INTERIM REPORT: USE OF ION MOBILITY SPECTROMETERS BY THE CORRECTIONAL SERVICE OF CANADA

MANDATE OF THE COMMITTEE

On 31 October 2017, the House of Commons Standing Committee on Public Safety and National Security (the Committee) agreed to undertake a study of the use of ion mobility spectrometers, commonly referred to as "ion scanners," by the Correctional Service of Canada (CSC).[1]

The Committee agreed to undertake a study of "the alarming rate of false positive results from ion mobility spectrometers with a view to finding more effective ways of preventing drugs from entering prisons, while encouraging the effective rehabilitation of prisoners."[2] The Committee heard nine witnesses during two meetings in November 2017 and March 2018.[3]

BACKGROUND AND SITUATION OVERVIEW

In 2015–2016, the group Mothers Offering Mutual Support (MOMS) initiated a petition "calling on the Correctional Service of Canada to review its use of the ion mobility spectrometer … as a drug-detecting tool to screen visitors entering federal institutions."[4] As noted by the Minister of Public Safety, the Honourable Ralph Goodale, in his letter responding to the petition, ion scanners are *one of several tools* used for preventing drugs from entering institutions.[5]

In his latest annual report (2016–2017), the Office of the Correctional Investigator (OCI) wrote that ion scanners are used in federal correctional facilities to improve detection of illicit drugs and substances.

- The OCI reviewed 3,532 incident reports between 2015 and 2017 and found that "approximately 25% of these incidents showed a positive hit on the ion scanner over the threshold limit."[6]
- The OCI wrote that "refusal rates for visits due to positive ion scanner tests were about 18%."[7]

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1 House of Commons, Standing Committee on Public Safety and National Security, *Minutes of Proceedings,* 31 October 2017.

2 House of Commons, Standing Committee on Public Safety and National Security, *Minutes of Proceedings,* 31 October 2017.

3 A list of witnesses can be found in Appendix A and a list of briefs in Appendix B of the report.

4 House of Commons, Standing Committee on Public Safety and National Security (SECU), *Evidence*, 1st Session, 42nd Parliament, 2 November 2017 (Anne Cattral, Representative, Mothers Offering Mutual Support).

5 Minister of Public Safety, Letter to Peggie Fitzpatrick, GDL-008525, Docket No. 400-3-F-16.

6 Office of the Correctional Investigator (OCI), *Annual Report of the Office of the Correctional Investigator 2016-2017* (2016-2017 Annual Report).

- The OCI wrote that "these machines can be oversensitive and unreliable, and often produce what are known as 'false positive' results."[8]

The OCI therefore recommended that "CSC conduct a review of its prison visitor program, to include an updated evaluation of the use and reliability of Ion Mobility Spectrometry devices, and report the results to the Canadian public."[9]

CSC provided the following response:

> CSC will review CD 566-8, Searching of Staff and Visitors in consultation with the Security Intelligence Officer Working Group to identify potential areas for improvement. As well, CSC will be conducting a review of the use and reliability of Ion Mobility Spectrometry devices, with an anticipated completion date of January 2018. The results of the review will be released as a public document.[10]

In the meantime, on 2 November 2017 the Committee began its own study on CSC's use of ion scanners. The Committee heard from representatives of the group MOMS, as well as from Margaret Fitzpatrick, Gail LeSarge, and Stacey Hannem, Associate Professor and Chair of the Department of Criminology at Wilfrid Laurier University, all three of them appearing as individuals.

On 20 March 2018, the Committee heard from officials from CSC and the Canada Border Services Agency (CBSA). Prior to the meeting, CSC had provided the Committee with a reference document: a staff bulletin on ion scanners.[11]

On 26 April, CSC provided the Committee with further information in response to questions asked by Committee members during the meeting on 20 March. CSC also provided a report, "Review of the Use and Reliability of the Ion Mobility Spectrometry Devices (Ion Scanners)," dated 13 March 2018.[12]

HOW ION SCANNERS WORK

Ion scanners do not detect drugs on individuals per se, but simply indicate whether the individual has come into contact with a drug.

CSC officers take a sample by wiping personal effects—such as keys, zippers, rings, glasses or clothing—with a cloth or vacuum and then placing the filter or cloth in the ion scanner.

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7 Office of the Correctional Investigator (OCI), *Annual Report of the Office of the Correctional Investigator 2016-2017* (2016-2017 Annual Report).

8 Office of the Correctional Investigator (OCI), *Annual Report of the Office of the Correctional Investigator 2016-2017* (2016-2017 Annual Report).

9 Office of the Correctional Investigator (OCI), *Annual Report of the Office of the Correctional Investigator 2016-2017* (2016-2017 Annual Report) (Recommendation 10).

10 *Response to the 44th Annual Report of the Correctional Investigator 2016-2017*.

11 Reference document submitted to the Committee on 14 March 2018, which appears in Appendix C of this report.

12 Reference document submitted to the Committee on 26 April 2018, which appears in Appendix D of this report.

The science behind this technology dates back to the 1970s.[13] It was originally designed to detect traces of explosives. Ion scanners are still used for this purpose in airports. It was only in 1995 that federal correctional facilities began using them to increase drug detection.[14]

USE OF ION SCANNERS BY THE CORRECTIONAL SERVICE OF CANADA

A. Drug Interdiction in Penitentiaries

CSC uses ion scanners primarily to prevent drugs from entering penitentiaries. CSC uses this detection tool on visitors, volunteers and contractors who wish to enter institutions, but not on CSC staff.[15]

All witnesses who appeared before the Committee stressed the importance of keeping drugs out of penitentiaries. Drugs in penitentiaries are a major challenge for CSC and have been a problem for many years. Currently, about 75% of offenders have an alcohol or drug addiction at the time they are admitted into a federal institution.[16]

CSC is responsible for managing and administering the sentences of federal offenders. To deal with this problem, several years ago CSC put in place a national drug strategy. Under this strategy, there is zero tolerance for alcohol or drug use in CSC institutions. The policy objective states that a "safe, drug-free institutional environment is a fundamental condition for the success of the reintegration of inmates into society as law-abiding citizens."[17]

According to the CSC witnesses, ion scanners are currently the only tool for immediately detecting possible contact with narcotics, thereby serving as a deterrent. According to Warren Coons, Director General of Preventive Security and Intelligence with the Correctional Service of Canada, a moratorium on the use of ion scanners "could obviously serve to create a worse environment in terms of the safety and security of inmates and staff," since ultimately, "what we can expect is probably increased amounts of narcotics in our institutions."[18]

However, CSC's latest review of ion scanners acknowledged that the scanner's impact on the smuggling of contraband is still unknown:

> In the current review of the use and reliability of this device, it is determined that the only way to better understand the impact of its use would be to remove it from the correctional environment

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13 SECU, Stacey Hannem (Associate Professor and Department Chair, Department of Criminology, Wilfrid Laurier University), *Evidence*, 2 November 2017.

14 Office of the Correctional Investigator, 2016-2017 Annual Report, 3. Conditions of Confinement, 28 June 2017.

15 SECU, Rob Campney, Deputy Director, Preventive Security and Intelligence, Correctional Service of Canada, *Evidence*, 20 March 2018.

16 SECU, Warren Coons, Director General, Preventive Security and Intelligence, Correctional Service of Canada, *Evidence*, 20 March 2018.

17 CSC Commissioner's Directive, National Drug Strategy, CD 585, 8 May 2007.

18 SECU, Warren Coons, Director General, Preventive Security and Intelligence, Correctional Service of Canada, *Evidence*, 20 March 2018.

> in order to assess if there is a decrease or increase of drug smuggling. Unfortunately, with the opioid crisis, this could also result in the loss of life should the removal of the device prove to have a positive impact on deterring contraband introduction through visits.[19]

B. The Policies

Under section 54 of the *Corrections and Conditional Release Regulations,* a correctional staff member may conduct a non-intrusive or frisk search of a visitor, without individualized suspicion, when the visitor is entering a penitentiary. If the visitor refuses, the staff member may prohibit a contact visit with an inmate and authorize a non-contact visit or may require the visitor to leave the penitentiary grounds.

The use of ion scanners, considered a non-intrusive search, is governed by several CSC policies, including the technical requirements for ion scanners (Commissioner's Directive 566-8-2), the policy on searching staff and visitors (Commissioner's Directive 566-8) and specifically the policy on the use of non-intrusive search tools (Commissioner's Directive 566-8-1). This particular policy states that when the ion scanner gives a positive result, the correctional officer will complete a second test on a second item in the individual's possession. Most of the witnesses heard on 2 November 2017 criticized the lack of a follow-up frisk search at this stage.[20]

Then there is a kind of interview called a "threat risk assessment."[21] It must take into account the analytical results of both samples. The OCI said the following about threat risk assessments:

> In this assessment, the individual may be tested by a drug detector dog, or other searches as necessary. The individual is then interviewed by the assigned manager to explain the positive search result. It is ultimately up to the discretion of the designated manager to consider the results of all searches and tests, as well as the information obtained during the interview and from the visitor's history. This consideration will be used as the basis for determining the individual's visitation privileges.[22]

Following the threat risk assessment, the manager may

- allow the individual access to the institution, based on the results of the threat risk assessment;
- allow a contact visit;
- allow a visit with restricted or designated seating;

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19 Mistrale Meilleur, Preventive Security and Intelligence, Correctional Service Canada, "Review of the Use and Reliability of the Ion Mobility Spectrometry Devices (Ion Scanners)," 13 March 2018, p. 10.

20 SECU, Stacey Hannem (Associate Professor and Department Chair, Department of Criminology, Wilfrid Laurier University), *Evidence*, 2 November 2017; SECU, Margaret Fitzpatrick, *Evidence*, 2 November 2017; SECU, Gail LeSarge, *Evidence*, 2 November 2017.

21 A description of a threat risk assessment is available in the Correctional Service of Canada policy, *Commissioner's Directive* 566-8-1. Essentially it is "an evaluation of factors that could pose a danger to the management of an offender, the safety of others, or security of an operational unit in particular circumstances." This definition is taken from Commissioner's Directive 566-6.

22 OCI, 2016-2017 Annual Report.

- allow a non-contact or closed visit; or
- refuse access and advise the visitor to leave the penitentiary.

Margaret Fitzpatrick described the following step, the Visits Review Board: "At the visits review board, further punishments can be dealt out. If you have PFVs [Private Family Visits], those will invariably be suspended. I've never heard of a person who didn't have any sanctions following a hit on an ion scanner—never heard of it. There always will be."[23]

Anne Cattral, the representative from MOMS, told the Committee that the details of scanner tests are put in the inmate's file: "Repeated positive tests affect the severity of sanctions imposed on the visitor in future; there's an escalating level of severity of sanctions. This record also has a negative impact for the prisoner's journey through the correctional system."[24]

C. Statistics

Although some institutions began using ion scanners in 1995, guidelines on their use were not made national policy until 2004. Furthermore, CSC did not begin keeping test result statistics until 2013.[25]

CSC compiled the following statistics for 2017 in the report entitled "*Review of the Use and Reliability of the Ion Mobility Spectrometry Devices (Ion Scanners)*":

- CSC facilitated 128,141 visits;
- ion scanners gave 1,207 positive results (0.94% of total visits); and
- 324 visits were denied[26] (26.8% of positive results and 0.25% of total visits [refusal rate]).

In a letter to the Committee on 26 April 2018, CSC attempted to explain the difference between their refusal rate and the 18% rate provided by the Correctional Investigator. The OIC figures were for the period from February 2015 to April 2017, during which there were

- 320,672 visits;
- 3,532 incident reports[27];
- 883 positive results from an ion scanner (25% of incident reports and 0.28% total visits); and

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23 SECU, Margaret Fitzpatrick, *Evidence*, 2 November 2017.

24 SECU, Anne Cattral, Representative, Mothers Offering Mutual Support, *Evidence*, 2 November 2017. Also see the brief from Alaric J. M. Woodrow submitted to the Committee on 4 May 2018.

25 Follow-up by CSC in a letter received by the Committee on 26 April 2018.

26 The other visits (883) were designated seating visits, closed visits (non-contact) or visits without any restrictions.

27 Incident reports are prepared when the circumstances, such as a positive result from the ion scanner, warrant greater suspicion of a visitor.

- 159 visits denied (18% of positive results and 0.05% of total visits [refusal rate]).

The difference between the CSC and OIC figures appears to relate to the point of reference: while the CSC rate was based on the *total number of visits*, the OIC figure was based on the *number of incident reports* and the *number of positive results*.

CSC provided the Committee with a regional breakdown.[28] Regional differences show that in 2017, the refusal rate ranged from 21.1% (of the number of positive results and 0.34% of total visits) for the Prairies Region, to 37.2% (of the number of positive results and 0.16% of total visits) for the Pacific Region.

RELIABILITY OF ION SCANNERS

The witnesses who appeared on 2 November 2017 raised the problem of false positives and the lack of documentation on the reliability of ion scanners. Quoting from a 2011 CSC report, Dr. Hannem pointed out that ion scanners are "oversensitive and are limited in their ability to detect certain forms of drugs."[29] After stating that the U.S. Federal Bureau of Prisons suspended ion scanner use in 2008-2009 for screening visitors, Dr. Hannem highlighted three specific weaknesses about this technology:

- Ion scanners are unable to differentiate between drugs and legal substances such as medications, detergents and perfumes.
- There is a high potential for cross-contamination and for inadvertent contact with trace amounts of drugs.
- The scanner cleaning procedure is not always followed after an alarm has been triggered.[30]

The CBSA, which uses similar technology in secondary examination areas, acknowledges that the scanners are not fool proof, although it does believe that the technology is generally quite reliable:

> We've been using this equipment for many years now. As a tool as part of the tool kit, no piece of equipment is perfect. For most cases, ion scans are very reliable. We find them extremely useful.[31]

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[28] Reference document submitted to the Committee on 26 April 2018, which appears in Appendix E of this report.

[29] SECU, Stacey Hannem (Associate Professor and Department Chair, Department of Criminology, Wilfrid Laurier University), *Evidence*, 2 November 2017.

[30] SECU, Stacey Hannem (Associate Professor and Department Chair, Department of Criminology, Wilfrid Laurier University), *Evidence*, 2 November 2017.

[31] SECU, Phil Lightfoot, Acting Director General, Science and Engineering Directorate, Information, Science and Technology Branch, Canada Border Services Agency, *Evidence*, 20 March 2018.

Referring to a recent review that confirmed the validity and value of ion scanners, Warren Coons noted that this tool is valuable and reliable enough to one of CSC's drug detection tools.[32] The review Mr. Coons referred to stated the following with respect to scanner reliability:

> Research concludes that of the available resources for rapid drug identification, the IMS device is the only reliable technology, while cautioning that it also produces false positives and contamination may be an issue.[33]

However, witnesses also told the Committee that false positives can have negative effects:

> [T]here is now a clear disconnect between CSC policy, which recognizes the importance of building and maintaining family ties and community support for prisoners, and the continued reliance on an unreliable tool that fails to keep drugs out of prisons but does a very good job of deterring families from visiting. … The effects on children of being denied a visit to a parent are also deeply distressing; this happened to my own grandson.[34]

Another witnesses recounted a terrifying experience:

> The first time I hit positive was at Millhaven, and I hit positive for heroin. I found myself in a state of shock and terror, because I'm in an environment where people are armed, and it's a jail. I know I have done nothing wrong, but I'm terrified all the same. I'm literally shaking and saying to the guard, "Look at me, what is this...?" I was subjected to standing and a dog coming by. Then I was given just a closed visit over the phone. It was such an unnerving experience that it's very hard for me to recommend to some other family member to run the gauntlet of the ion scanner, that it's no big deal. It's a big deal. You're left in a state of fear for no reason.[35]

Clearly, in some cases a more humane approach is needed to improve the procedure. Special attention by CSC to the issues raised by the witnesses requires, at a minimum, ongoing and adequate staff training, keeping statistics on false positives [36] and better case follow-up, always keeping in mind the impact on inmates, their families and visitors.

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32 SECU, Warren Coons, Director General, Preventive Security and Intelligence, Correctional Service of Canada, *Evidence*, 20 March 2018.

33 Mistrale Meilleur, Preventive Security and Intelligence, Correctional Service Canada, "Review of the Use and Reliability of the Ion Mobility Spectrometry Devices (Ion Scanners)," 13 March 2018, p. 16.

34 SECU, Anne Cattral, Representative, Mothers Offering Mutual Support, *Evidence*, 2 November 2017.

35 SECU, Irene Mathias, Representative, Mothers Offering Mutual Support, *Evidence*, 2 November 2017.

36 SECU, Stacey Hannem (Associate Professor and Department Chair, Department of Criminology, Wilfrid Laurier University), *Evidence*, 2 November 2017.

APPENDIX A
LIST OF WITNESSES

Organizations and Individuals	Date	Meeting
As an individual	2017/11/02	82
Margaret Fitzpatrick		
Stacey Hannem, Associate Professor and Department Chair Department of Criminology, Wilfrid Laurier University		
Gail LeSarge		
Mothers Offering Mutual Support		
Anne Cattral, Representative		
Irene Mathias, Representative		
Canada Border Services Agency	2018/03/20	100
Phil Lightfoot, Acting Director General Science and Engineering, Information, Science and Technology Branch		
Johny Prasad, Director Program Compliance and Outreach, Programs Branch		
Correctional Service of Canada		
Rob Campney, Deputy Director Preventive Security and Intelligence		
Warren Coons, Director General Preventive Security and Intelligence		

APPENDIX B
LIST OF BRIEFS

Organizations and Individuals

Canadian Air Transport Security Authority

Doyle, Aaron

Fitzpatrick, Margaret

Lloyd-Owen, Pamela

MacKenzie, Kaitlin

Mothers Offering Mutual Support

Woodrow, Alaric

APPENDIX C
CORRECTIONAL SERVICE OF CANADA BULLETIN

Correctional Service Canada | Service correctionnel Canada

PUT AWAY ON FILE - CLASSER AU DOSSIER

PROTECTED A/PROTÉGÉ A

BULLETIN

SECURITY | SÉCURITÉ

Preventive Security & Intelligence | **Sécurité préventive et renseignement de sécurité**

Bulletin No. - N° du bulletin	DATE		
2017-10	2017 Y-A	10 M	16 D-J

Subject: Ion Mobility Spectrometry Devices – General information

Objet : Spectromètres de mobilité ionique - Informations générales

The purpose of this bulletin is to assist staff in interpreting the results or alarms from the Ion Mobility Spectrometry Device (commonly referred to as the Ion Scanner). Additional information will be contained within this bulletin such as information regarding false positives and fentanyl/acetyl-fentanyl general testing information (thresholds). This bulletin was completed in collaboration with the Ion Mobility Spectrometry Device manufacturers.

ION SCANNER GENERAL INFORMATION

The Ion Scanner is a non-intrusive search method that is part of an overall risk assessment process. It is a tool utilized in order to determine if a person or item has potentially been in contact with an illegal substance. This tool cannot determine if a person has consumed or is carrying contraband. The opposite is also true, if there is no indication, it does not necessarily mean that the person being tested was never in contact with or in possession of contraband. The Ion Scanner is utilized to provide additional information to the staff member assessing the person's risk level in regards to contraband

Le but de ce bulletin est d'aider le personnel à interpréter les résultats ou les alarmes de spectromètre de mobilité ionique (communément appelé le détecteur ionique). Des informations supplémentaires seront contenues dans ce bulletin, telles que les informations concernant les faux positifs et les renseignements généraux sur les essais (seuils) concernant le fentanyl et l'acétyl-fentanyl. Ce bulletin a été réalisé en collaboration avec les fabricants de spectromètres de mobilité ionique.

INFORMATIONS GÉNÉRALES SUR LE DÉTECTEUR IONIQUE

Le détecteur ionique est une méthode de recherche non intrusive qui fait partie d'un processus global d'évaluation du risque. C'est un outil utilisé afin de déterminer si une personne ou un objet a potentiellement été en contact avec une substance illégale. Cet outil ne peut pas déterminer si une personne a consommé ou transporte des objets interdits. L'inverse est également vrai, s'il n'y a aucune indication, cela ne signifie pas nécessairement que la personne testée n'a jamais été en contact avec ou en possession d'objets interdits. Le détecteur ionique est utilisé pour fournir des informations supplémentaires

introduction.

The Ion Scanner can measure minute amounts of substances (nanogram level). The thresholds established are in place to provide an indication of whether or not a person was recently in direct contact with a particular substance.

The Ion Scanner should never be used to test actual substances (e.g. powders), as the unit can become contaminated for a prolonged period of time if used for this purpose. However, swabbing a bag or surface that was in contact with the particular substance can be done. All procedures for resetting and cleaning the machine must be followed. The result of the Ion Scanner alarm does not indicate whether or not it is dangerous to manipulate substances. For example, even with the highest reading possible for fentanyl, the Ion Scanner is still detecting trace amounts measured in nanograms.

FENTANYL AND ACETYL-FENTANYL THRESHOLD

The threshold for fentanyl and acetyl-fentanyl has been established as 100 digital units. This reading was established to prevent actions from being taken against visitors or inmates in cases where there is secondary contact. The reading is high enough to provide an indication to CSC staff members that there may have been a direct contact with the substance. A reading of 99 or less on the Ion Scanner for fentanyl and acetyl-fentanyl does not require the completion of a Threat Risk Assessment (TRA). However, depending on local practices, it may be required by institutional management. Raising the threshold beyond 100 would be counter-productive as we would be less informed regarding a potential direct contact with the substances.

aux membres du personnel évaluant le niveau de risque que la personne présente en ce qui concerne l'introduction d'objets interdits.

Le détecteur ionique peut mesurer des quantités infimes de substances (de l'ordre du nanogramme). Les seuils fixés sont en place pour fournir une indication si une personne a été récemment en contact direct avec une substance particulière.

Le détecteur ionique ne doit jamais être utilisé pour tester des substances (par exemple de la poudre), car l'unité peut être contaminée pendant une période de temps prolongée si elle est utilisée à cette fin. Cependant, il est possible de prendre un échantillon d'un sac ou une surface qui était en contact avec la substance particulière. Toutes les procédures de réinitialisation et de nettoyage de la machine doivent être respectées. Le résultat de l'alarme du détecteur ionique n'indique pas s'il est dangereux de manipuler les substances. Par exemple, même avec la valeur la plus élevée possible pour le fentanyl, le détecteur ionique détecte encore des quantités infimes de la substance mesurées en nanogrammes.

SEUIL DE FENTANYL ET ACÉTYL-FENTANYL

Le seuil du fentanyl et de l'acétyl-fentanyl a été établi à 100 unités posologiques. Cette valeur a été établie pour empêcher que des mesures soient prises à l'encontre des visiteurs ou des détenus dans les cas où il y a contact secondaire. La valeur est suffisamment élevée pour fournir une indication aux membres du personnel du SCC qu'il y aurait eu un contact direct avec la substance. Une valeur de 99 ou moins sur le détecteur ionique pour le fentanyl et l'acétyl-fentanyl ne nécessite pas la réalisation d'une évaluation de la menace et des risques (EMR). Cependant, selon les pratiques locales, elle peut être exigée par la direction de l'établissement. L'augmentation du seuil au-delà de 100 serait contre-productif, car que nous saurions moins sur un éventuel contact direct avec les substances.

OVERLAPPING RESULTS

The detection windows for some of the substances currently being tested are similar and therefore causing co-alarms in some instances. These co-alarms or overlaps are seen in **fentanyl, acetyl-fentanyl, heroin and THC** results specifically. These overlapping results do not apply to the remainder of the Ion Scanner library.

This means that in some instances, additional alarms will be seen in the results provided by the Ion Scanner, without the substance being truly detected. Since the detection windows of the above mentioned substances are similar, there may be instances where only one substance is present at the nanogram level, but the Ion Scanner is providing an alarm for two or more substances. There is currently no way for CSC or the Ion Scanner manufacturer to differentiate between overlaps in results and the true detection of these substances.

In trials conducted by the manufacturer of Ion Scanners, overlapping results for either heroin or fentanyl occurred in the majority of cases where only THC was present. Specifically, in half the cases where only THC was present, the Ion Scanner provided overlapping results indicating that Heroin was present in addition to THC. In another test where only Heroin was present, the majority of results incorrectly indicated that both THC and Heroin were present.

However, please note that if there are alarms for only one of the listed substances, the result is still very much reliable. For example, if the alarm indicates for fentanyl, only fentanyl is present and being detected accurately (not one of the other substances). It is also important to remember that in all cases where there is an alarm, there is a substance present. If a result shows a positive alarm for Fentanyl and THC, at least one of the two substances is present, if not both.

CHEVAUCHEMENT DES RÉSULTATS

Les fenêtres de détection pour certaines des substances actuellement testées sont similaires et, par conséquent, provoquent des alarmes simultanées dans certains cas. Ces alarmes ou chevauchements sont visibles plus particulièrement dans les résultats pour le **fentanyl, l'acétyl-fentanyl, l'héroïne et le tétrahydrocannabinol (THC)**. Ces chevauchements de résultats ne sont pas applicables au reste du répertoire du détecteur ionique.

Cela signifie que, dans certains cas, les alarmes supplémentaires seront visibles dans les résultats fournis par le détecteur ionique, sans que la substance soit véritablement détectée. Puisque les fenêtres de détection des substances mentionnées ci-dessus sont similaires, il peut y avoir des cas où une seule substance est présente au niveau du nanogramme, mais le détecteur ionique déclenche une alarme pour deux ou plusieurs substance. Il n'y a actuellement aucun moyen disponible pour le SCC ou le fabriquant du détecteur ionique de faire la distinction entre les chevauchements dans les résultats ou la détection réelle de ces substances.

Dans les essais effectués par le fabricant des détecteurs ioniques, les résultats se chevauchant pour soit l'héroïne ou le fentanyl se sont produits dans la majorité des cas où le THC était la seule substance présente. Plus précisément, dans la moitié des cas où seulement du THC était présent, le détecteur ionique fournissait des résultats superposés indiquant que l'héroïne était présente en plus du THC. Dans un autre test où seulement l'héroïne était présente, la majorité des résultats indiquaient à tort que le THC et l'héroïne étaient présents.

Cependant, veuillez noter que si vous obtenez une alarme pour une seule des substances identifiées, le résultat est très fiable. Par exemple, si l'alarme indique le fentanyl, seul le fentanyl est présent et détecté avec précision (pas l'une des autres substances). Il est également important de se rappeler que dans tous les cas où il y a une alarme, il y a une substance présente. Si un résultat montre une alarme positive pour le Fentanyl et le THC, au moins une des deux substances est présente, sinon les deux.

As a result, when interpreting overlapping results for the purpose of a TRA, staff must presume that one or more of the substances are present. A second swab should be performed in order to add to the TRA process.

OVERLAPPING RESULTS VS. FALSE POSITIVES/NEGATIVES

CSC is aware that the Ion Scanner can provide false positive results when highly concentrated elements are present (i.e. cleaning agents). False positives are when a detection tool detects a narcotic without a narcotic being present. For example, chemical products will alarm for a particular substance because of the similarities in detection windows. With overlapping results, there is always a narcotic being detected. The Ion Scanners will not have a false negative result.

All Correctional Managers who are completing TRA's are encouraged to contact the National Program Manager if they have reason to believe that a result could be a false positive. The information regarding false positive results is only shared on a need to know basis and will not be shared with the public or any other employee who does not have a need to know.

For any further inquiries regarding this matter, please do not hesitate to contact my office.

En conséquence, lors de l'interprétation des résultats superposés aux fins d'une évaluation de risque, le personnel doit présumer qu'une ou plusieurs des substances sont présentes. Un second écahntillon doit être effectué afin d'ajouter au processus de l'évaluation de risque.

CHEVAUCHEMENT DES RÉSULTATS COMPARATIVEMENT AUX FAUX POSITIFS / NÉGATIFS

Le SCC est conscient que le détecteur ionique peut fournir des résultats faux positifs lorsque des éléments très concentrés sont présents (c.-à-d. des agents de nettoyage). Les faux positifs sont présents lorsqu'un outil de détection détecte un stupéfiant sans qu'un stupéfiant soit présent. Par exemple, il y aura une alarme pour les produits chimiques d'une substance particulière en raison des similitudes dans les fenêtres de détection. Avec des résultats qui se chevauchent, il y a toujours un stupéfiant détecté. Les détecteurs ioniques ne donnent pas de faux résultats négatif.

Tous les gestionnaires correctionnels qui remplissent les EMR sont invités à communiquer avec le gestionnaire national de programmes s'ils ont des raisons de croire qu'un résultat pourrait être un faux positif. Les informations concernant les résultats faux positifs ne sont communiqués qu'en fonction du besoin de savoir et ne seront pas diffusés au public ni à tout autre employé qui n'a pas besoin de savoir.

N'hésitez pas à communiquer avec mon bureau si vous avez des questions à ce sujet.

Warren Coons
Director General, Preventive Security and Intelligence / Directeur général, Sécurité préventive et renseignement de sécurité

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APPENDIX D
CORRECTIONAL SERVICE OF CANADA REPORT

Review of the use and reliability of the Ion Mobility Spectrometry Devices (Ion Scanners)

completed by
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Finalized: March 13th, 2018

Table of content

Introduction

This document is being presented to the Assistant Commissioner, Correctional Operations and Programs as a result of the review conducted by the Preventive Security and Intelligence (PSI) Division on the Ion Mobility Spectrometry (IMS) Devices (commonly referred to as Ion Scanners). It includes the verification of all sources of information regarding the Ion Scanners, different authorities conferred by law to CSC in its utilisation of the tool and reports on findings of the study. Outside of the scope of work for this particular review, PSI will also be reporting on next steps in order for CSC to ensure that non-intrusive search tools continue to be utilised in the manner for which they were introduced into this environment.

Description of the Ion Mobility Spectrometry Technology

"Smiths Detection IONSCAN detectors are based on a technology called ion mobility spectrometry (IMS). The IONSCAN is a powerful analytical tool that can detect and accurately identify trace residues of a wide variety of chemical substances. It has been optimized for the detection of illicit drugs and explosives.
Identification of many substances by ion mobility spectrometry is made possible by a few basic principles:

- Many chemical substances give off vapours or particles that are adsorbed by or cling to the surfaces of materials they come into contact with (clothing, luggage, skin, containers, paper, and so forth).
- These traces can be collected by either vacuuming or wiping the surfaces.
- Even microscopic traces of such chemicals can be desorbed from these particles (turned into a vapour) by the application of heat.
- These vaporized substances can be ionized (converted to electrically charged molecules).
- When these ions are allowed to "drift" within a controlled electric field, they move at different speeds, depending on their molecular size and structure. The characteristic speed at which an ion moves (the ion mobility) is a distinct "thumbprint" that identifies the original substance."[1]

<u>Description of requirements for the system to be functioning</u>
Verification processes are in place to ensure that the system is operating properly. No analysis can be carried out until the device indicates that it is ready and the screen turns green. The Ion Scanner is programmed to conduct a series of self tests that will enable it to effectively detect the substances that are programmed. The machine will provide the operator with reminders to verify the parts of the system, ensuring that they are in good working condition.
A number of error messages can occur from the device not functioning properly. The operator manual describes the different procedures that need to be followed when the error messages appear.

The parameters are set at the manufacturer for optimum performance. If the autocalibration or verification process fails, the device will not allow for a sample to be tested. The Ion Scanner will need to pass twice (no alarms) for it to be considered properly calibrated and verified.

[1] IONSCAN® 400B OPERATOR'S MANUAL, Part Number 6811066, Rev. H

Purpose of the tool within the CSC context within law and regulations

The Correctional and Conditional Release Act (CCRA) states the following:
(59) A staff member may conduct routine non-intrusive searches or routine frisk searches of visitors, without individualized suspicion, in the prescribed circumstances, which circumstances must be limited to what is reasonably required for security purposes.

The Correctional and Conditional Release Regulations (CCRR) states the following regarding searches of visitors:
54 (1) A staff member may conduct a routine non-intrusive search or a routine frisk search of a visitor, without individualized suspicion, when the visitor is entering or leaving a penitentiary or a secure area.
91 (1) Subject to section 93, the institutional head or a staff member designated by the institutional head may authorize the refusal or suspension of a visit to an inmate where the institutional head or staff member suspects on reasonable grounds¸
(a) that, during the course of the visit, the inmate or visitor would
(i) jeopardize the security of the penitentiary or the safety of any person, or
(ii) plan or commit a criminal offence; and
(b) that restrictions on the manner in which the visit takes place would not be adequate to control the risk.

The CCRA and CCRR allow for CSC to conduct non-intrusive searches of visitors that enter the premises of the federal institutions. This authority is also extended to refuse or suspend the visitation rights of an inmate if there are reasons to believe that the visitor or the inmate would be jeopardizing the safety of the staff, inmates and other visitors. Restrictions are to be considered before refusing access to a visitor.

Its application and use in the CSC environment

The Ion Scanner is a non-intrusive search tool that is part of an overall risk assessment process. It is a tool utilized in order to determine if a person or item has potentially been in contact with an illegal substance. This tool cannot determine if a person has consumed or is carrying contraband. The opposite is also true, if there is no indication, it does not necessarily mean that the person being tested was never in contact with or in possession of contraband. The Ion Scanner is utilized to provide additional information to the staff member assessing the person's risk level in regards to contraband introduction.

CSC Policy (Commissioner Directives (CD) and Guidelines)

CD 566-8 – Searching of Staff and Visitors, ensures that the responsibilities with regards to quality assurance and operating procedures are followed. It also details and describes the application of the CCRA and CCRR authorities within the context of operations at the federal institutions:

The Deputy Warden/Associate District Director will ensure:
c. Threat Risk Assessments (TRA) are completed as required.
* Threat Risk Assessments are defined as: an evaluation of factors that could pose a danger to the management of an offender, the safety of others, or security of an operational unit in particular circumstances.

6. The Correctional Manager will:
    b. when there is reason to believe that a staff member or a visitor is carrying an unauthorized item or contraband:
        i. complete a TRA as required

18. Following the results of the TRA, one or more of the following measures may be taken:
    a. authorize an unrestricted visit
    b. conduct a non-routine frisk search of the visitor
    c. prohibit a contact visit with an inmate and authorize a non-contact visit only
    d. request a strip search with the visitor's consent
    e. require the visitor to leave the penitentiary immediately.

20. Following the gathering of information through a TRA, if there is other information from non-intrusive search devices which supports positive results, suspicion may increase to a belief.
* Belief is defined as: belief is based on an indication or information that an individual is probably (likely) in possession of contraband or evidence of an offence. The difference between suspicion and belief relates to the degree of probability.

Guidelines 566-8-1- Use of non-intrusive search tools
Ion Mobility Spectrometry (IMS)
13. If there is a positive indication by the IMS device, the Principal Entrance Officer will:
a. advise the designated manager that a Threat Risk Assessment (CSC/SCC 1300-01E) is required; and
b. complete a second test using the swipe method or the hand-held vacuum on a second item in the individual's possession.

14. The results of both the first and second swipe will be considered in the Threat Risk Assessment (CSC/SCC 1300-01E). Regardless of whether the second swipe is negative or positive, the Threat Risk Assessment will be completed and the results of both tests will be considered with all other information available to the designated manager.

Conducting a Threat Risk Assessment

16. The designated manager will:

a. meet with the individual in a private area with a witness;
b. using discretion and in a respectful manner, interview the individual;
c. give the individual the opportunity to provide an explanation for the positive search result (including mention of any products or medications);
d. consider the results of the interview in combination with other applicable information that may be available (e.g. intelligence information, past inmate and/or visitor history, observed behaviour, and the search results of one or more means);
e. based on an assessment of all of the above factors, make a decision on the status of the individual's request for access in accordance with legislation and policy; and
f. document the decision by completing the Threat Risk Assessment (CSC/SCC 1300-01E) and provide a brief summary of the assessment and the rationale for the decision.

Guidelines 566-8-2 – Requirements for Ion Mobility Spectrometry Devices directs, under the authority of the Assistant Commissioner, Correctional Operations and Programs, that operating procedures be followed. Under this authority, the Operator is responsible to ensure that all equipment verifications and testing procedures are performed and recorded. After a positive indication, the device will be reset as per operating procedures. Cross-contamination will also be prevented through the operating procedures. All tests will be logged and alarms at or above the established threshold will be recorded. These log sheets are forwarded each week to the Correctional Manager, Operations in order to be transferred to the Visitor Review Board.

The operating procedures include:

- Ensuring that the device is in good operating condition
- Verification processes need to be conducted
- The operators' hands need to be tested in order to ensure that they are not contaminated
- After a positive alarm, a clean sample must result in no alarm before the device can be used again in order to minimize the risk of contamination.

Training

The CSC National Training Standards require for all Correctional Officers (assigned to principal entrances; admissions and discharge) and other staff whose duties involve the use of the Ion Mobility Spectrometry Device to take the 3 hour in class session. Training must be completed prior to using the equipment.

Once trained, the operators have access to the Smiths Detection operators' manual which contains all necessary information to conduct verification processes and ensure the good working condition of the Ion Scanner. This manual also contains useful information on how to resolve errors that are seen on the screen of the Ion Scanner. Furthermore, this training and manual also ensure that the operators (and trainers) have access to the Smiths Detection service personnel in order to troubleshoot if deemed necessary. The manual also provides descriptions of alarms or events that require for the device to be sent to Smiths Detection for further investigation and corrective actions.

Studies and review of articles

In 2011, the CSC Addictions Research Centre issued a short review of available records of information regarding the Ion Scanner. This review referenced 5 different sources of information of which the most recent one was issued in 2002. Within the context of this short study, the CSC research resulted in the writers indicating that the Ion Scanner was useful in the detection of most drugs but that further research was necessary in order to properly determine its impact on the drug use and trafficking by inmates, staff and visitors. In other words, this short research concluded that yes, the Ion Scanner can be oversensitive based on previous evaluations of the technology but more importantly, that further research was necessary in order to assess whether or not the impact would be a positive one. In the current review of the use and reliability of this device, it is determined that the only way to better understand the impact of its use would be to remove it from the correctional environment in order to assess if there is a decrease or increase of drug smuggling. Unfortunately, with the opioid crisis, this could also result in the loss of life should the removal of the device prove to have a positive impact on deterring contraband introduction through visits.

The following was taken directly from the findings of this study:
"There is a paucity of research literature regarding the use of IMS devices within correctional institutions. However, the available studies demonstrate that ion scanners successfully identified many of the drugs of concern for CSC and were linked with a reduction in the introduction of drugs in institutions after implementation of the technology (Hogsten, 1998, NCJRS, 2008). Furthermore, one study found that significant reductions in drug-related offender misconduct following the placement of an IMS unit in the lobbies of two correctional institutions, (86% and 58%, respectively); larger reductions than were found in other institutions that did not use IMS units (Hogsten, 1998)."[2]

The research reveals that the device can be oversensitive. but can also detect effectively most drugs of concern for CSC.
The short research did indicate the following:
"Furthermore, additional well-controlled research is needed to support the limited research currently available on the reliability of IMS devices within a correctional context."[3]

In January 2012, CSC issued a research report entitle Drug Detection Strategies: International Practices within Correctional Settings. This report was "completed in response to the recommendations of both a focus group study on drug interdiction in Correctional Service Canada (CSC) institutions (Johnson and Allen, 2006) and the Independent Review Panel on

[2] http://www.csc-scc.gc.ca/research/005008-rr11-01-eng.shtml
[3] http://www.csc-scc.gc.ca/research/005008-rr11-01-eng.shtml

federal corrections (2007) to examine and report on effective drug detection methods used in other correctional jurisdictions and provides insight into the efficacy of these methods."[4]

"More recently, in 2007, the Government of Canada appointed an Independent Review Panel to examine CSC's operational priorities, strategies, and business plans as part of the Government's commitment to tackling crime. The resulting "Report of the CSC Review Panel: A Roadmap to Strengthening Public Safety" (Correctional Service of Canada Review Panel, 2007) noted the Panel's opinion that "the presence of illicit drugs in federal penitentiaries is not only unacceptable but results in a dangerous environment for staff and offenders" (Correctional Service of Canada Review Panel, 2007, p. vii). This "dangerous environment" includes assaults against offenders and staff, the transmission of infectious diseases, and a decreased ability to provide a safe and secure environment where offenders can focus on rehabilitation (Correctional Service of Canada Review Panel, 2007)."[5]

These researchers also took at look at other countries that shared similar drug interdiction policies (Britain, Australia and the U.S.A).

"Of the jurisdictions examined, the United States was the only one outside of Canada to routinely employ the use of trace technology in a correctional environment. Trace technology was found to have the capacity to identify many of the drugs of concern to correctional staff, with the greatest capacity for detection of cocaine and lowest capacity for the detection of cannabis (Butler, 2002; Sheldon et al, 1998). With regards to the impact of trace technology on the rate of the introduction of drugs, in both the Pima County study and the Federal Bureau pilot project, a reduction in the introduction of drugs in the institution after implementation was reported (Hogsten, 1998; NCJRS, 1998)."[6]

CSC recognizes that there is limited research on the Ion Scanners and it is understood that the technology behind these devices is not perfect and can generate false positives. However, within the application of these devices in the correctional environment, they remain a valuable information source that leads decision makers to further investigate on a visitor that may have been in contact with a particular substance.

[4] Serenna Dastouri, Sara Johnson, and Andrea Moser, Drug Detection Strategies: International Practices within Correctional Settings, Addictions Research Centre, Correctional Service of Canada, 2012, p. iii
[5] Serenna Dastouri, Sara Johnson, and Andrea Moser, Drug Detection Strategies: International Practices within Correctional Settings, Addictions Research Centre, Correctional Service of Canada, 2012, p. 2
[6] Serenna Dastouri, Sara Johnson, and Andrea Moser, Drug Detection Strategies: International Practices within Correctional Settings, Addictions Research Centre, Correctional Service of Canada, 2012, p. 33

Overlapping results

In 2016 and 2017, CSC initiated reviews of Ion Scanner results and addressed concerns with the manufacturer. It was concluded that the Ion Scanner, especially when detecting fentanyl, heroin and THC was showing overlapping detection windows which can lead to co-alarms. In other words, specifically when it comes to these 3 substances, there may be instances where the alarm is not showing the correct results. In these instances, the presence of one or more substances is confirmed.

Table 1: Possible observed alarms and probability[7]

Substances	Possible observed alarms	Probability
Fentanyl	Fentanyl	100%
Acetyl Fentanyl	Ac-Fen	100%
THC	THC	32%
	THC/ Fentanyl	20%
	THC/ Heroin	48%
Heroin	Heroin	20%
	Heroin/ THC	80%
Fentanyl/Heroin	Fentanyl	23%
	Fentanyl/THC	35%
	Fentanyl/THC/Heroin	21%
	Heroin/THC	21%
Ac-Fen/Heroin	Ac-Fen	19%
	Ac-Fen/Heroin	45%
	Ac-Fen/THC/Heroin	36%

False positives

In order to support operations at sites and in an effort to minimize the impact of a possible false positive, the PSI division maintains a list of products, substances or chemical agents that could provide a false positive results. When there are suspicions that a visitor could be testing positive as a result of the use of certain products, CSC's National Headquarters (NHQ) will refer to this list or request for this product to be tested with an Ion Scanner at a site as well as within chemistry laboratory at the manufacturer. In the event that the product could cause a false positive, the list of substances is updated and NHQ advises local authorities in order to consider this information as part of threat risk assessments.

[7] Simon Bian PhD, *Programming Fentanyl and Acetyl fentanyl on IONSCAN 400B* – Smiths Detection, April 4th 2016

Review of other organisations

CBSA and the Royal Canadian Mounted Police (RCMP) are currently using the same technologies for the detection of drugs and explosives. Their application of these devices differs from CSC as the legal framework and results of a positive result differ from organisation to organisation. For example, the RCMP is using the 400B and 600 models in order to detect substances. In other words, they will not use the devices to conduct threat risk assessments on visitors that are attending a federal penitentiary.

CBSA uses the machine to conduct random searches of travellers and their personal effects. A positive result will lead to the same type of threat risks assessment and results could be similar (further searching).

Both the RCMP and Canada Border Services Agency (CBSA) utilise the same type of technology to detect trace amounts of drugs.

Review of CSC statistics

Overall, in the year 2017, CSC facilitated 128,141 visits with 23,500 visitors (official source). The PSI division reviewed the results and alarms for the same period of time. A review of all incident reports completed as a result of a threat risk assessment being initiated because of a positive result on the Ion Scanner revealed that 1,207 positive results were documented. The following conclusions are being drawn from this analysis:

- On average, in 0.94% of visits, the Ion Scanner will provide a positive result
- Of this 0.94%, 26.8% of the visitors will be denied entry.
- Of this 0.94%, 70.6% of visitors are provided with access to inmates they are visiting through designated seating visits, closed visits (non-contact) or simply proceeding to the visits without any restrictions.
- Overall, 0.25% of the total visitors will be denied entry as a result of a treat risk assessment completed because of a positive alarm on the Ion Scanner.
- In 2017, 324 visitors were denied entry as a result of a TRA being completed that was initiated from a positive result on the Ion Scanner out of 128,141 visits.
- Of the 324 visits that were denied entry, 65 of them were caused by having indications from both the detector dog team and the Ion Scanner, which indicates that 259 visits were denied entry as a result of a TRA being initiated solely on the Ion Scanner.

Therefore, in year 2017, 99.75% of visits were facilitated.

To provide a little bit more information on these numbers, we have completed a review of all positive Ion Scanner results. Here are some of the incidents that are noteworthy.

On May 18th, 2017, there was a student touring Millhaven Institution that hit positive for oxycodone twice on the Ion Scanner. She admitted that she had a prescription for oxycodone. The threat risk assessment was completed and she was allowed entry.

On July 28th, 2017, Port-Cartier Institution received a letter addressed to an inmate that seemed suspicious. When tested on the Ion Scanner, it resulted in a positive indication for methamphetamines. The letter was sent to Health Canada for testing and it was determined that the substance contained in the letter was in fact methamphetamines.

On October 14th, 2017, a visitor tested positive for cocaine on the Ion Scanner. The visitor admitted to using cocaine 4 days prior. The visitor's access was denied.

On December 18th, 2017, Beaver Creek Institution seized 11.1 grams of valium, 11.7 grams of suspected crack cocaine and 2,520$ in cash, amongst other items. This seizure was a result of the

visitor admitting to having the items in the vehicle after a positive hit for cocaine on the Ion Scanner.

In July 2017, CSC initiated a fentanyl urinalysis pilot project. On one occasion, an inmate was found to have consumed fentanyl through the urinalysis process. Residue of the substance that was found in the offender's cell was tested with the Ion Scanner. The alarm indicated presence of fentanyl. In this instance, the urinalysis result confirmed the reliability of the Ion Scanner results.

Finally, in order to further demonstrate the reliability of the tool, a review of the results from the Ion Scanner was completed for Drumheller Institution over the course of several months. The tool was used on visitors, inmate effects/cells as well as incoming mail. In February 2017, urinalysis results demonstrated a significant reduction in THC being consumed by inmates (from 23 to 7). During the same month, the Ion Scanner tested positive for fentanyl on 7 occasions, compared to 0 during the previous month. During the month of March 2017, 7 inmates were suspected to have overdosed on fentanyl. Therefore, this means that the indications on the Ion Scanner provided CSC with valuable information and intelligence on the source of introduction as well as allowing for better preparation for such events. Therefore, not only does the tool enable CSC to screen visitors but it also provides valuable insight into the trends seen at the different sites.

Conclusion

In conclusion to this review, PSI found that the Ion Scanner, when used within the context of the law and applicable policies, results in positive impacts on the drug interdiction activities within the institutions.

Recognizing that the Ion Scanner is a non-intrusive search tool that provides additional information to decision makers and trusting that the said decision makers are competent in making such assessments, CSC is confident in the application of the results from this detection tool.

Research concludes that of the available resources for rapid drug identification, the IMS device is the only reliable technology, while cautioning that it also produces false positives and contamination may be an issue.

As a result of this study, a letter was drafted and sent from the Commissioner to the Correctional Investigator addressing recommendation 10 of the 2016-2017 annual report. As described within this report, the validity of the use of the tool was confirmed through a thorough analysis of law and policy, research on technical and scientific information and a review of the available data and statistics within the application of the Ion Scanner at CSC.

In order to respond effectively to concerns regarding the technology and as a result of this review, CSC has committed to ensure that all of the devices used to test visitors are sent to the manufacturer for a verification. This will include verifying the programming, testing of the detection capabilities and ensure that they are in good working condition. In other words, whilst CSC is confident in the validity of the use of the tool, there is also a need to ensure its good working condition, preventing for issues to arise in the future. CSC will continue to effectively communicate reminders to staff on the use and application of results of the Ion Scanner in the operational context. By the same token, in order to ensure the reliability of the machine, CSC will continue to verify statistics in order to ensure that there is no trend emerging that would suggest false positives or faulty devices. Strategies will also be developed to continue testing the devices in the future to validate the results of this study.

APPENDIX E
CORRECTIONAL SERVICE OF CANADA STATISTICS

RESPONSE FROM CORRECTIONAL SERVICE CANADA

Number of Visitors per Site and Ion Scan Positive Results – Calendar year 2017					
Region	**Number of Unique Visitors**	**Total Number of Visits**	**Total number of + on the Ion Scanner**	**Out of +, total number of visitors that were denied entry**	**Percentage of visits that are denied entry based on the Threat Risk Assessment (TRA) being completed as a result of a positive hit on the Ion Scanner**
Atlantic	1,643	7,817	57	17	29.8% of + hits / 0.22% of total visits
Quebec	6,851	38,187	31	8	25.8% of + hits / 0.02% of total visits
Ontario	6,218	27,285	468	148	31.6% of + hits / 0.54% of total visits
Prairies	5,939	34,793	565	119	21.1% of + hits / 0.34% of total visits
Pacific	2,849	20,059	86	32	37.2% of + hits / 0.16% of total visits
Total	**23,500**	**128,141**	**1,207**	**324**	**26.8% in average of + hits are denied entry / 0.25% of total visits**

In approximately 70% of the cases where we get a positive hit, other risk management strategies are utilised such as designated seating visits or closed visits. See table below for the breakdown of outcomes.

Outcome of Visit Following Ion Scan Positive Test Result – Calendar year 2017												
	Atlantic		**Quebec**		**Ontario**		**Prairies**		**Pacific**		**Total**	
	#	**%**	**#**	**%**	**#**	**%**	**#**	**%**	**#**	**%**	**#**	**%**
Denied entry	17	29.8%	8	25.8%	148	31.6%	119	21.1%	32	37.2%	324	26.8%
Proceeded to visit	9	15.8%	6	19.4%	109	23.3%	98	17.3%	18	20.1%	240	19.9%
Designated seating (preferred seating)	20	35.1%	4	12.9%	102	21.8%	203	35.9%	7	8.1%	336	27.8%
Closed visit (non-contact)	9	15.8%	11	35.5%	95	20.3%	129	22.8%	26	30.2%	270	22.4%
Supervised	2	3.5%	0	0%	2	0.4%	1	0.2%	0	0%	5	0.4%
Unknown	0	0%	0	0%	1	0.2%	3	0.5%	0	0%	4	0.3%
Voluntarily left	0	0%	2	6.5%	10	2.1%	9	1.6%	3	3.5%	24	2%
Escorted	0	0%	0	0%	1	0.2%	0	0%	0	0%	1	0.1%
Restricted	0	0%	0	0%	0	0%	2	0.4%	0	0%	2	0.2%
Arrested	0	0%	0	0%	0	0%	1	0.2%	0	0%	1	0.1%
Total	**57**	**100%**	**31**	**100.1%**	**468**	**99.9%**	**565**	**100.0%**	**86**	**99.1%**	**1,207**	**100%**

MINUTES OF PROCEEDINGS

A copy of the relevant *Minutes of Proceedings* (Meeting Nos. 82, 100, 122 and 123) is tabled.

Respectfully submitted,

Hon. John McKay, P.C., M.P.
Chair