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BILL C-19 IMPLEMENTATI0N

OF DATA PURGE OF LONG GUN DATA

TEST PLAN AND RESULTS

RCMP CANADIAN FIREARMS PROGRAM

NOVEMBER 30, 2012

VERSION 7

FINAL

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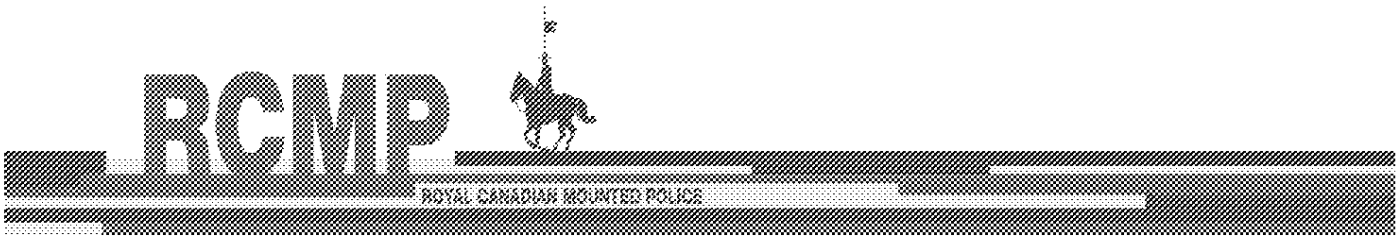

DOCUMENT HISTORY

Version	Date	Author	- Comments
1.0	June 8, 2012 DRAFT	Jacqueline Kelly	- Initial draft outline of test strategy and high level test plan
2.0	July 2012 DRAFT	Jacqueline Kelly	- Detailed requirements for data purge - Detailed test cases related to requirement - Test schedule as received from CIO-Sector -
3.0	August 24, 2012	Jacqueline Kelly	- CIO-Sector technical description of purge - Test results from cycle one testing - Details of planned cycle two testing - CIO-Sector updated test schedule
4.0	September 21, 2012	Jacqueline Kelly	- Draft executive summary - CIO-Sector and CFP test plans and test results for Cycle two testing including UAT - Test Results for "before" the purge
5.0	October 15, 2012	Robert MacKinnon Jacqueline Kelly (input from CIO-Sector, BI and UAT members)	- Executive Summary draft - CIO-Sector and CFP test plans and test results for Cycle two testing including UAT - Test Results for "after" the purge and "before to after" comparisons. - Archive and backup purge plan - Business Intelligence (BI) purge plan
6.0	November 1, 2012	Updates by Jacqueline Kelly Reviewed / Updated by Robert MacKinnon	- Cycle three testing results - CFIS production purge implementation and verification results - BI purge results - Archive and backup purge results - Update to Executive Summary
7.0	November 30, 2012 FINAL	Jacqueline Kelly Reviewed / Updated by Robert MacKinnon	- Additional details and corrections Cycle 2 - Post purge activities and statuses - Post purge corrective action updated (section 17.4) - Results of corrective action added (section 17.5) - Update to executive summary

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1 EXECUTIVE SUMMARY

In December 1998, the *Firearms Act* was brought into force and took many of the administrative and regulatory elements of firearms control out of the *Criminal Code*. Under this legislation individuals are required to have a valid firearms licence in order to possess or acquire firearms, business must possess a valid licence if they engage in activities related to firearms and all firearms (i.e. non-restricted, restricted, and prohibited) must be registered.

On October 25, 2011 the Government tabled Bill C-19 designed to achieve the Government's longstanding commitment to remove the requirement for individuals and businesses to register non-restricted firearms. An Implementation Plan was developed in October 2011 to proactively position the Canadian Firearms Program (CFP) to support the changes to the *Firearms Act* and associated Regulations introduced by Bill C-19. Bill C19 received Royal Assent on April 5, 2012.

Phase III of the Implementation Plan is to delete (purge) all data associated to non-restricted firearm registration records collected since the coming into force of the *Firearms Act* on December 1, 1998.

Note: The requirement for the deletion of non restricted registration data is the deletion (purge) of all non restricted firearm data except for records that are associated to a business or individual who resides within the province of Quebec.

The RCMP CFP data store is the Canadian Firearms Information System (CFIS). As a first phase to the purge of long gun data, the non restricted firearm information in CFIS was "expired" on May 20, 2012, resulting in the information being removed from the Canadian Firearms Registry On-Line (CFRO).

The final phase and subject of this document is the complex process required to develop, test and verify the complete deletion of the targeted data. All data of all types related to non restricted firearms registered to businesses and individuals must be deleted from all databases and system files. All current data not targeted by C-19 must be retained such that the remaining responsibilities under the *Firearms Act and Regulations* are fully supported. All CFIS internal and public web applications must continue to function to support the Canadian Firearms Program.

From June to October 2012, three test cycles were run in test environments created to represent CFIS production data. The RCMP Chief Information Officer (CIO) Sector and the CFP worked together to ensure that the targeted data was deleted by the purge scripts and the rest of the data and system functionality was not affected by the delete. Each cycle of testing improved the accuracy and performance of the scripts such that the final cycle showed 100% pass of all tests executed.

During a four day period, from Friday October 26, 2012, at 00:01 to Monday October 29, 2012, at 23:59, the non restricted firearm records were deleted from CFIS production, excluding those for Quebec. During the period from October 22 to October 31, 2012 all system backup tapes and files were deleted.

This document details the requirement for the delete, the strategy established to develop and test the delete and the results of the entire exercise. The document is organized sequentially starting with the requirements, preparation and set up and continuing through the three test cycles and the ultimate implementation of the purge. Details of test plans, test cases and test results are documented.

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The comparison of aggregate reports before and after the purge was employed as the primary methodology to confirm the complete delete. The below tables provide a "snap shot" of the CFIS data taken immediately prior to the deletion execution as well as the exact same "snap shot" taken immediately following the deletion execution.

CFIS Production
(as of October 25th, 2012 @ 23:59)

Province Territory	Non-Restricted	Prohibited	Restricted	Total
AB	1,064,597	30,329	123,507	1,218,433
BC	967,215	35,859	127,281	1,130,355
MB	406,291	7,582	23,984	431,857
NB	323,306	6,383	15,674	345,563
NF	234,116	1,943	5,733	243,845
NS	338,426	9,623	21,455	369,504
NT	23,011	373	1,293	24,977
NU	17,074	55	316	17,345
ON	4,147,613	157,672	347,299	4,652,584
PE	27,209	1,042	2,301	30,552
QC	1,507,013	51,799	80,323	2,039,135
SK	478,486	9,990	35,230	523,706
YT	27,855	490	2,309	30,454
Total	9,557,455	313,140	786,705	11,057,310

CFIS Production
(as of October 29th, 2012 @ 11:59)

Province Territory	Non-Restricted	Prohibited	Restricted	Total
AB	0	30,329	123,507	153,836
BC	0	35,859	127,281	163,140
MB	0	7,582	23,984	31,566
NB	0	6,383	15,674	22,057
NF	0	1,943	5,733	7,676
NS	0	9,623	21,455	31,078
NT	0	373	1,293	1,666
NU	0	55	316	371
ON	0	157,672	347,299	504,971
PE	0	1,042	2,301	3,343
QC	1,507,012	51,799	80,323	2,039,134
SK	0	9,990	35,230	45,220
YT	0	490	2,309	2,799
Total	1,507,012	313,140	786,705	3,006,857

Difference of one Quebec firearm record the result of data clean up during purge activity

In addition to non restricted firearms in Quebec, the only non restricted firearm records retained in CFIS (not shown in this table) are those that support the *Public Agency Regulations*.

While all official registration records were destroyed as of November 1, 2012, certain known data with exceptional anomalies required clean up after the purge. This cleanup was completed by November 13, 2012.

- 1,284 non restricted firearm records were not deleted by October 31, 2012. These records were associated to 64 transfer applications (set for refusal) that were not completed (therefore no registration certificate was issued) as well as 1,220 non restricted registration records associated to non residents (non Canadian) clients. These 1,284 records maintain unexpected anomalies (corrupt data issues) which prevented the deletion execution of the record. These records were isolated for delete (therefore inaccessible to end user) on November 1, 2012 and were subsequently deleted on November 13, 2012.

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- During the purge exercise a table in the CFIS database was determined to contain partial non restricted firearm descriptions that were contained within an issued "revocation notice". The 619,465 partial firearm records were not accessible to an end user since the delete had removed the primary registration record. A custom delete script was developed and the notice records were deleted from CFIS on November 13, 2012.
- Images of firearm related applications (paper) were slated for delete by October 31st but required additional time due to file size. The delete scripts continued to run until the images were all deleted by November 13, 2012.
- Previously protected firearms that had been returned to their owners required an additional process to re-link them to the last public agency that had them in custody. This process was 99% complete by October 31, 2012 and the links were finished on November 6, 2012.
- The records for non restricted firearms registered to clients that move out of Quebec will be deleted daily as will any non restricted firearm records related to firearms outside of Quebec that are reclassified from restricted or prohibited to non restricted.

In summary:

- 605,359,473 rows of data across 86 database tables were deleted October 26 to 29th, representing approximately 31% of the entire CFIS production system pre-purge. An additional 5,364,851 rows were deleted through the post purge cleanup for a total of 610,724,324.
- 8,050,453 non restricted firearm records and 11,914,944 non restricted firearm application records were deleted.
- 916,023 firearm application images were deleted
- The data contained within four test databases was copied over with post purge production data
- Fourteen backup tapes stored by Library and Archives Canada were returned to the RCMP and destroyed including weekly and one annual backup tape
- All weekly and daily backup tapes stored by the RCMP Datacentre were destroyed
- All extracts files created to produce registration certificates and Firearm Identification Number (FIN) stickers were destroyed
- Business intelligence reporting database and data stores were destroyed or copied over with post purge data

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2 PURGE REQUIREMENT SUMMARY

2.1 Requirement Background

Bill C-19, designed to achieve the Government's commitment to remove the requirement for individuals and businesses to register non-restricted firearms, received Royal Assent on April 5th, 2012.

The Province of Quebec filed an injunction on April 3, 2012, to appeal Bill C19. A Court Order issued by the Quebec Superior Court requires that residents of Quebec continue to register non-restricted firearms. The Canadian Firearms Program (CFP) was instructed not to apply the Bill C19 changes to businesses and individuals residing in Quebec.

This document addresses one of the major elements directed by C19, namely the requirement to delete (purge) all data associated to the non-restricted firearm registration records collected since the coming into force of the *Firearms Act* on December 1, 1998.

The firearms registration data is housed within the Canada Firearms Information System (CFIS) and is transferred to Canadian Firearms Registry On-Line (CFRO) for query access by the police community.

As a first phase to the purge of long gun data, the non restricted firearm information outside of the province of Quebec was changed to "expired" statuses on May 20, 2012, resulting in the information being inactive in CFIS and not available for transactions. This update resulted in the same data being deleted from the CFRO police system.

2.2 Testing Scope

The scope of testing included in this test plan is as follows:

- The deletion of all data related to non restricted firearms registered to businesses and individuals residing outside of the province of Quebec
  - Delete targeted data as stored in the CFIS production database,
  - Delete targeted data as stored in CFIS test databases
  - Delete CFIS backups and archived databases
  - Delete targeted data stored in business intelligence databases, data stores and reports

- The retention of all current data not targeted under C19 and the Quebec injunction
  - Retain all data related to restricted and prohibited firearms
  - Retain all data related to licensing and authorisations
  - Retain all data related to public agency and protected firearms of all classes

- Preserve CFIS application and web functionality to support legislative requirements:
  - All systems continue to support the requirements for licensing and authorisation
  - All systems support the requirements related to restricted and prohibited firearms
  - All systems continue to support the *Public Agency Regulations*
  - All systems continue to support the processing of non restricted firearm transactions for clients within the province of Quebec.

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3 TESTING STRATEGY

This document outlines the testing strategy, test plan and test results employed to ensure that the non restricted firearm information in CFIS was deleted as directed by Bill C19 and related court orders.

3.1 Testing Objectives

The primary test objective was to ensure that all non-restricted firearms information, held in CFP systems was permanently deleted such that no trace would exist in the RCMP-CFP automated systems and databases. Exceptions included non restricted firearms records associated to businesses or individuals that reside in the province of Quebec; and non restricted firearms recorded in Public Agency inventories as agency or protected firearms.

3.2 Testing Approach

The CFP worked closely with the RCMP Chief Information Officer (CIO) Sector throughout the testing initiative to provide clarification about the requirement to delete non-restricted firearm records and to verify that the targeted records were deleted.

The CFP defined data purge requirement and the CIO-Sector developed the technical scripts required to delete the data. Testing occurred in three trials or test cycles. Analysis of the test results following the delete for each test cycle was documented and used to ensure that subsequent test cycle results progressed toward the objective.

Three cycles of testing were planned and conducted starting in June 2012 and continuing until October 2012. The first cycle of testing was completed by the CIO-Sector and CFP-HQ and the second cycle included additional user acceptance testers (UAT) from the operational organisations of the CFP; Central Processing, Chief Firearms Offices and the Canadian Firearms Registry. Cycle three was primarily a final performance or "dry run" to verify that the delete could be processed in the planned implementation window.

"Before" and "after" reports were used to support that the purge was effective and that only the targeted data was deleted. The CIO-Sector ran "before" reports with aggregated data calculated by firearm class, firearm application type, firearm status and province. The same reports were run after the delete scripts were executed in the test environment. The CIO-Sector and CFP-HQ conducted separate analysis comparing the before and after reports to confirm that the results supported the testing objective.

Before and after functionally testing was also conducted by CFP-HQ and the operational organisations to confirm that the CFIS and related web applications functioned correctly with and without the non-restricted data.

Backups and copies of all types were identified by the CIO-Sector and the Business Intelligence (BI) teams. These teams developed plans for destruction of these sources and confirmed to CFP when the copies had been destroyed.

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3.3 Test Environments

The test environment created and maintained by the CIO-Sector is a true copy of the CFIS production database with all CFIS software installed to process and access information to simulate the CFP system supported operational functionality. The test database labelled cfrsqcbc was used by the CIO-Sector for testing the delete and by the CFP-UAT team for user acceptance and HQ verification testing.

3.4 Assumptions

The requirement in terms of what is to be deleted will not change. The requirement detailed in section six is summarised as:

- data records related to non restricted firearms, registrations and transactions associated to individual and business clients, with the exception of clients that reside in the province of Quebec
- non restricted firearm records reported by public agencies will be retained
- the history of firearms reported as protected - custody will be retained but their ownership records will be purged

CIO-Sector and CFP resources assigned to this project will continue to be available throughout the work period

The development, testing and implementation effort will require five months from June 1st, 2012 to October 31st, 2012.

Preliminary work initiated in April and May will be utilized.

Lessons learned from the months of testing prior to the expiry of non restricted firearm records May 20th 2012, is acknowledged as critical to the short period required to prepare for and implement the purge.

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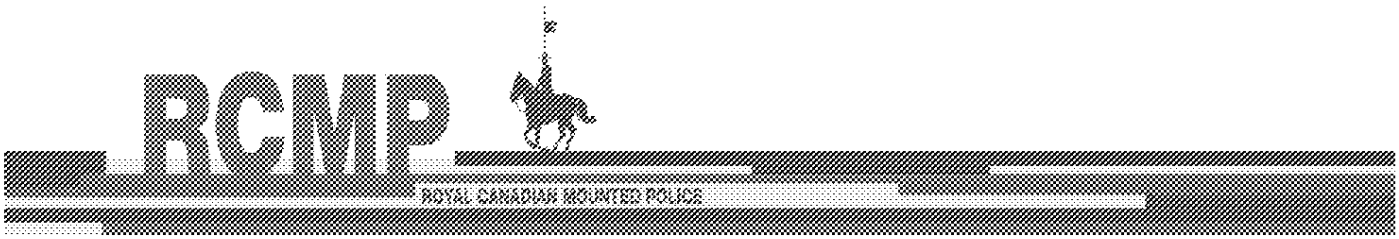

4 TEST TEAM

4.1 Participants

This document focuses on the testing completed by the CFP resources as User Acceptance Testers. It is acknowledged that the CIO-Sector also conduct tests prior to and concurrent with the CFP testers and share test results with the CFP team. Business Intelligence resources will participate in their area of expertise.

4.1.1 CFP Resources

Resources from the CFP made up the User Acceptance Testing Team. Members of the team included two resources from CFP HQ, two from Chief Firearm's Offices, two from the Central Processing Site and two from the Canadian Firearms Registry. The eight participants are very knowledgeable and experienced with the CFIS and familiar with the firearm data. At each location various specialists were invited to assist with the testing in support of the UAT team members.

4.1.2 CIO-Sector Resources

A number of CIO-Sector technical resources supported the testing initiative including: Systems support team leader, system architect/designer, developers, release management, testers and data base administrators.

CFP and CIO-Sector worked together validating data to ensure that only the data targeted for purge was deleted.

4.1.3 BI Resources

Business Intelligence resources included the team leader and Cognos developer assigned to this project.

4.2 Test Team Roles and Responsibilities

4.2.1 CFP-HQ Responsibilities

- Liaise with the CIO-Sector re test schedule, activities and test results
- Manage the UAT team
- Document test plan and results
- Assist CFO, CFR and CPS in setting up access to test environments
- Conduct functionality and query testing in all test cycles
- Analyse statistical reports before and after the purge
- Verify via post delete reports that data is deleted in production
- Report test results to CFP management

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4.2.2 CFO resources

- Participate in testing for cycle two
- Test CFO operational functionality of CFIS before and after delete
- Query client records known to have non restricted firearms prior to C-19 and ensure non restricted firearm records no longer exist in the "after" database
- Report test results to HQ-UAT test manager

4.2.3 CPS resources

- Participate in testing for cycle two
- Test CPS operational functionality of CFIS before and after delete
- Query random transactions to ensure non restricted firearm records no longer exist in the "after" test database
- Report test results to HQ-UAT test manager

4.2.4 CFR resources

- Participate in testing for cycle two
- Test CFR operational functionality of CFIS before and after delete
- Query random transactions and known non restricted Firearm Identification Numbers (FIN) to ensure non restricted firearm records no longer exist in the "after" database
- Report test results to HQ-UAT test manager

4.2.5 CIO-Sector

- Design data delete strategy
- Develop and run delete scripts including procedures
- Develop and run reports to reflect detailed and aggregate contents of CFIS database
- Analyse test results and report findings
- Conduct performance analysis to support optimisation
- Identify and destroy all backups, archives and data stores and report results

4.2.6 Business Intelligence (BI)

- Review all BI data stores
- Restore/rebuild data stores to exclude data targeted for delete
- Review and redevelop statistics and other reports to remove references to targeted data
- Test new data stores and reports
- Report test results to HQ-CFP test manager

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5 TEST SCHEDULE

5.1 TESTING PLANNED SCHEDULE (as at July 2012)

Test schedule milestones were forecast and then amended during the testing process. Milestones have been taken from the detailed MS Project plan maintained by the CIO-Sector.

Date	Activity	Duration	Resources
	TEST CYCLE ONE		
June 2012	Development of purge scripts	20 days	CIO-Sector
	Development of UAT test plan	20 days	CFP
	Prepare test databases	3 days	CIO-Sector
	Test CFIS functionality on test data before delete	10 days	CIO-Sector CFP
July 2012	Run statistical reports before delete of data	2 days	CIO-Sector
	Run purge scripts and rebuild database	15 days	CIO-Sector
	Rebuild database following purge	10 days	CIO-Sector
August 2012	Run statistical reports after delete of data	2 days	CIO-Sector
	Compare before to after reports to confirm delete	5 days	CIO-Sector CFP
	Test CFIS functionality on test data after delete	10 days	CIO-Sector CFP
	Document test results	5 days	CIO-Sector CFP
	Amend delete scripts to address issues if any	5 days	CIO-Sector
	TEST CYCLE TWO		
	Prepare test databases	3 days	CIO-Sector
	Test CFIS functionality on test data before delete	10 days	CIO-Sector CFP
	Run statistical reports before delete of data	2 days	CIO-Sector
September 2012	Run purge scripts and rebuild database	15 days	CIO-Sector
	Rebuild database following purge	10 days	CIO-Sector
	Run statistical reports after delete of data	2 days	CIO-Sector
	Compare before to after reports to confirm delete	5 days	CIO-Sector CFP
	Test CFIS functionality on test data after delete	10 days	CIO-Sector CFP

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October 2012	Document test results	5 days	CIO-Sector CFP
	Preparation for delete in Production database	5 days	CIO-Sector
	Execution of delete in Production database	4 days	CIO-Sector
	Verification of delete results in production database	4 days	CIO-Sector CFP
	Cleanup of delete "leftovers" if evident	14 days	CIO-Sector

5.2 TESTING PLANNED SCHEDULE (as at August 14, 2012)

Iteration 1 – Test Cycle One	**49 days**	**6/18/2012**	**8/23/2012**	
Before Activities	17 days	6/18/2012	7/10/2012	
Refresh QC_BC with PROD data	1 day	6/18/2012	6/18/2012	
DBA Prep Work in QC_BC	2 days	6/19/2012	6/20/2012	
Run Dev automated scripts and DEV/UAT manual testing	10 days	6/25/2012	7/6/2012	
Run "Before Reports" (ADB & DBA) in QC_BC	2 days	7/9/2012	7/10/2012	
Purge Activities	18 days	7/11/2012	8/3/2012	
Copy QC_BC data to CFRS_QC database	1 day	7/11/2012	7/11/2012	
Run Purge Scripts in QC_BC	7 days	7/12/2012	7/20/2012	
Rebuild Database/indexes in QC_BC	10 days	7/23/2012	8/3/2012	
After Activities	12 days	8/7/2012	8/22/2012	
Run "After" Reports (ADB & DBA) in QC_BC	2 days	8/7/2012	8/8/2012	
Run Dev automated scripts and DEV manual testing	10 days	8/10/2012	8/23/2012	
Perform UA testing in QC_BC	7 days	8/15/2012	8/23/2012	
Verify/Compare Before and After reports	5 days	8/9/2012	8/15/2012	
Update to Purge scripts and Reports (if required)	5 days	8/16/2012	8/22/2012	
Iteration 2 - Test Cycle Two including UAT	**41 days**	**8/16/2012**	**10/11/2012**	
Before Activities	18 days	8/16/2012	9/10/2012	
Refresh CFRS_QC with PROD data	1 day	8/16/2012	8/16/2012	
DBA Prep Work in CFRS_QC	1 day	8/17/2012	8/17/2012	
Join and Split (QC_BC is populated with data from CFRS_QC)	1 day	8/24/2012	8/24/2012	
Perform UA testing in QC_BC	10 days	8/27/2012	9/7/2012	
Run Dev automated scripts & DEV manual testing	5 days	8/27/2012	8/31/2012	

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Run "Before Reports" (ADB & DBA) in CFRS_QC	1 day	9/10/2012	9/10/2012	
Purge Activities	10 days	9/11/2012	9/24/2012	
Run Purge Scripts in CFRS_QC	5 days	9/11/2012	9/17/2012	
Rebuild Database in CFRS_QC	5 days	9/18/2012	9/24/2012	
After Activities	13 days	9/25/2012	10/11/2012	
Run "After" reports in CFRS_QC	1 day	9/25/2012	9/25/2012	
Run Dev automated scripts and DEV manual testing	4 days	9/26/2012	10/1/2012	
Perform UA testing in QC_BC	10 days	9/28/2012	10/11/2012	
Verify/Compare Before and After reports	1.5 days	9/26/2012	9/27/2012	
Update to Purge scripts and Reports (if required)	2 days	9/27/2012	10/1/2012	
Dry Run (Iteration 3) - Test Cycle Three	**14 days**	**9/27/2012**	**10/17/2012**	
Before Activities	7.5 days	9/27/2012	10/8/2012	
Refresh CFRS_QC with PROD data	1 day	9/27/2012	9/28/2012	
DBA Prep Work in CFRS_QC	1 day	9/28/2012	10/1/2012	
Run Dev automated scripts & DEV manual testing	2 days	10/2/2012	10/3/2012	
Run "Before Reports" (ADB & DBA) in CFRS_QC	1 day	10/8/2012	10/08/2012	
Purge Activities	4.5 days	10/9/2012	10/15/2012	
Run Purge Scripts in CFRS_QC	2 days	10/9/2012	10/10/2012	
Rebuild Database in CFRS_QC	2 days	10/11/2012	10/12/2012	
After Activities	2 days	10/15/2012	10/17/2012	
Run "After" reports in CFRS_QC	0.5 days	10/15/2012	10/15/2012	
Run Dev automated scripts and DEV manual testing	1 day	10/15/2012	10/16/2012	
Perform UA testing in QC_BC	1 day	10/15/2012	10/16/2012	
Verify/Compare Before and After reports	0.5 days	10/16/2012	10/16/2012	
Update to Purge scripts and Reports (if required)	1 day	10/16/2012	10/17/2012	
Run Purge in Production – Shown here as 6.25 days effort but accomplished in four days of overtime	6.25 days	10/26/2012	10/29/2012	

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6 C-19 DETAILED PURGE REQUIREMENT

The following details were provided to the CIO-Sector to define the requirements to purge non restricted firearm information according to the directive of Bill C-19.

In all cases the requirement applies only to firearms registered to individuals and businesses outside of the province of Quebec. Where not specified this exception should be assumed.

6.1 Purge CFIS Data - Delete non restricted firearm records of all kinds

- Delete all data from the CFIS database that are associated to the non-restricted registration records for individuals and businesses collected since the coming into force of the Firearms Act on December 1, 1998, except for records related to clients residing in the province of Quebec.
- Where the client record does not have a residential address/province, use the mailing address to determine if the firearm is in Quebec.
- If the mailing/residential/foreign address is outside Canada delete the record.
- Do not delete non restricted firearms recorded in CFIS for agency and protected inventories.

Notes:
- All licence related data/information is to be retained
- All data/information related to restricted/prohibited firearms to be retained
- All CFIS functionality must continue to work correctly including web apps

6.2 Delete details for non restricted firearm records and related data

- Firearm records with class "non restricted" at all statuses:
  - Known
  - Lost
  - Stolen
  - Protected Other; Protected estate; Protected to be destroyed:
  - Her Majesty's Forces
  - Exported
  - Expired
  - Destroyed
  - Deactivated

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- Antique
- Non-firearm

➢ Firearm registration certificate records at all statuses:

- Registered
- Registered/recorded by transfer
- Expired
- Administratively Expired
- Investigation in Progress
- Revoked
- Suspended
- Revocation Suggestion Received

➢ Firearm document records at all statuses

- Damaged
- Destroyed
- Found
- Lost
- Seized
- Stolen
- Issued
- Ready to Print

Notes:

- Some statuses listed no longer exist because of the "expire" of non restricted firearm records in May 2012.
- If a firearm was originally reported as non restricted and then a description change was processed or the FIN was linked to a restricted or prohibited firearm and the firearm class is currently restricted or prohibited do not delete the firearm records including history
- If the firearm is currently non-restricted and was restricted or prohibited prior to a description change or "FIN link" transaction, delete" the firearm record and the history.
- The history includes Quebec - If a firearm was originally reported as non restricted in Quebec and then transferred out of Quebec do not keep the record or the history. If the firearm was originally reported as non-restricted in a province other than Quebec and then transferred into Quebec keep the record or the history.

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6.3 Delete applications and other transactions associated to non restricted firearms:

6.3.1 Application and Transaction types to be deleted:

Where the application or transaction was created to support the registration of a non restricted firearm, that application, the application history and all records of the transaction are to be deleted including:

- Delete all FIN reprint requests
- Delete all registration reprint requests
- Delete transfer applications at all statuses including work in process (WIP) (if non-restricted firearms only)
    - transfer notices related to non restricted firearm transfers
    - Where a transfer application includes non-restricted and other firearm classes, purge the non restricted firearm application records and retain the restricted or prohibited.
- Delete firearm description change applications at all statuses (including WIP)
- Delete registration applications and firearm applications at all statuses including WIP
    - Where a registration application includes non-restricted and other firearm classes, purge the non restricted firearm application records and retain the restricted or prohibited.
- Delete all notifications related to non restricted firearms
    - If a CFIS notification has a non restricted FIN, delete that notification irrespective of the type of notification

Notes:

Eligibility records do not require deletion when they are not linked to firearm class. For licence eligibility failures and for firearm failures that show only firearm number and not firearm details or class, no delete of the eligibility record is required.

6.3.2 Exception to the delete – public agency firearm records

- Retain non restricted firearm records within public agency and protected inventories
- For public agency firearms retain the firearm and the agency details but not the history of ownership if firearm the originated with a business or individual
- For protected inventories retain the firearm record but not the ownership detail history related to businesses or individuals that previously registered these firearms.
    - Non restricted firearms reported by Public Agencies as protected via the Public Agency Web Services (PWS) remain in the protected inventories until they are either deleted from the inventory or they are reported as destroyed. Therefore CFIS will

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have non-restricted firearms at status "protected – custody" and that status will become "expired" when it is deleted from the inventory (police give it back to owner); or the status may be changed to "destroyed", "exported", "lost" or "stolen". These firearm will be reported as "previously protected"

- Non restricted Agency Firearms will remain in CFIS as belonging to the agency. The agencies will report the firearms via PWS as "known" when they acquire them. From this status they may be transferred to another agency and remain "known" or the status may be change to "destroyed", "exported", "lost" or "stolen". If the agency deletes the firearm from the inventory because the agency returns it to a business the status becomes "expired".

Notes:

"Previously protected": On the purge of an individual or business owned firearm which was in protected custody but is not under protection anymore, the firearm record is to be retained with the history attached to that firearm.

6.4 Purge CFIS backups, archives, files and images

6.4.1 Business Intelligence Data Warehouse Information

Purge Business Intelligence (BI) data for non-restricted firearms records and reports

- Ensure that BI reports do not return non restricted firearms targeted for delete
- Delete all archived reports and statistics that contain non restricted firearms information linked to businesses and individuals
- Redevelop reports and statistics to remove non restricted firearm components
- Purge all data backups and BI files containing non restricted firearms data
- Purge all BI data stores containing non restricted firearms records.
- DataMart is an aggregate copy of the CFIS used for statistical reporting. The current DataMart must be recreated from production after the C-19 purge or updated to reflect production post purge data.

Notes:

- This requirement is to be completed by the BI team and the CIO-Sector
- Under the current process, the Business Intelligence (BI) database (business copy) is updated from the CFIS database daily. Therefore the updates to remove non restricted firearms will happen automatically when the firearm data is deleted in CFIS production, and the Quebec data will be retained.

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6.4.2 CFIS and CFRO backups, archives and images

- Purge of all CFIS backups, copies and archives
- Purge all CFRO backups, copies and logs
- Refresh all CFIS test databases to post purge data conditions
- Purge all data extracts related to non restricted firearms
    - Extract files are created from CFIS and sent to the contracted printing company for the purpose of printing registration certificates and FIN stickers.
    - CFP decision is to delete extract copies *(not remove non restricted data from them)*
- Paper applications are scanned as CPS and then shredded. The scanned image, while held outside of CFIS, is available via a CFIS or BI query. Delete all scanned images (PDFs) related to non restricted firearms (Phase IV/V)
- Retain scanned images related to restricted or prohibited firearms
- Retain application images that have non-restricted and restricted/prohibited together
- The "multi-class" images will be isolated from CFIS and BI to allow for a project to "black out" the non restricted information from the image. (Phase IV/V)

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7 CIO-SECTOR TECHNICAL DESIGN SOLUTION FOR DELETE REQUIREMENT

7.1 Technical Overview

The purge of non restricted firearms data is being implemented with the use of Oracle's CTAS mechanism (Create Table As Select). With this, a completely new table is created in a single statement that selects all non-long gun data from a specified existing CFIS database table. The basic structure of the table is duplicated via the statement.

Those tables that are ineligible for this technique under Oracle are purged in three steps:

- Oracle's datapump utility is used to extract non-long-gun data into flat files,
- The old tables full of long gun and non long gun data are removed from the database,
- The flat files of non long gun data are reloaded into newly created tables.

Once all eighty-six CFIS tables subject to purging are recreated with long gun related data omitted and basic content verification is done, the original tables are removed from the database, and the new database tables without non restricted firearm records renamed to the original name, so that the CFIS and web applications continue to function correctly.

Related attributes and objects not automatically generated by CTAS (indexes, constraints, triggers, data defaults, materialized views and logs, and grants) are re-created for the new tables, and their structures verified by comparing physical data models generated before and after the purge.

7.2 CIO-Sector Execution Plan

- The execution of the data purge in production was planned to occur over the period starting Friday October 26th and continuing through Monday October 29th.
- Thirty two activity steps and ten check points were identified to provide status updates to the resources assigned and to CFP and CIO-Sector management.

AR 00375070 Bill C-19 Phase 2 – Purge NR Firearms Activities (excluding Quebec)					
A. Thursday - Oct 25, 2012 Pre-Purge Activities					
Step	**Start time**	**End time**	**Duration (hrs)**	**Description**	**Resource**
1	08:00	16:00	2	CFIS Front-end tests	CFP
B. Friday - Oct 26, 2012 Purge Activities					

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Step	Start time	End time	Duration (hrs)	Description	Resource
2	00:01	01:00	1	- Stop all CFIS web applications - Turn off Listener - Stop Batch Rev and Report Processor - allow scheduled DBA job to complete (10-20 min) - Run Clean-up DBCR	OPS DBA ADB
3	01:00	02:00	1	DBA prep - Generate CFRO data - Disable Join & split and all CRON jobs - Grant temp privilege to reports user - Join & Split (Business copy)	DBA
4	02:00	06:00	4	Table space preparation	DBA
5	06:00	09:30	3.5	Run Driving table scripts	DBA
Check point 1					
6	09:30	Sunday	30	Restore UAT_PROD with PROD data	DBA
7	09:30	13:30	4	Run ADB "Before" Reports CFRS_PROD	ADB
Check point 2					
8	13:30	15:30	2	Verify driving table results	ADB
9	13:30	14:30	1	Verify ADB "Before" Reports	CFP/ADB
10	15:30	17:30	2	Address possible issues	DBA
11	17:30	19:30	2	Run CFIS scripts (Part 1)	DBA
Check point 3					
Sub Total hours			**20.5**		
D. Saturday - Oct 27, 2012 Remaining Purge Activities					
Step	**Start time**	**End time**	**Duration (hrs)**	**Description**	**Resource**
12	07:00	12:00	5	Run CFIS scripts (Part 2)	DBA
Check point 4					
13	12:00	13:00	1	Review CFIS script logs	ADB
14	13:00	16:00	3	Run Staging scripts	DBA
15	16:00	17:00	1	Review Staging script logs	ADB
16	17:00	19:00	2	Run CFRS snap scripts	DBA
17	19:00	20:00	1	Review CFRS snap script logs	ADB

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18	20:00	21:00	1	Create table with DELETED FINs for BI	DBA
Note: CFP and ADB resources will be on call for consultation (steps 17 - 20)					
19	21:00	23:00	2	Part 1: Rebuild indexes, constraints, triggers, data defaults, materialized views and logs, and grants recreated for the new tables & their structures and re-organize table spaces.	DBA (CFP&ADB)
Check point 5					
Sub Total hours			**16**		
D. Sunday - Oct 28, 2012 Rebuild Activities					
Step	**Start time**	**End time**	**Duration (hrs)**	**Description**	**Resource**
20	07:00	14:00	7	Part 2: Rebuild indexes, constraints, triggers, data defaults, materialized views and logs, and grants recreated for the new tables & their structures and re-organize table spaces.	DBA (CFP&ADB)
Check point 6					
21	14:00	19:00	5	- Verify rebuilt indexes, constraints, triggers, tables/structures against metadata saved prior to purge - Verify UAT_PROD is viable	DBA (CFP&ADB)
22	19:00	21:00	2	Run dbv utility to verify file	DBA
23	21:00	23:00	2	Address possible issues with Rebuild	DBA (CFP&ADB)
Check point 7					
Sub Total hours			**16**		
E. Monday - Oct 29, 2012 Post Purge Activities					
Step	**Start time**	**End time**	**Duration (hrs)**	**Description**	**Resource**
24	07:00	09:00	2	- Grant temp privilege to reports user - Run ADB "AFTER" Reports (CFRS_PROD) - Notify CFP resources	DBA ADB
25	09:00	13:00	4	- Verify Results "After" Reports - CFIS front-end tests - Client Sign-off before proceeding with Join & split	CFP
Check point 8					
26	13:00	13:30	½ hr	Join and Split (Business copy)	DBA
27	13:30	14:30	1	- Start up processes - Turn on CRON jobs (including CFRO) - Open ports for CPS and CFO limited users	DBA

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28	16:00	20:00	4	Generate CFRO data	Automated
Check point 9					
			10	Refresh CFRSQC database	DBA
31	23:00	23:30	½ hr	Restart all web applications	OPS
32	23:30	24:00	½ hr	Verify CFIS and all satellite applications are available	CFP
Check point 10					
Sub Total hours			**6.5**		
TOTAL HOURS			**59**		

7.3 Data Purge Execution in Production

The actual execution times of the C-19 targeted data:

- Check point one was confirmed by CIO-Sector October 26, 2012 @ 8:47
- Check point two was confirmed by CIO-Sector October 26, 2012 @ 13:07
- Check point three was confirmed by CIO-Sector October 26, 2012 @ 21:31
- Check point four was confirmed by CIO-Sector October 27, 2012 @ 11:47
- Check point five was confirmed by CIO-Sector October 27, 2012 @ 23:43
- Check point six was confirmed by CIO-Sector October 28, 2012 @ 15:01
- Check point seven was confirmed by CIO-Sector October 28, 2012 @ 20:58
- Check point eight was confirmed by CFP October 29, 2012 @ 10:21
- Check point nine was confirmed by CIO-Sector October 29, 2012 @ 23:08
- Check point ten was confirmed by CIO-Sector and CFP October 30, 2012 @ 01:30

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8 AGREGATE REPORT COMPARISON TESTING – CYCLE ONE

Notes:

- Figures reflect test data and although similar to actual, must not be interpreted as reflecting the actual production data.
- Summary reports shown throughout the document are sample results from the metadata. Other details were calculated and are available.
- Throughout the report "before" refers to the data prior the purge and "after" refers to the post purge data

8.1 Statistical Reports

Aggregate statistical reports were run in the test environment prior to the purge of the data for the purpose of comparison to the counts after the purge.

The before and after reports use the same scripts and format and include the following information:

- Number of firearms of each class by status, client and province
- Number of firearm applications of each type by firearm class and province

8.1.1 "Before" Firearm Records Summary Report (test data)

Before the delete, the test database contained:

- 878,329 restricted firearms and 438,782 prohibited firearms. These records were expected not to be affected by the data purge.

Before the delete the test database contained firearms registered to businesses, museums and individuals.

- 1,877,218 non restricted firearms in the province of Quebec (at various firearm statuses). These firearm records were to be retained.
- 8,090,506 non restricted firearms in the rest of Canada (at various firearm statuses). It was required that these firearm records be deleted as well as those with foreign addresses.
- Non restricted firearm records retained in agency inventories and protected inventories not shown in the table

RESTRICTED AND PROHIBITED FIREARMS

Firearm class	Business	Individual	Museum	Agency	Foreign	Total
Prohibited	95,599	211,215	6,610	125,331	27	**438,782**
Restricted	182,354	579,212	3,352	113,368	43	**878,329**

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NON RESTRICTED FIREARMS

Firearm Status	Quebec	Rest of Canada	Foreign Address	Total
Antique	276			276
Deactivated	386			386
Destroyed	12,421			12,421
Expired	62,229	8,090,434	31643	8,184,306
Exported	4,088		1	4,089
Her Majesty's Forces	3,400			3,400
Known	1,772,742	70	120	1,772,932
Lost	2,242			2,242
Non Firearm	123			123
Protected Custody	657			657
Protected Estate	8,796			8,796
Protected Other	916			916
Protected to be destroyed	1,653			1,653
Stolen	7,289	2		7,291
Total	**1,877,218**	**8,090,506**	**31,764**	**9,999,488**

8.1.2 "Before" Firearm Applications Summary Report (test data)

Before the delete, the test database contained applications related to non restricted firearms received from individual and business clients.

- 3,350,050 related to Quebec residents are to be retained
- 13,325,437 related to clients in the rest of Canada to be deleted as well as **45,917** with foreign addresses
- Public agency non restricted firearms are not shown here but are also not being deleted

NON RESTRICTED FIREARM APPLICATIONS

Firearm Class	Application Type	Quebec	Rest of Canada	Foreign
Non-Restricted	12-Business Registration	415,681	3,261,569	479
	14-Transfer Application	1,172,950	4,419,225	6,310
	15-Individual Registration	709,049	706,313	11,002

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	19-Firearm Description	32,669	105,292	815
	21-Individual Web Services	1,019,701	4,833,038	26,574
Non-Restricted Applications Total		**3,350,050**	**13,325,437**	**45,917**

8.1.3 "After" Firearm Summary Report (test data)

Expected Result:

- counts of restricted and prohibited firearms not changed by the data purge
- counts for non restricted firearms records for individuals and businesses residing in Quebec not changed by the data purge
- non restricted firearms records no longer exist for individuals and businesses residing in all other provinces and territories
- non restricted firearms records exist for public agencies in all provinces
- non restricted firearms records exist in protected inventories of agencies in all provinces

Actual Result:

- count of restricted and prohibited firearm unchanged
- within Quebec 59 non restricted firearm records were deleted in error
- outside Quebec and outside Canada 95,781 non restricted firearm records were retained in error
- non restricted firearms record counts were unchanged for public agencies in all provinces
- non restricted firearms record counts were unchanged in protected inventories of agencies in all provinces

RESTRICTED AND PROHIBITED FIREARMS

Firearm Class	Business	Individual	Museum	Agency	Foreign	Total
Prohibited	95599	211215	6610	125331	27	**438782**
Restricted	182354	579212	3352	113368	43	**878329**

NON RESTRICTED FIREARM COUNT BY STATUS AND PROVINCE

Firearm Status	Quebec	Rest of Canada	Foreign	Total
Antique	276			276
Deactivated	386			386
Destroyed	12,421			12,421
Expired	62,172	93,106	2,505	157,783
Exported	4,088		1	4,089

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Firearm Status	Quebec	Rest of Canada	Foreign	Total
Her Majesty's Forces	3,400			3,400
Known	1,772,740	48	120	1,772,908
Lost	2,242			2,242
Non Firearm	123			123
Protected Custody	657			657
Protected Estate	8,796			8,796
Protected Other	916			916
Protected to be Destroyed	1,653			1,653
Stolen	7,289	1		7,290
Total	**1,877,159**	**93,155**	**2,626**	**1,972,940**

8.1.4 "After" Firearm Application Summary Report (test data)

Expected Result:

- non restricted firearm applications retained for the province of Quebec
- non restricted firearm applications outside the province of Quebec deleted

Actual Result:

- 182,728 non restricted firearm applications were reduced in the province of Quebec
- 4,559 non restricted firearm applications were retained outside Quebec

NON RESTRICTED FIREARM APPLICATIONS

FIREARM CLASS	Application type	Quebec	Rest of Canada	Foreign
Non - Restricted	12-BusinessRegistration	289,609		138
	14-TransferApplication	1,126,806	210	824
	15-IndividualRegistration	707,126	2	626
	19-FirearmDescription	29,963		40
	21-Individual web services	1,013,818	929	1,790
Total		**3,167,322**	**1,141**	**3,418**

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8.2 Test Results – Cycle One

8.2.1 Pass Criteria – Statistical Reports

The firearm and application record counts must reflect 100% that the targeted data has been deleted and the data not targeted has been retained.

8.2.2 Test Result Summary

Test Pass Criteria - not met in cycle one testing

- Sixteen problems were reported by CIO-Sector testers
- Ten problems were reported by CFP UAT. (some overlap with the 16 reported by CIO-Sector)
- Some targeted records were deleted from Quebec and some were retained in other provinces

8.2.3 CIO-Sector Analysis and Resolution Plan:

Previously protected firearms were retained in order to support tracking of protected firearms. These firearm records show as "expired" in this report and do not show as "previously protected". In cycle 2 testing previously protected will be counted separately.

- Non-Quebec non-restricted firearms continue to exist because of withdrawn load-n-go transfers: withdrawn registrations and old versions of FIN link processing which left expired FINs without associated applications

Withdrawn load-n-go transfers and withdrawn registration issues exist because the delete scripts for the firearm table rely on an ownership record (registration) and these firearms have no ownership records. The application processing transaction stopped at a point in CFIS that had created a firearm record and then the application was either withdrawn or rejected.

Quebec firearms deleted in error are related to firearm description applications in another province for firearms that moved in or out of Quebec.

Amendments to delete scripts for test cycle 2 will address all issues

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9 FUNCTIONAL TESTING – CYCLE ONE

9.1 CIO-Sector Functional Testing

The CIO-Sector maintains automated functionality test scripts which will be used to ensure that the functionality in CFIS works correctly before and after the data purge. See Appendix A for a summary of tests performed. Some manual testing of functionality is also preformed.

9.2 CFP Functional Testing

The CFP complete manual testing to ensure that the functionality in CFIS and specific web applications works correctly before and after the data purge. See Appendix B for a summary of tests performed. The manual testing includes the following functional areas:

- CFIS Individual Licensing
- Individual Web Services (IWS) firearm registration
- Business Web Services (BWS) firearm registration
- Business Web Services (BWS) firearm transfer
- CFIS Firearm Transfers
- Information Search – applications, clients and firearms (CFIS)
- Work queue Management (CFIS)

9.3 Functionality Test Pass Criteria

- 100 % of CFIS functionality must not be affected by the purge of non restricted records.

9.4 Functionality Test Result

9.4.1 CIO-Sector Functionality test results

- Test criteria met in cycle one.

9.4.2 CFP UAT Functionality test result

- Test criteria met in cycle one

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10 AGGREGATE REPORT COMPARISON TESTING – CYCLE TWO

10.1 Statistical Reports

Statistical reports were run in the test environment prior to the purge of the data for the purpose of comparison to the same counts after the purge. The before and after reports use the same scripts and format and include the following information:

- Number of firearms of each class by status, client and province
- Number of firearm applications of each type by firearm class and province

10.1.1 "Before" Firearm Records Summary Report (test data)

Before the delete the database contained:

- 1,889,040 non restricted firearms in the province of Quebec are expected to be remain after the C-19 purge
- 8,050,339 non-restricted firearms in the rest of Canada are expected to be deleted with the C-19 purge. They are mostly at expired status all non restricted firearm records at all statuses were changed to "expired" during the first phase of the purge on May 20, 2012.
- 40,612 non-restricted firearms that have a history of having been in protected custody are shown separately because they will not be purged. Previously protected are being retained for firearm tracking but will not be linked to past owners. Previously protected category does not apply to Quebec.
- Non restricted firearms located in public agency inventories and protected inventories are out of scope for C-19 and are not shown.

"BEFORE" FIREARMS BY LOCATION, CLASS AND STATUS

	Firearm Status	Non-Restricted		Prohibited firearms	Restricted firearms
		never protected	protected history		
Rest of Canada	Antique	1		624	551
	Deactivated			1,897	1,123
	Destroyed			5,118	3,898
	Expired	8,050,323	40,602	17,868	51,089
	Exported			57,705	113,013
	Her Majesty's Forces			82	152
	Known	15		172,809	515,821

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	Firearm Status	Non-Restricted		Prohibited firearms	Restricted firearms
		never protected	protected history		
	Lost			793	2,310
	Non Firearm			1	8
	Protected - to be Destroyed			652	521
	Protected Custody			265	595
	Protected Estate			2,295	2,062
	Protected Other			63	400
	Stolen			1,292	3,469
Rest of Canada Total		**8,050,339**	**40,602**	**261,464**	**695,012**
Foreign	Deactivated			1	1
	Destroyed			11	1
	Expired	31,617	10	72	137
	Exported	1		16	85
	Known	122		227	681
	Lost			3	2
	Protected Custody			1	4
	Stolen			11	20
Foreign Total		**31,740**	**10**	**342**	**931**
Quebec	Antique	279		68	37
	Deactivated	390		624	186
	Destroyed	12,546		2,364	1,140
	Expired	68,512		4,088	9,409
	Exported	4,109		8,064	1,700
	Her Majesty's Forces	3,400		515	2,166
	Known	1,777,003		34,655	62,878
	Lost	2,313		152	130
	Non Firearm	123			2
	Protected - to be Destroyed	1,695		87	62
	Protected Custody	834		59	67
	Protected Estate	9,491		382	337
	Protected Other	921		291	1,032
	Stolen	7,424		448	740
Quebec Total		**1,889,040**	**NA**	**51,797**	**79,886**
Total		**9,971,119**	**40,612**	**313,603**	**775,829**

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10.1.2 "Before" Firearm Records Summary Report by province (test data)

"BEORE" FIREARMS BY PROVINCE AND CLASS

Province	Non restricted firearms		Prohibited firearms	Restricted firearms	Total
	never protected	protected history			
AB	1,064,350	6428	30,290	119,884	1,214,524
BC	967,326	9045	35,848	124,978	1,128,152
MB	400,426	2193	7,584	23,339	431,349
NB	323,427	1452	6,392	15,501	345,320
NF	236,152	736	1,959	5,658	243,769
NS	338,380	1912	9,606	21,232	369,218
NT	23,393	149	376	1,312	25,081
NU	17,913	122	55	274	18,242
ON	4,147,809	17292	157,841	343,597	4,649,247
PE	27,194	3	1,038	2,295	30,527
QC	1,889,040	0	51,797	79,886	2,020,723
SK	476,326	1144	9,983	34,654	520,963
YT	27,643	126	492	2,288	30,423
Foreign	31,740	10	342	931	33,013
Total	**9,971,119**	**40,612**	**313,603**	**775,829**	**11,060,551**

10.1.3 "After" Firearm Records Summary Report (test data)

* The 65 outstanding records are firearm records created for registration applications that were confirmed refused. The registration certificate was never actually issued.

** 2,523 non restricted firearms were identified in the report as "foreign" and on CIO investigation were determined to be Quebec records with address data issues and were therefore added to Quebec totals.

"AFTER" FIREARMS BY LOCATION, CLASS AND STATUS

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	Firearms Status	Non Restricted			Prohibited	Restricted
		outstanding to purge	registered	previously protected		
Rest of Canada	Antique		0		624	551
	Deactivated		0		1,897	1,123
	Destroyed		0		5,118	3,898
	expired	65	0	40,602	17,868	51,089
	exported		0		57,705	113,013
	Her Majesty's Forces		0		82	152
	Known		0		172,809	515,821
	Lost		0		793	2,310
	Non Firearm		0		1	8
	Protected Custody		0		265	595
	Protected Estate		0		2,295	2,062
	Protected to be destroyed		0		652	521
	Protected-Other		0		63	400
	Stolen		0		1,292	3,469
Rest of Canada Total		**65**	**0**		**695,012**	**956,541**
Foreign **	Deactivated		0		1	1
	Destroyed		0		11	1
	expired		0	10	72	137
	exported		0		16	85
	Known		0		227	681
	Lost		0		3	2
	Protected Custody		0		1	4
	Stolen		0		11	20
Foreign Total			**0**	**10**	**931**	**1,273**
Quebec	Antique		279		68	37
	Deactivated		390		624	186
	Destroyed		12,546		2,364	1,140
	expired		70,912		4,088	9,409
	exported		4,110		8,064	1,700
	Her Majesty's Forces		3,400		515	2,166
	Known		1,777,125		34,655	62,878

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	Firearms Status	Non Restricted			Prohibited	Restricted
		outstanding to purge	registered	previously protected		
	Lost		2,313		152	130
	Non Firearm		123			2
	Protected Custody		834		59	67
	Protected Estate		9,491		382	337
	Protected to be destroyed		1,695		87	62
	Protected-Other		921		291	1,032
	Stolen		7,424		448	740
Quebec Total			**1,891,563**	NA	**79,886**	**2,023,246**
Totals		***65**	1,891,563	40,612	313,603	775,829

10.1.4 "After" Firearm Records Summary Report by province (test data)

"AFTER"FIREARMS BY PROVINCE AND CLASS

Province	Non Restricted			Prohibited	Restricted	Total
	Outstanding	Registered	Previously protected			
AB	6	0	6428	30,290	119,884	150,180
BC	6	0	9045	35,848	124,978	160,832
MB	5	0	2193	7,584	23,339	30,928
NB	0	0	1452	6,392	15,501	21,893
NF	6	0	736	1,959	5,658	7,623
NS	14	0	1912	9,606	21,232	30,852
NT	1	0	149	376	1,312	1,689
NU	6	0	122	55	274	335
ON	17	0	17292	157,841	343,597	501,455
PE	0	0	3	1,038	2,295	3,333
QC		1,891,563		51,797	79,886	2,023,246
SK	3	0	1144	9,983	34,654	44,640
YT	1	0	126	492	2,288	2,781
**Foreign		0	10	342	931	1,273
Total	*65	**1,891,563**	**40,612**	**313,603**	**775,829**	**2,981,060**

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10.1.5 "Before" and "After" Firearm Application Summary Report (test data)

Before the purge scripts were run the application count for all types and statuses total is 15,952,404. After the purge the application count was reduced to 11,976,747.

The expected "after the purge" results is that application counts related to firearms such as Registrations, Transfers and Description Changes would be reduced.

Reductions are equal to the number of these applications that are related to non restricted firearm records. Asterisk * indicates those that were expected to be reduced during the purge. The After counts indicate that the deletes occurred within these types were deleted.

Application Type	Before	After
01-Authority to Carry	36,038	36,038
03-Business Licence	46,949	46,949
04-Carrier Licence	1,675	1,675
08-Minor Licence Application	45,029	45,029
10-PAL Application	3,193,783	3,193,783
11-POL Application	3,024,451	3,024,451
12-Business Registration *	106,827	*52,292
13-Document Replacement	3,671	3,671
14-Transfer Application*	3,945,085	*1,429,507
15-Individual Registration *	455,456	*290,390
16-Agency Inventory	5,218	*5,218
18-Safety Training	3,053,733	3,053,733
19-Firearm Description*	8101,732	*45,786
22-Individual Registration(Web)*	1,715,140	*530,608
24-Protected Inventory	82,462	82,462
25-PAIN Application	2,205	2,205
26-Public Agency Firearm Description Change	25,865	25,865
27- Public Agency Firearm Status Change	15,223	15,223
28- Public Agency Transfer	32,008	32,008
29- Public Agency Convert Protected Firearm to Agency	4,987	4,987
Safety Training Alternate Certificate	54,867	54,867
Total number of CFIS applications	**15,952,404**	**11,976,747**

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FIREARM APPLICATIONS FROM CLIENTS WITHIN CANADA OUTSIDE QUEBEC

Application type	Non restricted	Prohibited	Restricted
12-Business_Registration	0	80,864	336,636
14-Transfer	0	78,039	644,967
15-Ind_Reg	0	25,424	49,417
19-FA_Desc_Change	0	4,224	16,606
21-Ind_Reg(Web)	0	123,847	224,425
Total	**0**	**312,398**	**1,272,051**

10.2 Test Pass Criteria Statistical Reports – Cycle Two

- 100% of the targeted data must be deleted and 100% of data not targeted retained.

10.3 Test Result Summary

- Non restricted firearm records within Quebec were not changed by the purge
- Restricted and prohibited firearm records in all provinces were not changed by the purge
- Registration applications, transfer applications, firearm description applications related to non restricted firearms were deleted within Canada outside Quebec.
- Non restricted firearm records for foreign addresses were deleted.
- Non restricted firearm records related to registered firearms within Canada but outside Quebec were deleted
- 65 non restricted firearm records related to "confirm refused" registration applications were not deleted. **None of these applications had resulted in an approved registration.**

- Test criteria met with one exception

10.4 Resolution Plan

- to attain test pass criteria the CIO-Sector will delete the 65 outstanding non restricted firearm records related to refused registration applications

Note: The CIO/CFP plan was to amend the primary purge scripts to accommodate these records so that the purge execution in production would delete them. After further analysis it was determined that the 65 records had been missed in the cycle two testing because their data was not typical in terms or structure, completeness and status combinations. It was decided that amending the primary delete scripts to accommodate these records carried a prohibited level of risk since there was not enough time to adequately test the changes prior to the planned delete window. Therefore it was decided that these anomalies would be addressed immediately following the October 26 to 29 purge. The "65" was reduced to "64" via a simple data correction.

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11 CIO-SECTOR FUNCTIONAL TESTING – CYCLE TWO

The CIO-Sector runs automated test scripts to ensure that the functionality in CFIS works correctly before and after the data purge. See Appendix A for a summary of automated tests performed. Some manual testing of functionality was also preformed but is not detailed in this document.

11.1 CIO-Sector Functionality Test Pass Criteria

- 100 % of CFIS functionality must not be affected by the purge of non restricted records.

11.2 CIO-Sector Functional Test Results

- Test Criteria met for cycle two

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12 CFP UAT FUNCTIONAL TESTING – CYCLE TWO

12.1 CFP User Acceptance Testing (UAT) Functional Test

The CFP completed manual testing to ensure that the functionality in CFIS worked correctly before and after the data purge. The manual testing includes the following functional areas. Detailed test scenarios and results reported by each UAT team member can be found in Appendix C.

12.1.1 CPS

- capture new PAL applications
- capture PAL renewal applications
- capture POL renewal applications
- capture Minor applications
- capture new business licence applications
- capture business licence renewal applications
- capture registration applications (restricted and non restricted)
- capture transfer applications (restricted and non restricted)
- initiate firearm description change applications (restricted and non restricted)
- process document replacement requests
- process Safety Training Reports
- restricted registrations (all provinces)
- non-restricted registrations (Quebec)
- Transfer applications (all classes)

12.1.2 CFO Offices

- review and approve PAL, POL and Minor licence applications (new and renew)
- review and approve business licence applications (new and renew)
- confirm purpose on transfers (restricted/prohibited), review errors, and approve the eligibility of the buyer (forward to CFR for final approval)
- revoke licences (public safety/prohibition)
- add/remove firearm classes (non-restricted, restricted and prohibited classes)
- add/remove licence privileges (i.e. 12(6))

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- review and confirm/exclude FIP events
- Review and complete CFIS notifications and create new CFIS notifications
- update and correct client information (address, name, DOB, etc.)
- add licence investigation comments (at any point during the cycle of the licence)
- enter and amend court matters
- data capture CFSC/CRFSC safety instructors data and 'certify' them
- change licence status or document status as necessary
- exercise work queue Management

12.1.3 CFR

- refuse registration applications
- revoke registration certificates
- FIN link
- firearm searches for affidavits / firearm disposition
- individual searches for affidavits
- review registration applications
- review transfers
- registration firearm status changes
- approve or refuse public agency inventory (agency and protected)
- review description changes

12.1.4 HQ – Public Web Services Applications

BWS (Business Web Services)

- BWS supports restricted and prohibited firearm registration
- BWS support non restricted firearm registration only of Quebec businesses
- transfers from business to business
- transfers from individual to business and business to individual
- inventory searches do not show non restricted firearms except in Quebec

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IWS (Individual Web Services)

- IWS supports individuals to check firearm status
- change residence and mailing address and phone numbers
- register all classes of firearms in Quebec
- register only restricted firearm outside of Quebec

PWS (Public Agency Web Services)

- submit public agency firearm inventory
- submit protected firearm inventory
- change firearm descriptions
- report firearm destruction
- delete firearms from inventory

12.2 CFP Functionality Test Pass Criteria

- 100 % of CFIS functionality must not be affected by the purge of non restricted records.

12.3 CFP Functional Test Results

- Test criteria met in cycle two

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13 CIO-SECTOR AND CFP TESTING - CYCLE THREE

The purpose of the cycle three testing was to:

- confirm minor changes made to the delete scripts for improved completeness and accuracy
- confirm performance to verify that the purge is achievable in the planned four day window
- verify and prepare in detailed the schedule and resources required to support the four day purge

13.1 Test Pass Criteria

- delete scripts and complete end to end process achievable in a four day window
- 100% of targeted data deleted and 100% or non targeted data retained
- 100% of CFIS application functionality not affected by the purge

13.2 Test Results

- Test criteria met in cycle three with same exception as cycle two
  - the 65 firearm records related to "refused" applications was reduced to 64 via a data adjustment on the address
  - Due to risk associated with changing the delete scripts immediately prior to the implementation in production, it was decided that the 64 outstanding firearm records would be deleted immediately after the purge window.

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14 DELETE NON RESTRICTED FIREARM RECORDS

14.1 Data Sources and Stores

- D1: Delete targeted data as stored in the CFIS production database,
- D2: Delete targeted data as stored in CFIS test databases
- D3: Delete CFIS backups and archived databases
- D4: Delete targeted data stored in business intelligence databases, data stores and reports

14.1.1 Category One: D1 - Delete non restricted firearms information from CFIS production

Notes:

- This requirement is detailed in other sections of this document
- CIO-Sector provided the data details from which the pivotal tables were created by CFP-HQ.

ID	Test Case	Description	Expected Result	Tester	Result
D1	C1	Prepare pivotal tables to summarize the firearm before data by firearm class, province and client.	Tables show restricted and prohibited firearms for all provinces. Non restricted firearms are at status "expired" for all provinces except Quebec and public agencies.	HQ	Pass
D1	C2	Prepare pivotal tables to summarize the firearm after data by firearm class, province and client.	Tables show restricted and prohibited firearms for all provinces and non restricted for Quebec and public agencies.	HQ	Pass
D1	C3	Compare before reports of firearm counts to after reports of firearm counts.	Before reports contain the data target for delete and the after reports do not show this data.	HQ	Pass
D1	C4	Prepare pivotal tables to summarize the firearm application before data by firearm class, province and client.	Tables show restricted and prohibited and non restricted firearms related applications for all provinces.	HQ	Pass
D1	C5	Prepare pivotal tables to summarize the firearm application after data by firearm class, province and client.	Tables show restricted and prohibited firearms applications for all provinces and non restricted firearm applications only for Quebec and public agencies.	HQ	Pass
D1	C6	Compare before reports of	Before reports contain the data target for	HQ	Pass

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ID	Test Case	Description	Expected Result	Tester	Result
		firearm application counts to after reports of firearm application counts.	delete and the after reports do not show this data.		
D1	C7	Spot check data by search in CFIS information changes before to locate non restricted firearms records	Non restricted firearms are found at expired status in all provinces and with known statuses only in Quebec.	CFO CFR	Pass
D1	C8	Spot check data by search in CFIS information changes after to locate non restricted firearms	Non restricted firearms are only in the province of Quebec and the inventories managed by public agencies.	CFO CFR	Pass
D1	C9	Spot check data by application search to locate non restricted firearms records applications.	Non restricted firearm applications are found at withdrawn status in all provinces and in progress statuses only in Quebec.	CFO CFR	Pass
D1	C10	Spot check data by application search in after database to locate non restricted firearms applications.	Non restricted firearm applications are found only in the province of Quebec and related to public agencies.	CFO CFR	Pass

14.1.2 Category Two: D2 - Delete targeted data as stored in CFIS test databases

In early October 2012, the CIO-Sector identified all test databases containing non-restricted firearms data dating back to the initial launch of the CFIS, in 1998, Databases were found on four distinct database servers.

- Server "onrdcz00"
  - Database name cfrsprod is the CFIS production database
  - C-19 data purge target - October 26th thru 29th, 2012
- Server "onrdcz01"
  - CFIS BI source database
  - tst_prod database used by ADB/UAT as a test environment
  - uat_prod database currently a "stored copy" of CFIS pre-expiry in May
  - each database was created from a point in time copy of CFIS production
  - each database will be restored and refreshed with production data once the purge has been completed
  - C-19 data purge target - October 29th thru October 31st, 201
- Server " onrdqc30"

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- database name cfrsqc is a Quality Control testing database
- database will be restored and refreshed with production data once the purge has been completed
- C-19 data purge target - October 29th thru October 31st, 2012

➢ Server "onrdqc31"

- database name cfrsqcbc is a Quality Control testing database
- During September and October 2012, cfrsqcbc engaged in testing of the purge process
- database was created from a point in time copy of CFIS production
- database will be restored and refreshed with production data once the purge has been completed
- C-19 data purge target - October 29th thru October 31st, 2012

14.1.3 Category Three: D3 - Delete CFIS backups, archived databases and files

CIO-Sector identified all backups and archived databases that contained non restricted firearms information. Backups and archived copies were identified within the RCMP datacentre and at Library and Archives Canada. .

➢ Library and Archives Canada:

- weekly 'off-site' back-up tapes of CFIS are created and stored by Library and Archives Canada
- Library and Archives Canada rotate three tapes to retain three weeks of snapshots
- one additional tape retained for a year and replaced annually
- C-19 back up destruction target - October 31st, 2012
- Library and Archives Canada will receive a copy of the CFIS after the C-19 purge and will retain it as the new annual copy. The process will then begin to replace the three weekly backup copies.
- Fourteen tapes were identified by the Library and Archives Canada and returned to the RCMP datacentre for destruction

Library and Archives Canada - Media Registration Form For: 126

130 Goldenrod Driveway K1A 0N4	**Royal Canadian Mounted Police**
(Building # 15 - Tunney's Pasture)	C.P.I.C. Tape Library
	1200 Vanier Parkway - dock 2B

Item #					
1	HK8259L3	CFIS			**RETURN DATE**
2	HK8324L3	CFIS		**Tape Type**	**M**onth **/ D**ay **/ Y**ear
3	HK8334L3	CFIS		3	10/24/12
4	HK8335L3	CFIS		3	10/24/12

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5	HK8363L3	CFIS		3	10/24/12
6	HK8365L3	CFIS		3	10/24/12
7	HK8368L3	CFIS		3	10/24/12
8	HK8380L3	CFIS		3	10/24/12
9	HK8384L3	CFIS		3	10/24/12
10	HK8388L3	CFIS		3	10/24/12
11	HK8405L3	CFIS		3	10/24/12
12	HK8414L3	CFIS		3	10/24/12
13	HK8415L3	CFIS		3	10/24/12
14	HK8416L3	CFIS		3	10/24/12

- RCMP-CFP Back-up tapes

  - a weekly backup of the CFIS database is created and stored in the RCMP Datacenter
  - three tapes are retained and rotated
  - on October 29th a new backup will be created from production CFIS after the C-19 purge data. The Datacentre will then begin the process to replace the three weekly backup copies.
  - C-19 backup destruction target - October 31st, 2012

- St. Joseph's Documents Ottawa file copies

  - extracts files are created from the CFIS database on a regular basis and sent to service provider St. Joseph's Documents Ottawa for printing and mailing of registration certificates and Firearm Identification Number (FIN) stickers to licensed individuals
    - registration certificates are mailed to individuals as proof of registration
    - FIN stickers are mailed to individuals for adherence to the firearm when the firearm does not have a unique serial number
  - St. Joseph's Documents Ottawa, by contract and procedures has retained copies of extracts
  - C-19 target for delete of all extract files- October 31st, 2012

14.1.4 Category Four: D4 - Delete targeted data stored in Business Intelligence (BI) databases and data stores

The Business Intelligence Datamart has several components, some of which are affected by the C-19 purge requirement.

COMPONENTS NOT AFFECTED

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Built Weekly

- Events Fact - Contains Events related to FIPs, Firearms, Documents, etc. It builds every time from scratch. No need to do anything.
- Revocation Fact -Contains Revoked Firearms - Counts monthly new revocations - No need to do any changes. Revocations that were counted in prior periods are kept as counts in existing cubes, and there is no way to identify a client, or a single firearm within this cube of information.
- Application Work Fact - Counts Applications that have been worked upon and it is based on Application Statuses - builds every time from scratch, for only the last two years. No need to do anything.
- Rapid Firearm Fact - Counts Firearms. Not affected as it does not include ANY Non-restricted Firearms.

Refreshed as Delta Weekly

- Client Base Dim (includes Licencees, Agencies, Former Licencees, Licencees to be) Not affected by Deletion
- Licensee Fact - Contains Licencee Information, including the count of Registered and Deemed in Possession FINs - Not Affected by deletion (it was affected when we expired the FINs).
- RWRS FACT - Contains RWRS data which is not Affected by deletion
- RWRS CFIS COMPARE - Already modified (based on expiration of records), thus not affected by deletion
- GEOGRAPHICAL FACT - Contains geographical data. Not affected.

Refreshed as Delta Monthly

- Commitments and Actuals - Contains financial information of CFP - Not affected.
- CPS Daily Mail Room Activity - Contains CPS data for undeliverable mail, received Licence mail and Safety Training. Not Affected

AFFECTED COMPONENTS

Components built as delta refreshes.

- Application Eligibility Dim - Contains Eligibility information of Clients and FINs.
- Application Fact - Contains Application information, including status, application eligibility issues, etc.
- Firearm Fact - Contains Firearm/Client relationships including ownership history.

This process will continue deleting non restricted firearms records as people move out of Quebec. The following process items one and three are changed to support this requirement.

1. Refresh defines which firearms remain, which are purged.
2. Next firearms that 'changed' in any way (status, ownership, address, etc) are defined, and also applications that 'changed' in any way (status, eligibility, etc).
3. Next base of Firearms/Applications is created that contain those that did not change and were not purged.
4. Firearms/Applications that did change are processed.
5. Changes from (4) to the base in (3) are added.

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14.2 Testing Success Criteria

- 100 % of CFIS targeted backups, archives and files must be deleted by October 31, 2012

14.3 Confirmation Summary

14.3.1 Category One: D1 - CFIS non restricted firearm records in production

- Test pass criteria met as detailed in "Verification of Purge in Production" section

14.3.2 Category Two: D2 - CFIS test databases

- CIO-Sector confirmation received October 31, 2012 at 12:25 that all test databases had been erased.

  From email confirmation:

  - uat_prod - the copy of production made just prior to the purge, has been erased. There were no backups of this database.
  - The other uat_prod, and tst_prod were both erased earlier today, and their backups sent for destruction.
  - cfrsqc contains a purged database, purged by the dry run of a couple of weeks ago
  - cfrsqcbc contains a copy of post-purge production made for the auditors this week.
  - Old cfro database recovery "containers" were erased this morning, in case they contained old data. Those servers were backed up on the same tapes as CFIS, and thus are also gone to destruction.

14.3.3 Category Three: D3- Backups, Archives and files

- CIO-Sector reported October 31, 2012 at 2:18 that all backup tapes were destroyed including those returned from the National Archives

  From confirmation email

  - all the media given to me today by both of you has been destroyed

  - All tapes have been destroyed (securely shredded) except for the following, as explained:

- October 31, 2012, St. Joseph's Documents Ottawa confirmed all extracts for registrations certificates and FIN stickers were destroyed

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14.3.4 Category Four: D4 - Business Intelligence (BI)

- October 31, 2012, confirmed that refreshed business copy for reporting reflected purge of non restricted firearm records
- October 31, 2012, BI reported purge of non restricted firearm records from DataMart complete
- October 31, 2012, CIO-Sector reported destruction of all DataMart backups

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15 RETAIN ALL DATA NOT TARGETTED FOR DELETE

The deletion of non restricted firearms must not affect the CFIS data that continues to be required under the *Firearm Regulations*

15.1 Categories

The retention of all current data not targeted under C19 and the Quebec injunction

- Category One: R1 - Retain all data related to restricted and prohibited firearms, stored in the CFIS production database
- Category Two: R2 - Retain all data related to licensing and authorisations
- Category Three: R3 - Retain all data related to public agency and protected firearms of all classes
- Category Four: R4 - Retain all data related to firearms registered to businesses or individuals with residence address in the province of Quebec.

Summary of methods used to affirm retention and general results. Details of specific and aggregate data is available in other sections of the document and in Appendix C.

15.1.1 Category One: R1 - Retain all data related to restricted and prohibited firearms, stored in the CFIS production database

ID	Case	Description	Expected Result	Tester	Result
R1	C1	Prepare pivotal tables to summarize the firearm before data by firearm class, province and client.	Tables show restricted and prohibited firearms for all provinces.	HQ	Pass
R1	C2	Prepare pivotal tables to summarize the firearm after data by firearm class, province and client.	Tables show restricted and prohibited firearms and the counts are the same as "before"	HQ	Pass
R1	C3	Prepare pivotal tables to summarize the firearm applications before data by firearm class,	Tables show restricted and prohibited and non restricted firearms applications for all	HQ	Pass

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		province and client.	provinces.		
R1	C4	Prepare pivotal tables to summarize the firearm application after data by firearm class, province and client.	Tables show restricted and prohibited firearms applications and the counts are the same as "before" the delete	HQ	Pass
R1	C5	Spot check data by search in CFIS information changes before to locate restricted and prohibited firearms records	Restricted and prohibited firearms are found	HQ	Pass
R1	C6	Spot check data by search in information changes after purge	Same restricted and prohibited firearms are found.	HQ	Pass

15.1.2 Category Two: R2 - Retain all data related to licensing and authorisations

ID	Case	Description	Expected Result	Tester	Result
R2	C1	Review CIO-Sector reports of counts for licences by type and authorisations before purge	Tables show licence and authorisation counts	HQ	Pass
R2	C2	Review CIO-Sector reports of counts for licences by type and authorisations after purge	Counts for licences and authorisations remain unchanged after the purge.	HQ	Pass
R2	C3	Spot check data by search in CFIS information changes licences or all types before purge	Licence records and details are found.	HQ	Pass
R2	C4	Spot check data by search in CFIS information changes licences or all types after purge	Same licences are found as were present before the purge.	HQ	Pass

Results show the before and after counts for the implementation of purge in production. These same counts were also produced and analysed before and after the purge during every test cycle. Counts consistently did not change as a result of the deletes.

Application Type	COUNT
01 Authorisation to Carry	35,680
03-Business Licence	41,640
04-Carrier Licence	1,659

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08-Minor Licence	44,511
10-PAL Licence	2,639,986
11-POL Licence	2,316,470
13-Document Replacement	2,976
18-Safety Training	1,365,655

15.1.3 Category Three: R3 - Retain all data related to public agency and protected firearms of all classes

ID	Case	Description	Expected Result	Tester	Result
R3	C1	Review public agency before and after reports related to firearm protected inventory	Public agency protected inventory counts and profile do not change after the non restricted data is deleted.	HQ	Pass
R3	C2	Review public agency before and after reports related to firearm agency inventory	Agency inventory counts and profile do not change after the non restricted data is deleted	HQ	Pass
R3	C3	Spot check agency protected firearms inventory in CFIS to ensure that non restricted firearms exist.	Non restricted firearms protected inventory exist but are not linked to a business or individual	HQ	Pass

15.1.4 Category Four: R4 - Retain all data related to firearms registered to businesses or individuals with residence address in the province of Quebec.

ID	Case	Description	Expected Result	Tester	Result
R4	C1	Review aggregate data of firearm records by firearm class for province of Quebec before and after the purge.	All counts of firearm records are unchanged by the purge.	HQ	Pass
R4	C2	Review aggregate data of firearm applications by firearm class for the province of Quebec before and after the purge	All counts of firearm applications are unchanged by the purge.	HQ	Pass
R4	C3	Spot check Quebec firearm and	The same firearms and firearm	HQ	Pass

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		firearm application records for all classes of firearms before and after the purge.	applications are found in Quebec before and after the purge of data		

15.2 Testing Success Criteria

- 100% of data not targeted for delete must be retained.

15.3 Testing Result

15.3.1 Category One: R1 - Retain all data related to restricted and prohibited firearms, stored in the CFIS production database

- Restricted and prohibited firearms records not affected by the purge
- Test pass criteria met

15.3.2 Category Two: R2 - Retain all data related to licensing and authorisations

- Licensing and Authorisations records not affected by the purge
- Test pass criteria met

15.3.3 Category Three: R3 - Retain all data related to public agency and protected firearms of all classes

- Public agency and protected firearm records not affected by the purge
- Test pass criteria met

15.3.4 Category Four: R4 - Retain all data related to firearms registered to businesses or individuals with residence address in the province of Quebec.

- Quebec firearm records not affected by the purge
- Test pass criteria met

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16 CFP TEST SCENARIOS – CFIS APPLICATIONS CONTINUE TO FUNCTION

16.1 Purpose

The purpose of this set of test scenarios is to ensure that all applications linked to the CFIS database continue to function correctly after the targeted data is deleted.

The tests will be executed by experienced CFP resources and therefore details of the steps to test are not outlined.

16.2 Test Scenarios

Preserve CFIS application and web functionality to support the Firearms Regulations

- Category One: F1- All systems continue to support the requirements related to restricted and prohibited firearms
- Category Two: F2- All systems continue to support the requirements for licensing and authorisation
- Category Three: F3- All systems continue to support the Public Agency Regulations
- Category Four: F4- All systems continue to support the processing of non restricted firearm transactions for clients within the province of Quebec

Test cases are detailed in APPENDIX C

16.3 Testing Success Criteria

- 100% of application functionality must be unchanged by purge of C-19 data

16.4 Testing Result

- Test pass criteria met

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17 VERIFICATION OF PURGE IN PRODUCTION

Following the purge of non restricted firearm data in the production database verification will ensure that no non restricted firearm records remain in CFIS.

17.1 Verification Method

17.1.1 Run before and after counts for firearm records

FIREARM COUNTS BEFORE PURGE - Businesses and individuals

Province	Non-Restricted	Non Restricted Previously Protected	Prohibited	Restricted	Total
AB	1,064,597	6,571	30329	123507	1,225,004
BC	967,215	9,262	35859	127281	1,139,617
MB	400,291	2,258	7582	23984	434,115
NB	323,506	1,538	6383	15674	347,101
NF	236,169	781	1943	5733	244,626
NS	338,426	1,975	9623	21455	371,479
NT	23,311	161	373	1293	25,138
NU	17,974	131	55	316	18,476
ON	4,147,613	18,176	157672	347299	4,670,760
PE	27,209	3	1042	2301	30,555
QC	1,907,013	0	51799	80323	2,039,135
SK	476,486	1,187	9990	35230	522,893
YT	27,655	130	490	2309	30,584
Total	**9,957,465**	**42,173**	**313,140**	**786,705**	**11,099,483**

FIREARM COUNTS AFTER PURGE - Business and individuals

Province	Registered Non-Restricted	Non Restricted to be deleted	Non Restricted Previously Protected	Prohibited	Restricted	Total
AB	0	5	6,571	30,329	123,507	160,407
BC	0	6	9,262	35,859	127,281	172,402
MB	0	5	2,258	7,582	23,984	33,824
NB	0	0	1,538	6,383	15,674	23,595

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NF	0	6	781	1,943	5,733	8,457
NS	0	14	1,975	9,623	21,455	33,053
NT	0	1	161	373	1,293	1,827
NU	0	6	131	55	316	502
ON	0	17	18,176	157,672	347,299	523,147
PE	0	0	3	1,042	2,301	3,346
QC	1,907,012		NA	51,799	80,323	2,039,134
SK	0	3	1,187	9,990	35,230	46,407
YT	0	1	130	490	2,309	2,929
Total	**1,907,012**	**64**	**42,173**	**313,140**	**786,705**	**3,049,030**

Notes:

- Public Agency firearm records were retained but are not shown
- previously protected firearms were isolated to secure the history of non-restricted protected firearms outside Quebec
- a reduction of one firearm in Quebec was due to a data cleanup requirement found during the purge window resulting from a transfer application that was not completed correctly
- 64 firearms known from Cycle two testing to require delete after the main purge were successfully deleted from CFIS production November 13, 2012. The records existed as a result of "confirm refused" applications that did not result in the issuance of registration certificates. (November 1st the firearm class was removed from these records to support their isolation for delete)
- Not shown are 1,531 firearm records with blank or missing address data.

17.1.2 Run before and after counts for application types

Application Type	Before	After
Licence related applications		
03 Business Licence	41897	41897
04 Carrier Licence	1672	1672
08 Minor	46388	46388
10 PAL	2753809	2753809
11 POL	2346265	2346265
01 Authorization to Carry	37146	37146
18 Safety Training	1446576	1446576
13 Document Replacement	5325	5325
01 Authority to Carry	73,780	73,780
01 Authority to Transport	721,487	721,487

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23 SAP	218	218
Related to Public Agency (PA) Regulations		
25 PAIN Application	2207	2207
16 Agency Inventory Application	5255	5255
29 Convert to Agency Firearm	5152	5152
24 Protected Inventory Application	86107	86107
26 PA Description Change	27674	27674
28 PA Transfer	32780	32780
27 PA Firearm Status Change	16049	16049
Related to firearm registration and targeted by C-19		
12 Business Registration	109174	54662
15 Individual Registration	455566	322879
21 Individual Registration (Web)	1716070	531333
22 Individual Registration (Web)	9	1
19 Firearm Description Change	102450	46496
14 Transfer	3990645	1677329

17.1.3 Run before and after counts – Firearm related applications by class

BEFORE APPLICATION COUNTS – firearm related

Location	Application Type	Non-Restricted	Prohibited	Restricted	Total
Quebec	12-Business_Registration	418,159	10,378	28,170	456,707
	14-Transfer	1,082,136	22,346	77,140	1,181,622
	15-Ind_Reg	556,317	11,918	15,855	584,090
	19-FA_Desc_Change	17,755	1,109	2,289	21,153
	21-Ind_Reg(Web)	904,099	19,843	25,829	949,771
	22-Ind_Reg(Web)	1			1
Quebec Total		**2,978,467**	**65,594**	**149,283**	**3,193,344**
Rest of Canada	12-Business_Registration	3,158,159	80,886	347,688	3,586,733
	14-Transfer	3,925,876	79,068	670,088	4,675,032
	15-Ind_Reg	523,867	25,360	49,471	598,698
	19-FA_Desc_Change	56,265	4,253	16,790	77,308
	21-Ind_Reg(Web)	4,250,773	123,628	224,563	4,598,964
	22-Ind_Reg(Web)	14			14
Rest of Canada		**11,914,954**	**313,195**	**1,308,600**	**13,536,749**

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Total		**14,893,421**	**378,789**	**1,457,883**	**16,730,093**

BEFORE NON RESTRICTED APPLICATION COUNTS BY PROVINCE – firearm related

	12-Business Registration	14-Transfer	15-Individual Registration	19-Firearm Description Change	21-Web Individual Registration	22-Web Individual Registration	Total
AB	351,401	908,793	55,716	9,376	638,460	2	1,963,748
BC	213,045	627,456	63,581	8,907	674,686	8	1,587,683
MB	104,009	242,574	29,710	2,798	262,144		641,235
NB	41,926	144,198	33,862	2,395	244,936	1	467,318
NF	54,575	140,783	59,977	1,908	117,003		374,246
NS	30,719	122,624	36,315	2,615	268,651		460,924
NT	7,635	19,607	1,894	181	13,026		42,343
NU	10,196	22,614	1,954	128	5,063		39,955
ON	2,209,547	1,323,299	205,512	24,238	1,675,774	3	5,438,373
PE	3,596	13,850	3,895	209	19,382		40,932
QC	418,159	1,082,136	556,317	17,755	904,099	1	2,978,467
SK	123,837	338,948	27,609	3,228	316,126		809,748
YT	7,673	21,130	3,842	282	15,522		48,449
Total	3,576,318	5,008,012	1,080,184	74,020	5,154,872	15	14,893,421

AFTER APPLICATION COUNTS QUEBEC AND REST OF CANADA – firearm related

Location	Application Type	Non-Restricted	Prohibited	Restricted	Total
Quebec	12-Business_Registration	418,159	10,378	28,170	456,707
	14-Transfer	1,082,136	22,346	77,140	1,181,622
	15-Ind_Reg	556,316	11,918	15,855	584,089
	19-FA_Desc_Change	17,755	1,109	2,289	21,153
	21-Ind_Reg(Web)	904,099	19,843	25,829	949,771
	22-Ind_Reg(Web)	1			1
Quebec Total		**2,978,466**	**65,594**	**149,283**	**3,193,343**
Rest of Canada	12-Business_Registration	0	80,886	347,688	428,574
	14-Transfer	0	79,068	670,088	749,156

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	15-Ind_Reg	0	25,360	49,471	74,831
	19-FA_Desc_Change	0	4,253	16,790	21,043
	21-Ind_Reg(Web)	0	123,628	224,563	348,191
Rest of Canada Total		**0**	**313,195**	**1,308,600**	**1,621,795**
Total		**2,978,466**	**378,789**	**1,457,883**	**4,815,138**

17.1.4 Spot check firearm records and functionality in CFIS production application

The CFIS production application was accessed by CFP to conduct isolated queries and functionality tests. Following successful completion a number of resources at and the CPS and CFR were invited to being regular work.

- CFIS Navigation

High level Description	Expected Result	Data Details	Before	After
Navigation of CFO Work queues	Work appears on queues	NB, SK, BC	Pass	Pass
Navigation of Registry work queue	Work appears on queues	FRAS, VERIF, PA	Pass	Pass
Work queue Report	Departmental work queue report created	(unidentified)	Pass	Pass

- PWS and CFIS Public Agency Functionality

High level Description	Expected Result	Data Details	Before	After
PWS – search agency inventories in CFIS	Agency inventory not affected by the purge	PAIN 51815 2 handguns 1 rifle 1 shotgun	Pass	Pass
PWS – search protected inventory in CFIS	Protected inventory not affected by the purge –	PAIN 51815 7 handguns 1 other 63 rifles 17 shot guns	Pass	Pass

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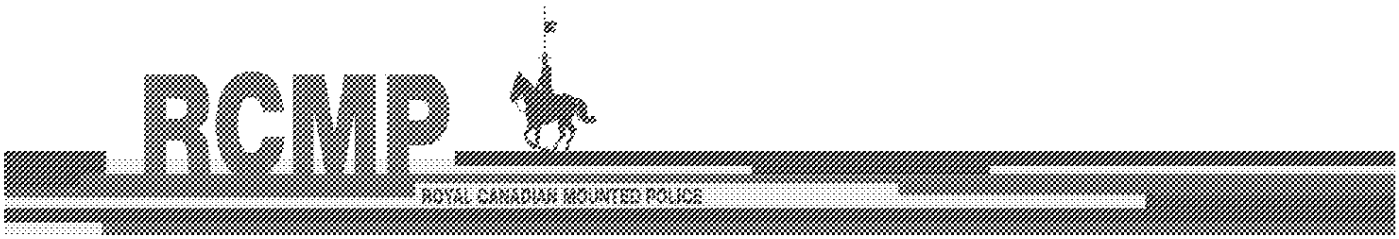

For protected firearms seized from individuals outside Quebec	Client that originally registered the firearms can be found before purge and not after (outside Quebec)	PAIN 51815 FINS: 6196662 8501953	Pass	Pass

- Public Web Services applications continue to function

High level Description	Expected Result	Data Details	Before	After
IWS Access for individual client	All screens available	Not identified	Pass	Pass
BWS Access for business in Quebec	All screens available	Not identified	Pass	Pass
BWS Access for business outside Quebec	All screens available including ability to register non restricted firearms	Not identified	Pass	Pass

- Queries, spot checks and random data look ups

Note: non restricted (NR) Restricted (R) and Prohibited (P) T = Transfer R = Registration

High level Description	Expected Result	Data Details	Before	After
CFIS information change query non restricted firearms for businesses outside of Quebec	Non restricted firearms appear as unregistered and expired before and do not appear after the purge	FINS 11774765, 11774766, 11774767, 5147333	Pass	Pass
CFIS information change query non restricted firearms for businesses in Quebec	Non restricted firearms appear before and after the purge unchanged	Bus 10006674 Cert Number 17041945 17005979 4606 17036612	Pass	Pass

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Query NR firearm and applications associated to that firearm NL	Non restricted firearms appear as unregistered and expired before and do not appear after the purge Applications viewable before purge and not after. Application Scanned images removed	FIN 10257924 0027198868 T 0019031278 T 0011114179 R Last Reg to PAL 12475148	Pass	Pass
Query Restricted Firearm registered to a business NL	Restricted firearms appear before appear after the purge Applications viewable before and after purge. Application Scanned images available	FIN 11821103 0011486442 R 9972786452 T Reg to Business 12260657	Pass	Pass
Query NR firearm and applications associated to that firearm NL	Non restricted firearms appear as unregistered and expired before and do not appear after the purge Applications viewable before purge and not after. Application Scanned images removed	FIN 11276725 0011343438 R 0023883120 T 0027127474 T Last Reg to PAL 12188866	Pass	Pass ***
Query Restricted Firearm registered to a business NL	Restricted firearms appear before appear after the purge Applications viewable before and after purge.	FIN 11518092 0011403248 R 0026576660 T 9972880060 T Reg to Business 12266531	Pass	Pass
Query NR firearm and applications associated to that firearm SK	Non restricted firearms appear as unregistered and expired before and do not appear after the purge Applications viewable before purge and not after. Application Scanned images removed	FIN 8569699 0010751818 R 1st Bus: 10000262 9976154015 T Last Indiv: 12461397	Pass	Pass
Query NR firearm and applications associated to that firearm	Non restricted firearms appear as unregistered and expired before and do not appear after the purge Applications viewable	FIN 68106 0000008510 R 1st Bus: 10005641 9996459594 T	Pass	Pass

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SK	before purge and not after.	Last Indiv: 10217910		
Query ON business inventory for NR and R/P firearms	NR firearms expired before purge and not available after R and P firearm exist before and after	Bus 10025691 Serial Number 721122 Reg Certs R and P 16828171 13577003 9287913 7474594	Pass	Pass
Query ON individual inventory for NR and R/P firearms	NR firearms expired before purge and not available after R and P firearm exist before and after	PAL 11955587 Serial Number FIN 29191B 5281468 658888 5281471 21225 5281472 B1963 5281473 2403 5281474 R and P FINS 583460 9866999 6948247	Pass	Pass
Query Quebec individual inventory for clients with NR firearms	NR inventory unchanged by purge	Lic 10385719 Serial Number 3950434 005354 1141837 7 NR firearms Lic 11338980 11 NR firearms	Pass	Pass
Check firearms expired in CFIS for moves out of Quebec	NR are deleted by the purge.	Lic 11611898 FINs: 2183524,2183528,2183530,4882624 Lic 12501332 FINs 11686028, 10828356 Lic 11378464 FINs 4562337, 4562338	Pass	Pass

17.2 Acceptance Criteria

- 100% of targeted data must be deleted
- 100% of data not targeted by the purge must be retained.
- 100% of system functionality supporting the Firearms Act and Regulations must continue to function correctly

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17.3 Verification Result Report

17.3.1 Results – Retention of data not targeted by C-19

- total firearms classified as restricted before and after purge equals **786,705**
- total firearms classed as prohibited before and after the purge equals **313,140**
- firearms classified as non restricted and located in the province of Quebec were unaffected by the purge
  - count changed from 1,907,013 to 1,907,012 due to a data cleanup that had left a non Quebec firearm associated to Quebec
- non restricted firearms identified as "previously protected" were not affected by the purge and remained at a total of **42,173. The previously protected category was created to** secure history of non-restricted protected firearms outside Quebec

17.3.2 Results – purge of firearm records

Targeted firearm records verified as deleted with two exceptions.

- all firearms previously registered to Canadian businesses or individuals outside of the province of Quebec were deleted except for the 64 firearms known from the testing to be outstanding due to incomplete data on confirmed refused registration applications
- 1,531 firearm records with blank, missing or corrupted address data.

17.3.3 Results – retention of non firearm related application records

Application types not targeted for deletion were verified as unchanged. .

- applications related to licensing and authorizations were not affected by the purge
- applications related to *Public Agency Regulations* were not affected by the purge
- application related to firearms were the only application types reduced by the purge
  - business registrations reduced from 109,174 to 54,662
  - individual registrations reduced from 2,171,645 to 854,213
  - firearm description changes reduced from 102,450 to 46,496

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- transfers reduced from 3,990,645 to 1,677,329

17.3.4 Results – purge non restricted firearm related applications

Firearm application records related to non restricted firearms verified as deleted

- Restricted firearm related application counts were 1,457,883 before and after the purge
- Prohibited firearm related application counts were 378,789 before and after the purge
- Non restricted firearm related application counts related to client within the province of Quebec were unaffected by the purge
    - Total 2,978,467 and 2,978,466 after the purge was due to an intended data cleanup of a non Quebec firearm associated to Quebec
- Non restricted firearm related application counts within Canada outside of the province of Quebec were reduced to zero by the purge

17.3.5 Results - data lookup and functionality checks

Targeted records verified as deleted and non targeted records verified as retained. CFIS functionality verified as unchanged by the purge.

- non restricted queries of business and individual firearms and records within Quebec returned results after the purge
- non restricted queries of business and individual firearms and records outside Quebec returned "not found" results
- all CFIS and web functionality was unchanged by the data having been purged

17.3.6 Results - delete statistics summary

- 605,359,473 rows of data were deleted across 86 database tables
- 8,050,453 firearm records were deleted
- 11,914,944 firearm application records were deleted
- CFIS database was reduced by approximately 31%

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17.4 Corrective action required

During and after the October 26 to 29th delete exercise and as a result of planned quality assurance follow-up, expected and unanticipated data were found requiring cleanup.

- CIO-Sector to develop custom scripts to delete 64 firearm records related to transfer applications at the status "confirmed refused" which were skipped during the purge due to data inconsistencies.
- CIO-Sector to investigate 1,531 firearm records with foreign addresses which were not deleted during the purge due to corrupted or incomplete foreign address data and the risk that some of these records may be for the province of Quebec.
    - The 1,220 outside of Quebec require purge.
- As planned 42,126 previously protected firearm records for firearms returned to their owner, were not deleted from CFIS.
    - These records require a data fix to link them to the last public agency that had them in custody.
- CIO-Sector to continue the delete of 916,023 firearm images. Delete execution started during the four day delete window but not completed.
- A CFIS "notice" table used to create revocation notices was found to contain partial firearm descriptions of FINs deleted from the rest of the CFIS database.
    - CIO-Sector to develop custom scripts to delete revocation notice data related to non restricted firearms outside of Quebec
- CIO-Sector to develop custom scripts as planned for the delete of firearm records for clients that moved out of Quebec after October 25th. (to be executed on a continuous basis)

17.5 Results of Corrective action

- 64 firearm records related to transfer applications at the status "confirmed refused"
    - to allow time to create a risk free custom delete script, the firearm class " non restricted" was removed from these firearm records November 1st, and they were subsequently deleted November 13, 2012
- 1,220 non restricted firearm records with foreign addresses
    - confirmed October 31 that of the 1,531 foreign address records 1220 are not Quebec
    - due to risks associated with proceeding with this delete and to allow for sufficient test time the non restricted firearm class was removed from these firearm records on November 1, and they were subsequently deleted November 13, 2012

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- 42,126 previously protected firearms kept in CFIS as planned but require a data fix to link them to the last public agency that had them in custody.
  - about 42,000 were addressed October 30 and the remainder November 6, 2012
- 916,023 firearm application images not deleted during the four day delete window because the delete required more time than anticipated
  - the delete script ran continuously to completion on November 13, 2012
- CFIS "notice" table containing partial firearm descriptions records for all firearm classes
  - CFIS table 958 notice_of_revocation_of_registration_certificate contained 10,919,698 rows of data following the purge
  - This data represented about 2.5 million firearms but including data related to restricted and prohibited firearm classes and to Quebec.
  - 5,363,587 rows of data were identified as targeted by C-19, representing about 619,465 non restricted firearm records.
  - custom scripts developed by CIO-Sector processed the delete November 13, 2012
- After October 25, 2012, when Quebec clients move out of the province non restricted firearm records must be deleted immediately (the requirement was known prior to the purge)
  - CIO-Sector developed a custom script which started being executed nightly the last week of November. The script processes a delete of each non restricted firearm record that appears in CFIS outside of Quebec. This occurs as a result of clients moving residence to out of that province and also as a result of the reclassification of a firearm from restricted or prohibited to non-restricted.