -2% will, in some cases, prompt Encorp to move an RC from Monitored to Accelerated QC Sampling Mode.

SAMPLING IN MONITORED AND ACCELERATED QC MODES

MONITORED QC MODE

Your RC is evaluated for accuracy under the Monitored QC Mode.



We randomly select approximately **50 bulk bags/tubs** from your RC over +/-6 months.* QC selection takes place when the bags/tubs are unloaded at the processing centre.

- **20 bags of Aluminum • 20 bags of PET • 5 tubs/bags of glass • 5 bags of the remaining material types**

Each bulk bag/tub has its containers counted at the QC facility to ensure compliance with the number of deposit-bearing containers you have reported on its tag.

IF WE DETECT NO TRENDS OF INACCURACIES

- No adjustments are made.

RC remains in the Monitored QC Mode.

IF WE DETECT TRENDS OF INACCURACIES

- No adjustments are made.

RC may be moved to the Accelerated QC Mode if the correction trend is below -2%.

ACCELERATED QC MODE



We randomly select approximately **225 bags/tubs** from your RC over +/-6 months.* QC selection takes place when the bags/tubs are unloaded at the processing centre.

- **100 bags of Aluminum • 95 bags of PET • 20 tubs/bags of glass • 10 bags of the remaining material types**

Each bulk bag/tub has its containers counted at the QC facility to ensure compliance with the number of deposit-bearing containers you have reported on its tag.

You receive a report if adjustments are required at the end of the Accelerated sampling period. See Appendices A and B for examples of QC Accuracy Report Cards featuring adjustments (reimbursements and chargebacks).

Between +/- 2%: No adjustment

Over +2%: Reimbursement

Calculated as follows: All bulk bags/tubs picked up from your RC by material sort during Accelerated Mode (including those not QC'd) x Average correction per bags/tubs QC'd = Number of units for which you are entitled to a reimbursement.

You will be reimbursed the refund and service fee for these units with your next available payment letter.

Under -2%: Chargeback

Calculated as follows: All bulk bags/tubs picked up from your RC by material sort during Accelerated Mode (including those not QC'd) x Average correction perbags/tubs QC'd = Number of units for which you will be charged back.

The chargeback (refund + service fee + administration fee**) for these units will be done over the same time period as it took to complete the initial Accelerated sampling.

** Note that the administration fee is equal to the service fee and is often waived unless the RC is showing continuous inaccuracies.

After the Accelerated sampling period, RC returns to the Monitored QC Mode.

After the Accelerated sampling period, RC returns to the Accelerated QC Mode.

* Although periods of +/- 6 months are set for each mode, Encorp can choose to move your RC from one mode to the other based on trends detected and available QC resources. Encorp does its best to let your RC complete the entire Accelerated QC Mode when trends of inaccuracies (reimbursement or chargeback) are being detected.

ABNORMAL BULK BAGS/TUBS SPOTTED AT PICK-UP

Drivers scan the tags of all bulk bags/tubs they pick up. Bulk bags/tubs are designed to hold a certain number of containers per sort. The scanner detects bulk bags/tubs with tags indicating a number of containers that fall outside of the normal accepted range (higher or lower).

Photos are taken of these tags and kept in a database for review.

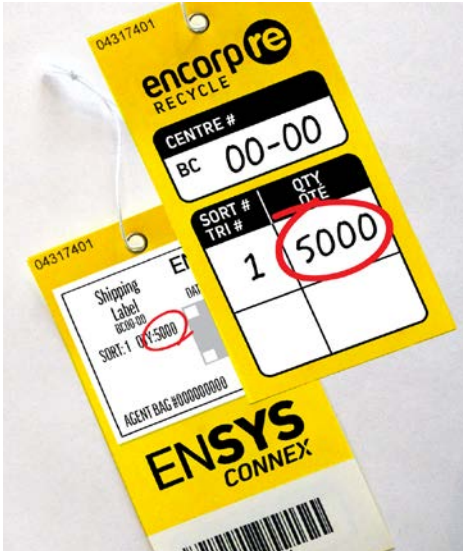
Bulk bags/tubs identified with abnormally low quantities:

Encorp will call your RC regarding a bulk bag or tub which has an abnormally low quantity identified on its tag to see if an error was made and give you a chance to make a correction before your payment is processed.

Bulk bags/tubs identified with abnormally high quantities:

Sent directly to QC to validate quantities.

Abnormal bulk bags/tubs are adjusted (reimbursed or charged back) on a per bag/tub basis if the adjustment amount is more than \$10. Abnormal bulk bags/tubs are excluded from future adjustment computation.



TIPS TO IMPROVE YOUR RC'S ACCURACY

It is your responsibility to train and monitor staff so that your RC is being paid accurately. QC measures will validate whether or not your QC efforts are working. Getting a chargeback during QC may be frustrating, but it is also an indication that irregular activities may be taking place in your RC, and/or that more staff training is needed. This is an opportunity to take action!

Maintain excellent accuracy by:

- making sure to train and monitor your employees, especially new employees;
- doing periodic bulk bag/tub recounts;
- spot-checking tags on bulk bags/tubs to detect abnormal quantities; and
- doing inventory reconciliations.

If you have concerns, you can call Encorp to check in on how your RC is doing.

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HOW ENCORP ENSURES ITS QC MEASURES WORK

Encorp's QC measures, including its bulk bag/tub sampling and container count adjustment methods, were developed using a statistical analysis model. These same methods have also been adopted by other Recycling Affiliates.

Furthermore, Encorp ensures its QC measures remain accurate via the following:

- Leading inspections at the QC facilities a minimum of four times per year (blind recounts of bags/tubs and verification of procedures).
- Reviewing the QC measures periodically by an independent statistician to ensure validity.
- Randomly selecting one RC per year for the Accelerated Mode. The randomly selected RC does not suffer any consequences from being placed in Accelerated Mode.

Encorp has an open-door policy regarding its QC measures. Encorp staff are available and happy to answer questions regarding your RC's performance. RC operators who wish to better understand the process can also visit (by appointment) Encorp's third-party service providers' facilities where bulk bags/tubs are QC'd.

APPENDIX A - EXAMPLE REPORT CARD

RC IN ACCELERATED MODE GIVEN A REIMBURSEMENT BY ENCORP

ACCURACY REPORT CARD QC AND ADJUSTMENT REPORT



► CENTRE

Name: _____ Date: _____
Address: _____

► PERIOD

	Aluminum	PET	Glass	Other
From:	3/1/2023	3/1/2023	3/1/2023	3/1/2023
To:	8/31/2023	8/31/2023	8/31/2023	8/31/2023

► QC REPORT

		Aluminum	PET	Glass	Other
A	Units reported for all bags QC'd	160,000	85,000	17,000	7,700
B	Actual units found for all bags QC'd	165,000	89,000	17,900	7,800
C	Correction in units for all bags QC'd	=B-A 5,000	4,000	900	100
D	Number of bags QC'd	100	95	20	10
E	Average correction per bag QC'd	=C/D 50.00	42.11	45.00	10.00

A POSITIVE correction means that the Centre reported TOO FEW units.
A NEGATIVE correction means that the Centre reported TOO MANY units.

► UNIT COUNT CORRECTION

		Aluminum	PET	Glass	Other	Total
F	Number of bags picked up	550	1,300	60	50	1,960
G	Correction for all bags picked up (units)	=ExF 27,500	54,735	2,700	500	85,435
H	Number of units reported	994,000	1,186,000	60,000	50,000	2,290,000
I	Correction for all bags picked up (%)	=G/H				3.73%

► FORMULA

Over +2% Reimbursement - Correction for all bags (**G**) x (Refund + Service fee)
Between +/-2% Adjustment is waived
Under -2% Chargeback - Correction for all bags (**G**) x (Refund + Service fee + Administration fee)

► ADJUSTMENT

Correction for all bags picked up for period (units)	=G	85,435
Refund		\$4,271.75
Service fee		\$4,422.00
Tax on service fee		\$663.30
ERA fee		\$0.00
Tax on ERA		\$0.00
Subtotal before administration fee		\$9,357.05
Administration fee		\$0.00
Tax on administration fee		\$0.00
Total		\$9,357.05

APPENDIX B - EXAMPLE REPORT CARD

RC IN ACCELERATED MODE GETTING A CHARGEBACK BY ENCORP

ACCURACY REPORT CARD QC AND ADJUSTMENT REPORT



► CENTRE

Name:
Address:

Date:

► PERIOD

	Aluminum	PET	Glass	Other
From:	3/1/2023	3/1/2023	3/1/2023	3/1/2023
To:	8/31/2023	8/31/2023	8/31/2023	8/31/2023

► QC REPORT

		Aluminum	PET	Glass	Other	
A	Units reported for all bags QC'd	173,800	90,500	19,000	7,700	
B	Actual units found for all bags QC'd	165,000	89,000	17,900	7,800	
C	Correction in units for all bags QC'd	=B-A	-8,800	-1,500	-1,100	100
D	Number of bags QC'd	100	95	20	10	
E	Average correction per bag QC'd	=C/D	-88.00	-15.80	-55.00	10.00

A POSITIVE correction means that the Centre reported TOO FEW units.
A NEGATIVE correction means that the Centre reported TOO MANY units.

► UNIT COUNT CORRECTION

		Aluminum	PET	Glass	Other	Total	
F	Number of bags picked up	550	1,300	60	50	1,960	
G	Correction for all bags picked up (units)	=ExF	-48,400	-20,525	-3,300	500	-71,725
H	Number of units reported	994,000	1,186,000	60,000	50,000	2,290,000	
I	Correction for all bags picked up (%)	=G/H				-3.13%	

► FORMULA

Over +2%	Reimbursement - Correction for all bags (G) x (Refund + Service fee)
Between +/-2%	Adjustment is waived
Under -2%	Chargeback - Correction for all bags (G) x (Refund + Service fee + Administration fee)

► ADJUSTMENT

Correction for all bags picked up for period (units)	=G	-71,725
Refund		\$-3,586.25
Service fee		\$-3,712.00
Tax on service fee		\$-556.80
ERA fee		\$0.00
Tax on ERA		\$0.00
Subtotal before administration fee		\$-7,855.05
Administration fee		\$-3,712.00
Tax on administration fee		\$-556.80
Total		\$-12,123.85