PAYROLL SAVINGS PROGRAM

What are you saving for?

What are you saving for?

Canada

Technical Specifications Guide

FOR PROPRIETARY PAYROLL SYSTEMS USERS

FOR MORE INFORMATION

If you have questions about the technical aspects of creating or transmitting files in the required format for the Canada Savings Bonds Payroll Program, please call Technical Support at **1 888 467-5999.**

Contents

*This document is intended for use by the information technology (IT) staff of an organization participating in the Canada Savings Bonds Payroll Program, which uses a proprietary computerized payroll system. It is **strongly recommended** that staff responsible for local area network (LAN), firewall, and/or computer communications review the file transmission sections of this document with IT staff. Mandatory testing of file format and connectivity will be completed more quickly with their involvement from the beginning of the testing process.*

Quick Overview

THE PROCESS

Employees make Canada Savings Bond (CSB) purchases through the Payroll Savings Program in this way:

- Employees enrol in the Payroll Savings Program by going to **csb.gc.ca/employees** and selecting **CSB Online Services.**

- Employers download their Employee Payroll Data File by going to **csb.gc.ca** and clicking on **Download Your Employee Payroll Data File.**

- Plans are created for each employee who makes contributions (in the non-RRSP option) through payroll deductions.

- If an employee makes a contribution to an existing RRSP Plan and a non-RRSP Plan, only one deduction needs to be transmitted.

- During each pay cycle, amounts deducted from employees' pay are added to the Plans (or subtracted in the case of a correction).

- The Payroll Savings Program allows an employee a variety of options; allocation of the payroll deductions to their Plans is handled by the Bank of Canada in accordance with the employees' instructions.

- Payment is collected from employers by the Bank of Canada for their employees' contributions to a Payroll Savings Plan.

GENERAL REQUIREMENTS

Your proprietary payroll system must have the ability to:

- Make, and account for, one payroll deduction per employee on each pay cycle

- Change the amount of payroll deductions from time to time

- Suspend or cancel payroll deductions

- Resume suspended payroll deductions

- Produce an electronic file containing details and summary totals of the deductions made (see "File Format" below)

- Transmit the file to the Bank of Canada for processing (see "File Transmission" below)

SYSTEM REQUIREMENTS

PCs must have a modem connection and/or Internet access.

OPTIONAL FEATURE

Organizations with multiple sites or multiple legal entities for payroll can be accommodated by submitting batches of payroll deductions in a single transmission.

FILE FORMAT

- Standard ASCII flat file or IBM mainframe compatible – in text mode format

- Each record fixed length – 120 characters – no separators

- Each file starts with a Transmission Header record and ends with a Transmission Trailer record (the email/fax indicator and associated data field on record "10," starting in positions 57 and 59, are mandatory fields)

- Each batch starts with a Batch Header record, contains one or more Batch Detail records, and ends with a Batch Trailer record (the email/fax fields type "20," position 48 and 50, are optional fields)

- Multiple batches may be included in the same file

BATCH DETAIL RECORD CONTENT

The following is an overview of the contents of a Batch Detail record:

- Employer identity; Organization ID

- Pay date

- Employee name

- Employee Social Insurance Number (SIN)

- Sign of deduction (default positive; negative sign used for corrections)

- Amount of deduction

- Batch totals – total deduction amount and number of employee records

FILE TRANSMISSION

The Bank of Canada supports the use of FTPS (File Transfer Protocol over Secure Socket Layer) over the Internet. This requires FTP client software that supports SSL, such as Glub Tech Secure FTP (graphical user interface) or Glub Tech Secure FTP Bean (Java programmer's interface).

Ownership of the data remains with the employer until the data reaches the Bank of Canada's dedicated server. It is the responsibility of employers to have FTPS software, TCP/IP, and Internet service available.

Please note the employer is responsible for both the set-up and any ongoing costs associated with this transmission. For further information, call Technical Support: **1 888 467-5999**.

TESTING

It is mandatory for the employer to send two test transmissions to the Bank of Canada prior to transmission of the first production file. The testing process will confirm that the employer can transmit a file to the Bank of Canada's server and that the file contents conform to the specifications in this document.

LIST OF 14 VERIFICATIONS TO BE MADE PRIOR TO TRANSMITTING A CSB FILE

1. Dates must be in correct format throughout the transmission (yyyy-mm-dd).

2. Length of each record in the file must be 120 characters, no TABs inserted in file.

3. Dates on Transmission Header and Transmission Trailer must be identical.

4. Transmission ID number on Transmission Header and Transmission Trailer must be identical, but different from any number used previously (a duplicate Transmission ID number will cause your file to be rejected).

5. Payment type (capital B or T) on Transmission Header is in 56th position.

6. Effective date within the Batch Detail must be identical to date on Batch Header and Batch Trailer.

7. Sequence number on each individual line is properly sequenced.

8. Number of records indicated on the Batch Trailer corresponds to the number of participants in the batch.

9. Total dollar amount on Batch Trailer reflects the actual amount in the batch.

10. Number of records indicated on the Transmission Trailer corresponds to the number of lines in the transmission (including headers and trailers).

11. Batch Detail record must contain $1.00 or greater. If an employee's record is equal to zero, then it should be removed from the Batch Detail record list.

12. The email/fax indicator and associated data field on the Transmission Header record type "10," starting in position 57 and 59, are mandatory. If these fields are empty or incorrectly formatted, it will cause your file to be rejected.

13. An out of balance will cause your file to be rejected.

14. If a batch in a file is out of balance, the batch will be rejected and all other valid batches will be processed.

Introduction

THE CAMPAIGN

During the payroll campaign:

- Employees will set up new Plans or change their CSB contribution by going to **csb.gc.ca/employees** and selecting **CSB Online Services.**

- The Campaign Director will download your Employee Payroll Data File from our secure website.

- Based on information contained in the Employee Payroll Data File, Human Resources will instruct the proprietary computer system to make the appropriate deduction for each employee on each pay period.

The **Organization ID** is a unique five-digit number allocated to each participating organization to identify the employer forwarding the deductions on behalf of employees. It will be provided to your organization by the Bank of Canada.

Once the sales campaign closes, the Bank of Canada will create or update a Plan or Plans for each participating employee. Based on the online contribution, the Bank of Canada will know how deductions are to be allotted to the employees' Plans.

PAYROLL PROCESSING

At each payroll date, deductions will be made from the pay of each participating employee and it will be necessary for the computer system to produce a file for electronic transmission to the Bank of Canada. The file will contain the pay date, summary information and the deduction amount for each employee.

It is very important that the employees' purchase data are transmitted in a timely fashion since the contributions are dated as of the day the Bank of Canada receives the employees' payroll deductions from the employer.

Once received at the Bank of Canada, the electronic file is checked. If the file is found to be in order, the total of all deductions will be collected from the employer by the Bank of Canada, and the individual payments will be credited to the employees' Plans. The Bank of Canada will confirm that the file has a valid structure and valid batch(es), or that the file or batch was rejected.

It is the employer's responsibility to monitor and accept or reject notifications in order to take corrective measures. Participating employers are required to provide a fax number or email address where the notification will be sent. A discussion of error handling is contained in the **Data Rules and Errors** section of this document (page 18).

BATCHES

The electronic file will contain a batch of detailed employee deductions. Some employers with multiple payroll sites and/or multiple payroll legal entities will find it convenient to be able to submit multiple batches in the same transmission. A single batch is mandatory and optional multiple batches are supported.

TESTING

It is mandatory for the employer to send two test transmissions to the Bank of Canada prior to transmission of the first production file. The testing process, which ensures that the employer can transmit a file to the Bank of Canada's server, and that the file contents conform to the specifications in this document, is as follows:

- The Bank of Canada contacts the employer to verify contact information and determine the desired method of transmission (as outlined in the Communications section).

- During this initial communication, the Bank of Canada also requests a test date, which is required for scheduling purposes.

- The Bank of Canada can provide an employer with a **sample** test file as an aid to the testing process.

- When the test date arrives, the Bank of Canada contacts the employer to begin the test.

File Transmission

PAYROLL DEDUCTION RECORD LAYOUTS

The diagram at right illustrates the layout of the records to be transmitted:

- A Transmission Header is the first record, which is followed by a series of batches and concludes with a Transmission Trailer record.

- Within the transmission, there can be one or many batches. Typically, an employer provides one batch. However, in the case of multiple pay periods or payroll systems or sites, an employer sends multiple batches.

The file to be transmitted must be a standard **ASCII flat file** or **IBM mainframe compatible**. The record length must be exactly 120 characters.

FILE TRANSMISSION

There are five types of records to be transmitted, which are outlined in the **Record Layouts** section *(pages 11–15):*

      1. Transmission Header (code 10)

      2. Batch Header (code 20)

      3. Batch Detail (code 50)

      4. Batch Trailer (code 80)

      5. Transmission Trailer (code 90)

A **Transmission Header** must be the first record. It must be followed by a **Batch Header record,** which must be followed by one or many **Batch Detail records** and a **Batch Trailer record.** Optionally, there may be many batches, each with its own Batch Header, Batch Detail records, and Batch Trailer. The file must end with a **Transmission Trailer record.**

TRANSMISSION HEADER

BATCH HEADER

BATCH DETAIL

BATCH TRAILER

TRANSMISSION TRAILER
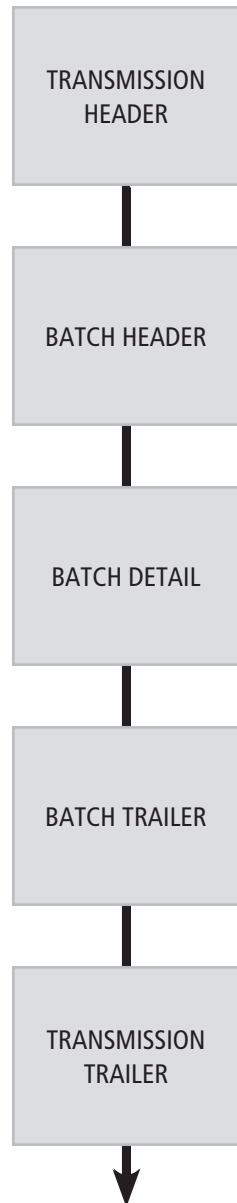
Each record is a fixed length of 120 characters. Each type of record contains a standard number of fields. The number of fields varies depending on the record type. Each field is a defined length with no separators. When the content of a field is less than the maximum number of characters allowed for that field, it must be filled as follows:

- Numeric field – right-justified and filled with leading zeros
- Alpha field – left-justified and filled with trailing spaces

In both cases the filler must bring the field to the required length.

After the last field, a filler of multiple space characters is required to bring the usual length to exactly 120 characters. Please put a character in the 120th position to ensure that no compression occurs during movement between the employer's platforms or during the transmission.

To ensure accuracy and completeness, each field will be edited before processing. If, for example, an alpha character is found in a field that was reserved for numeric data in a Batch Detail record, it will be rejected. If this occurs in a Batch Header or Batch Trailer record, the batch will be rejected.

TRANSMISSION ID

Transmission ID is used by the transmitting organization to make each transmission unique in order that, for example, duplicate transmissions are not processed. Each Transmission ID will be edited to ensure uniqueness in combination with the transmitter's Organization ID. You may wish to start at AAA00001 or 00000001 and add by one (1) for each transmission thereafter.

The Transmission ID must contain three alphanumeric (letter or number) characters followed by five digits. Some employers may choose to use the ID to distinguish an Organization Site (first three characters) and the Transmission Number (five digits).

The intention of this field is to provide uniqueness for each file. This allows for the requirements of employers with multiple sites or multiple payroll transmissions for a single pay period to be accommodated.

The Bank of Canada's computer system will only ensure that the Transmission ID is unique for any transmission (a duplicate transmission ID number will cause your file to reject).

TRANSMITTER'S REFERENCE ID

The **Transmitter's Reference ID** is a free form field that may be used by the employer to identify the transmission. The Transmitter's Reference ID will be included in confirmations. If you do not require such identification, the field should be filled with 30 space characters.

Record Layouts

LAYOUT #1: TRANSMISSION HEADER RECORD

POSITION	NAME	PICTURE	DESCRIPTION	EXPECTED VALUE
1	Record Type	9(02)	Indicates that this record is the Transmission Header.	Must = "10" Must be the first record in the file.
3	Transmitter's Organization ID	9(05)	Identifies the transmitting organization (employer or payroll service provider) to the Bank of Canada.	Provided by the Bank of Canada.
8	Transmission Date	X(10)	The date that the payroll batches (this file) are transmitted.	Must be in the format YYYY-MM-DD.
18	Transmission ID	X(08)	Unique transmission identifier. It is comprised of: **Organization Site** (3 characters or digits) & **Transmission Number** (5 digits).	To be used by the transmitter to make each transmission unique. *It will be edited to ensure uniqueness in combination with the Transmitter's Organization ID.*
26	Transmitter's Reference ID	X(30)	For use by the transmitter to include any reference information the transmitter requires to recognize the transmission.	
56	Payment Type Indicator	X(01)	This field indicates if one payment will be effected for the whole transmission or individual payments for each batch will be effected.	"T" for transmission "B" for batch
57	Email/Fax Indicator	X(02)	Indicates if confirmations are required by fax or email. The confirmation at this level will be that the file was received or rejected.	"01" = Email "02" = Fax Mandatory
59	Email/Fax Address	X(40)	Contains either the fax number or the email address, depending on the value of Email/Fax Indicator.	Fax number: up to 11 digits Email address: up to 40 characters *Please enter the fax number (mandatory) as required to send a fax from the Ottawa (613) area to the employer's location. For example, if it is long distance from Ottawa to an employer's location in the 519 area, the number to enter is 15195551212; for a local call, the number 6135551212.*
99	Filler	X(22)		

Record Layouts

LAYOUT #2: BATCH HEADER RECORD

POSITION	NAME	PICTURE	DESCRIPTION	EXPECTED VALUE
1	Record Type	9(02)	Indicates that this record is the head record for a batch.	Must = "20"
3	Organization ID	9(05)	Identifies the employer providing the payroll deductions to the Bank of Canada.	Provided by the Bank of Canada.
8	Effective Date	X(10)	The date that the payroll deductions will be effective (pay day).	Must be in the format YYYY-MM-DD.
18	Reference ID	X(30)	For use by the employer/payroll service provider to include any reference information.	
48	Email/Fax Indicator	X(02)	Indicates if confirmations are required by fax or email. Confirmation at this level will be that the batch can be processed.	"01" = Email "02" = Fax spaces = no confirmation required
50	Email/Fax Address	X(40)	Contains either the fax number or the email address, depending on the value of Email/Fax Indicator.	Fax number: up to 11 digits Email address: up to 40 characters *Please enter the fax number as required to send a fax from the Ottawa (613) area to the employer's location. For example, if it is long distance from Ottawa to an employer's location in the 519 area, the number to enter is 15195551212; for a local call, the number 6135551212.*
90	Filler	X(31)		

Record Layouts

LAYOUT #3: BATCH DETAIL RECORD
CANADA SAVINGS BONDS (NON-RRSP AND RRSP OPTIONS)

POSITION	NAME	PICTURE	DESCRIPTION	EXPECTED VALUE
1	Record Type	9(02)	Indicates that this record is a detail record for employee's total deduction.	Must = "50"
3	Organization ID	9(05)	Identifies the employers providing the payroll deductions to the Bank of Canada.	Provided by the Bank of Canada.
8	Effective Date	X(10)	The date that the payroll deductions will be effective (payday).	Must be in the format YYYY-MM-DD.
18	Sequence Number	9(05)	Number that indicates the relative position of the detail record in the batch.	00001 .... 99999, incremented by 1 for each detail record.
23	Employee Reference Number	9(09)		Contains the employee SIN.
32	Employee Name	X(50)	Name of the employee, formatted as required by the employer/service provider.	
82	Sign	X(01)		= contribution amount to be applied to the employee's Plan. "-" = correction to "contribution amount" (negative amount).
83	Deduction Amount	9(08)V99	Amount deducted.	8 digits. Last 2 are implied decimal (e.g., $10 is 00001000).
91	Employee Birth Date	X(10)	Date of birth of the employee.	Optional: if included, must be in the format YYYY-MM-DD.
101	Filler	X(20)		

Record Layouts

LAYOUT #4: BATCH TRAILER RECORD

POSITION	NAME	PICTURE	DESCRIPTION	EXPECTED VALUE
1	Record Type	9(02)	Indicates that this record is the Batch Trailer.	Must = "80"
3	Organization ID	9(05)	Identifies the employer providing the payroll deductions to the Bank of Canada.	Provided by the Bank of Canada. Must be the same for all entries in the batch.
8	Effective Date	X(10)	The date that the payroll deductions will be effective (payday).	Must be in the format YYYY-MM-DD. Must be the same for all detail records in the batch.
18	Batch Total Number of Records	9(06)	Total number of detail records for this batch.	
24	Sign	X(01)		= contribution amount to be applied to the employee's Plan. "-" = correction to "contribution amount" (negative amount).
25	Batch Total Deduction Amount	9(15)V99	Net total of all deduction amounts in the batch.	15 digits. Last 2 are implied decimal (e.g., $10 is 000000000001000).
40	Filler	X(81)		

Record Layouts

LAYOUT #5: TRANSMISSION TRAILER RECORD

POSITION	NAME	PICTURE	DESCRIPTION	EXPECTED VALUE
1	Record Type	9(02)	Indicates that this record is the Transmission Trailer.	Must = "90" Must be the last record in the file.
3	Transmitter's Organization ID	9(05)	Identifies the transmitting organization (employer or payroll service provider) to the Bank of Canada.	Provided by the Bank of Canada.
8	Transmission Date	X(10)	The date that the payroll batches (this file) is transmitted.	Must be in the format YYYY-MM-DD.
18	Transmission ID	X(08)	Unique transmission identifier.	Must be the same as contained in Transmission Header Record.
26	Total Records Transmitted	9(09)	Total number of records sent in the transmission.	Must = total number of records included in this transmission, regardless of record type and including this record.
35	Filler	X(86)		86 spaces

Communications

TRANSMITTING FILES TO THE BANK OF CANADA

Once the file in the required format is prepared, it should be transmitted to the Bank of Canada as soon as possible prior to the effective pay date. Transmissions prior to the effective date will allow for error correction and adjustments, as required.

The Bank of Canada supports the use of FTPS (File Transfer Protocol over Secure Socket Layer) over the Internet. This requires FTP client software that supports SSL, such as Glub Tech Secure FTP (graphical user interface) or Glub Tech Secure FTP Bean (Java programmer's interface).

Data will be sent for processing to the Bank of Canada's dedicated server. Ownership of the data remains with the employer until the data reaches the Bank of Canada's dedicated server.

TRANSMISSION

It is the responsibility of the employer to have FTPS software and TCP/IP available for transmission of the file. The employer is responsible for having Internet access through an Internet Service Provider (ISP) of their choice.

The Bank of Canada will accept transmissions from 7 p.m. Sunday through 7 p.m. Saturday Eastern Time (six days per week, 24 hours per day).

In the event that it is not possible to transmit (due to temporary technical difficulties or mandatory testing) using a PDA or the Internet, please contact Technical Support at **1 888 467-5999**.

COMMUNICATIONS FROM THE BANK OF CANADA REGARDING FILE TRANSMISSIONS

Files are processed as they are received. Files containing errors will not be processed. Error messages and tips for their resolution will be sent to the email or fax number specified on the Transmission Header record type "10," starting in position 59. Once corrections are applied, the file must be retransmitted. Confirmation of receipt, by fax or email as selected in the file transmission, may be expected within 24 to 48 hours of transmission.

The Bank of Canada sends two confirmation notices to employers based on the information they provide in the batches:

- Confirmation of file receipt – sent if the file conforms to the file naming format provided in the sample scripts used in the testing process and conforms to the general requirements

- Confirmation of file/batch rejects – sent once the file/batch has been rejected

SECURITY

The data files uploaded through the FTPS system are protected by the use of SSL encryption and an FTPS password.

Employers may use an electronic "script" to facilitate the communication. **To protect security, the FTPS password must not be included in this script**.

Data Rules and Errors

DATA RULES

The following is a summary of rules that will be applied by the Bank of Canada in processing payroll deduction files:

- Transmissions will contain one or more batches of payroll data, each with a single Batch Header record, one or more detail payroll deduction records (Batch Detail records), and a single Batch Trailer. The file will also contain a Transmission Header and Transmission Trailer. Each batch will contain deduction data for one employer for one effective date. The record layouts are outlined in the Record Layouts section of this document.

- Both registered (RRSP) and non-RRSP Canada Savings Bond deductions will be accepted by the Bank of Canada, as well as correction and/or amendment payments. Employers are required to make such corrections and/or amendments within 15 days after the erroneous transmission since employees' bond contributions cannot be redeemed until 15 days after the contribution.

- Any requirements to retransmit or adjust any information in the transmission (e.g., Backout of Pay) will be handled by sending another file (with a unique File ID) with the same effective date but with all the sign fields for all deduction amounts reversed (to cancel previously sent and accepted records) and retransmitting an entire correct file. The negative deduction amount will be applied on the processing date and will show on the regular statement sent to employees.

- A physical transmission may contain multiple payroll deduction batches of different effective dates. However, all records within a batch must have the same effective date.

- A Batch Header record, the associated Batch Detail records and the Batch Trailer for a set of payroll deduction records must all have the same effective date and Organization ID.

- The maximum transmission amount is $999,999.99. Negative amounts are permitted.

- In some instances employers have multiple payroll systems or sites. The Transmission ID and sequence number on the Transmission Header record allows this to be accommodated.

- Each physical transmission set must be unique. This uniqueness will be assured by the following key:

  - Transmitter Organization ID

  - Transmission ID

- Transmissions having duplicate keys will be rejected.

PAYROLL DEDUCTION FILE INTEGRITY

When a transmission is received from an employer, there is a three-step integrity check:

1. **The file structure is validated:** Does it have a Transmission Header? Does it have a corresponding Transmission Trailer? If the file is invalid, it will be rejected in its entirety. An email or fax will be sent. Employers will need to send a new file.

2. **The batch structure is validated:** Does each batch have a header and corresponding trailer? If the batch is invalid, it will be rejected in its entirety. An email or fax will be sent. Employers will need to resend that specific batch only.

3. **Each payroll deduction file will be individually checked** to ensure that the sum of the number of Batch Detail records and the total dollar amount is identical to the corresponding sums in the Batch Trailer record. The Batch Detail records will be validated against the Bank of Canada's database.

DEPENDING UPON THE RESULTS OF THIS EDITING PROCESS:

- The entire file may be accepted
- Individual batches may be accepted
- The entire file may be rejected
- Individual batches may be rejected

In the case of an accepted batch, the employee Plans are updated and payment is collected from the employer by the Bank of Canada.

In the case of a rejected transmission file, the entire file must be retransmitted after correction of the error(s).

In the case of a rejected batch, the whole batch must be retransmitted with a new unique Transmission ID number.

OTHER ERRORS

If an error unrelated to the integrity of the file is detected, a Customer Service Representative of the Bank of Canada will contact the employer or employee to rectify the problem.

If an employer discovers an error after the transmission to the Bank of Canada, it will be necessary:

a) to reverse the entire transmission by submitting a second file (with a unique Transmission ID) which is identical in all respects to the first except that the sign field for the deduction amount is reversed; and

b) to transmit a third file which contains all of the correct information.

If an employer discovers an error after a transmission has been processed and confirmation has been received, it will be necessary to make a correction before the next pay cycle. This can be done by submitting a new file with all the corrections for the affected employee(s) and creating a record that shows a "negative deduction." There is a hold on transmitted contributions for a period of 15 days starting from the Pay Effective Date. This allows time for an employer to transmit their corrections before the contributions are made available for redemption by the employees. If no correction is done by the employer, the Bank of Canada may be required to make the correction, and consequently a Pre-Authorized Debit (PAD) or Direct Deposit (DD) will occur in the account of the unresponsive employer.

Notes