Department of Finance, Services and Innovation New South Wales

Process review - production of Photo Cards by Service NSW

Final Report

May 2017

NSW GOVERNMENT | Finance, Services & Innovation

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Mr Martin Hoffman
Secretary
NSW Department of Finance, Services and Innovation
Level 7, McKell Building
2-24 Rawson Place NSW 2000

29 May 2017

Dear Mr Hoffman,

Report on the process review of the production of Photo Cards by Service NSW

We are pleased to present our report on our review of the end-to-end process over the production of Photo Cards by Service NSW.

In April 2017, Service NSW experienced a process break-down in respect of the production of Photo Cards which resulted in a number of cards being mailed to incorrect addresses. As a result of this incident, the NSW Department of Finance, Services and Innovation (DFSI) engaged us to conduct an independent "end-to-end" review of their Photo Card production services processes, with a view to improving and strengthening them in order to prevent future incidents.

This report details:

- A confirmation of the root cause of the error, including identification of themes, practices and processes that likely lead to the error occurring

- A review of the current "end-to-end" process over the production of Photo Cards in place to confirm their adequacy and if they are followed

- Practical recommendations for improving and strengthening processes, in line with good industry practice.

If you wish to discuss anything further, please contact me on (02) 8266 3275 or 0418 431 296.

Yours sincerely

Andrew McPherson
Partner

Contents

Disclaimer

This report has been prepared pursuant to terms of agreement dated 1 May 2017, which sets out the scope of our review and nothing within this report is intended to imply that we have carried out any work beyond that scope.

For the purposes of preparing this report, reliance has been placed on the representations, information and instructions provided to us. We have not sought to verify the accuracy or completeness of the information made available to us, nor have we conducted any procedures in the nature of an audit of the information or assumptions therein in any way, other than has been specifically stated in this report.

Our engagement did not constitute an audit in accordance with Australian Auditing Standards or a review in accordance with Australian Auditing Standards applicable to review engagements and accordingly no such assurance is provided in our report.

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We do not accept any duty of care (whether in contract, tort (including negligence) or otherwise) to any person other than you, and will not be responsible for any loss suffered by a third party who relies upon this report.

This report is prepared based on information made available to us up to the date of this report and we reserve the right to amend our opinions, if necessary, based on factual information that comes to our attention after that date.

1 Summary of findings and recommendations

Our review identified the root cause of the error was human error. The error may have been less likely to have occurred if risk management processes had identified Card Operations as a high risk process that required further management oversight and controls and regular independent assurance, particularly during any changes to the processes.

Our key findings and recommendations for improving and strengthening processes, in line with good industry practice are as follows:

- Risk management processes did not identify the high risk nature of Card Operations

  - Review Service NSW's risk management framework and ensure the risk identification criteria and processes will identify risks that may have major reputational or legal consequences if a control was to fail, and not only those of large processes or projects and those with high dollar value consequence.
  - Perform periodic review of the risk register to ensure any changes to the risk profile related to Card Operations are identified.
  - On the basis of this risk assessment, ensure appropriate risk mitigators are identified, including management oversight and testing of the effectiveness of quality controls.
  - Consider including Card Operation processes in the Internal Audit plan on a cyclical basis.

- When the processes and systems were changed, there was inadequate controls design and independent project assurance

  - Finalise a Program Office Framework that includes clear guidance and criteria on which projects require controls design review, and independent go-live readiness assessment and post-implementation review. This criteria, should consider, not only high value projects, but those projects that may have major reputational and legal consequences in the event risks are not being appropriately mitigated.
  - Ensure that going forward any changes to processes and systems impacting Card Operations are reviewed by an independent party with controls design skills.

- The manual interface features ineffective preventative and detective compensating controls, and quality checks that are not always completed

  - Enhance the preventative controls in the Excel file by utilising a macro job data file excel report template for the CSOs to input the job data file extract into the macro excel to minimise the requirement for manual manipulation of the raw data file.
  - Reinforce that quality checks must be completed and documented as specified and without exception. Review these periodically to ensure this is occurring.
  - In the medium term, consider automating the interface from DRIVES to CAMM to remove the manual interface.

- User access controls to the Card Operations network shared drive should be strengthened

  - Review access to the Card Operations network shared drive and remove those who do not require access.
  - Ensure processes operate to immediately remove access to the Card Operations network shared drive once a user no longer works in Card Operations.
  - Perform periodic user access reviews of the Card Operations network shared drive to ensure all users with access are appropriate.

2   Background

Service NSW currently operates two centralised print facilities for Photo Cards in Parkes and Newcastle. Service NSW Card Operations print and distribute approximately 2.5 million cards a year using 56 photo licence printers in these locations together with Card Attach and Match Machines (CAMM) that attach the printed cards to letters and place them in envelopes for mailing.

Underpinning the Card Operations environment is an integrated DRIVES system, owned by Roads and Maritime Services (RMS). RMS transitioned production and distribution of Photo Cards at their Parkes facility to Service NSW during 2013 – 2014 and subsequently Service NSW created an identical facility at Newcastle for backup and capacity constraint purposes.

The CAMM machines were established to automate the printing and distribution process as the Service NSW network has rolled out, with the Parkes processes established in January 2016 and Newcastle in February 2017.

ServiceNSW have also considered a range of other initiatives to enhance card printing services, but are yet to secure approval and funding to advance these. The interface with DRIVES and coordination with RMS and other agencies remains a key feature of the current processes and consideration of future options.

We note that 17 RMS motor registries that have not yet transitioned to the Service NSW network also print Photo Cards and these processes were not reviewed.

In April 2017, Service NSW experienced a process break-down in respect of the production of Photo Cards which resulted in a number of cards being mailed to incorrect addresses.

This incident included the following types of photo card:

- Driver Licence
- Firearm Licence
- Mobility Parking Scheme Permits
- NSW Photo Card (Proof of Age Card)
- Security Licence
- Commercial and Private Investigator Licence.

As a result of the aforementioned incident DFSI sought an independent review of the current processes and procedures in place at Service NSW in respect of the production of Photo Cards in order to help prevent future incidents. The objectives of this review included:

- Preparation of an overview systems description of the 'as is' business process and system of internal control currently in place
- Assessment of the nature and effectiveness of internal controls over the completeness and accuracy of card production procedures and any gaps
- Assessment of the organisational structure and accountabilities
- Review and assessment of the operational processes including extent of automation, manual intervention, degree of hand offs and integration with other processes and,
- Provide recommendations for improving and strengthening processes in line with good industry practice.

Background

To achieve these outcomes, we have reviewed relevant policies and process documentation and interviewed key team members and stakeholders in the production of Photo Cards.

3   Process overview

The end-to-end process over the production of Photo Cards by Service NSW is summarised below:
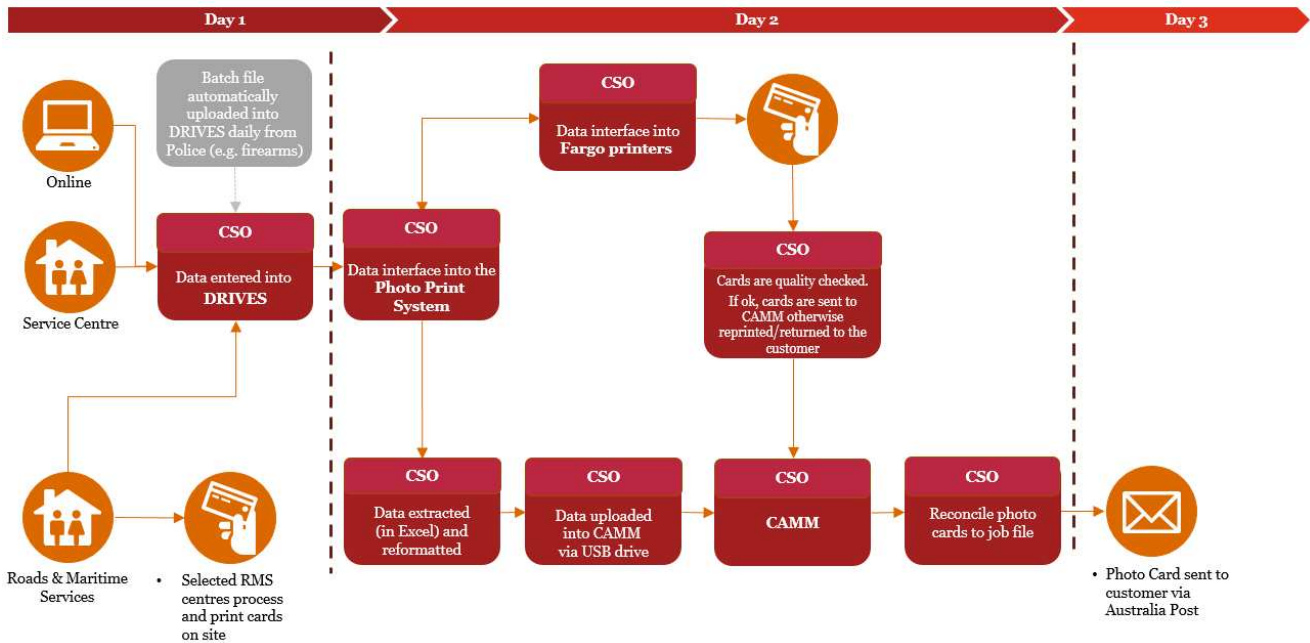
Legend
DRIVES – Record of registration and licensing (used by Service NSW, Police, RMS)
CAMM – Card Attach and Match Machines
CSO – Customer Service Officer

The DRIVES system (owned by RMS, and used by Service NSW and also agencies such as NSW Police) records all registration and licencing data for NSW. On a daily basis the details of all Photo Cards to be printed are transferred to Service NSW Card Operations in Parkes and Newcastle via a DRIVES interface (Photo Print System). This data is extracted into an Excel spreadsheet where the address format is modified to meet postal standards. This is then loaded into the CAMM system via a USB. CAMM prints the carrier (accompanying letter), attaches the card to the carrier and then folds and envelopes the card and carrier for distribution. Cards are then distributed by Australia Post using regular mail. There are certain quality checks conducted throughout the process at Card Operations. Refer to the detailed process and control diagrams at Appendix A and B.

3.1 Process failure overview

Photo Card and carrier processing for Wednesday, 5th of April took place on Thursday, 6th of April. Printing of the total batch of cards (2,693) took place as normal that day, with staff in the Newcastle Card Operations centre performing quality control checks to ensure that cards were legible and without printing related blemishes. The cards were mailed to the customers on Friday, 7th of April.

Carrier printing involves extracting a CSV data file from DRIVES which contains the names and addresses of all cards processed for the day. The file is manually manipulated in Microsoft Excel to convert the details stored in the card holder name and address fields into a "Clean Mail" format to meet Australia Post standards for a reduced postage cost. Clean Mail format is a conversion of standard text into proper and capital letters (ie 2-4 Rawson Place, Sydney NSW 2000 would convert to 2-4 Rawson Place, SYDNEY NSW 2000). The suburb, state, and postcode must be in capital letters with no punctuation.

DRIVES data is not in a valid Clean Mail format, and there is no interface built which is capable of converting standard text from DRIVES to Clean Mail format. As a result, information downloaded into Excel are manipulated using the following formula:

> =Proper(cell containing first name or address in the carrier batch list)

The formula is then applied down the list of all recipients. Human error in the conversion process resulted in the "Proper" formula for the address conversion pointing to the cell in the spreadsheet containing the second address in the list instead of the first. Consequently the names of the card recipients on the job batch file were misaligned/offset with the addresses of the next recipient on the list. The converted file was then sent to CAMM to print the carrier and affix the printed cards to the carriers by matching the unique card number.

Prior to placing the printed carriers and cards in envelopes, a quality assurance check is performed that ensures that the name and address on the printed card matches the name and address on the carrier by checking the first 5 drivers licence cards to ensure names and addresses are correct. This check is performed by a different staff member than the person who prepares the carrier file for printing.

In this instance the quality assurance check failed to identify that the addresses on the carriers were different to the addresses on the printed cards, it instead focused on the names matching alone.

3.2 Our observations and recommendations

Ref.	Risks and Issues Observed	Recommendation
1	**Risk management processes did not identify the high risk nature of Card Operations** Our review of the end-to-end process over the production of Photo Cards identified that although a Quality Control Framework is in place to guide staff throughout the process including performing second checks over key manual processes (1st line of defence), there was limited high level management oversight, risk identification or assurance (2nd and 3rd line of defence) over Card Operations. The following describes the 3 lines of defence: **People, processes & technology** Management, who should operate a control framework, and perform all of the day to day control that ensure that a business manages risk, has good financial controls, and remains compliant with regulation (both general governance such as company policy and industry specific regulation). 1★ **Management & oversight** Those who regularly inspect and test that management are operating the control framework, through techniques such as enquiry and observation, inspection, and re-performance. 2★ **Internal & external audit** Audit (internal and external) who assess the whole control framework, consider whether it is complete, review the evidence from the second line of defence and make tactical 'audits' of particular areas deemed to be high risk for the organisation, or perhaps where controls have been reported as weak. 3★ It appears the risk assessment process has failed to identify a high risk process, nor a critical change to that process when new centralised processes and a new system (CAMM) with manual interfaces were implemented over the last 2 years. There is also no clear link detailing risks associated with Card Operations to risks associated to Service NSW's achieving their strategic objectives, no enterprise level risk focussed on the role of Card Operations in printing and distributing every Photo Card in NSW and no documented business unit risk assessment conducted by Card Operations. It is acknowledged that risks and controls were actively considered by the Card Operations team as part of their daily operations. As a result of the risk not being identified, Card Operations was not identified for focus by Internal Audit and there are no reviews planned in the Internal Audit Work Program 2017-19. It is acknowledged that an internal audit over the processing of customer establishment, driver and boat licence applications was performed in 2016, which included assessing the process of producing Photo Cards.	Management should : • Review Service NSW's risk management framework and ensure the risk identification criteria and processes will identify risks that may have major reputational or legal consequences if a control was to fail, and not only those of large processes or projects and those with high dollar value consequence. • Perform periodic review of the risk register to ensure any changes to the risk profile related to Card Operations are identified. • On the basis of this risk assessment, ensure appropriate risk mitigators are identified, including management oversight and testing of the effectiveness of quality controls. • Consider including Card Operation processes in the Internal Audit plan on a cyclical basis.

Ref.	Risks and Issues Observed	Recommendation
2	*When the processes and systems were changed, there was inadequate controls design and independent project assurance* CAMM was rolled-out in January 2016 at the Parkes Card Operation centre and in February 2017 at the Newcastle Card Operation centre. The design of the new processes and systems were not reviewed to confirm adequate controls were in place. In both instances a go-live readiness assessment was not performed independent of the project team to ensure that all key risks had been addressed and had been appropriately controlled prior to going live. Further, a post-implementation review was not performed to ensure appropriate controls were in place and operating effectively once CAMM went live at both sites. There was no Program Office in place at the time of the initial implementation. A Program Office at Service NSW was established in August 2016 to oversee projects across Service NSW. An independent review of the Program Office function was performed in mid 2016 and the recommendations are currently being used to structure the operating model of the function. The findings of the review addressed issues including governance, change management and risk. Without performing an independent design review, go-live readiness assessment and post-implementation review there is a risk that key controls may not have been designed or operating effectively to mitigate key risks from occurring.	Management should: • Finalise a Program Office Framework that includes clear guidance and criteria on which projects require controls design review, a go-live readiness assessment and post-implementation review. This criteria, should consider, not only high value projects, but those projects that may have major reputational and legal consequences in the event risks are not being appropriately mitigated. • Ensure that going forward any changes to processes and systems impacting Card Operations are reviewed by an independent party with controls design skills.

Ref.	Risks and Issues Observed	Recommendation
3	***The manual interface features ineffective preventative and detective compensating controls, and quality checks that are not always completed*** The process to transfer data from DRIVES via the Photo Print System to CAMM to print the Photo Cards carrier and attach to Photo Cards is highly manual and hence susceptible to error. The job data file extracted from the Photo Print System contains the names and addresses of all cards processed for the day and is manually extracted to an Excel file and reformatted prior to upload into CAMM. The manual manipulation by the CSO and upload by USB to CAMM makes this process highly vulnerable to error or manipulation. A Queue checklist and a Batch Balance checklist are in place to guide the CSO on the key tasks to perform each day to process, print and distribute Photo Cards and to perform key checks. The Queue checklist is used to prepare and upload the job data file into CAMM and the Batch Balance checklist includes a batch reconciliation procedure to ensure all Photo Cards can be accounted for at the end of the day and to identify any missing cards. Since the Photo Card processing incident occurred in April 2017, these controls were enhanced to minimise the risk of the error reoccurring. The following quality checks were added to the existing procedures: • An independent check by a second CSO is required to review the completeness and accuracy of the CAMM report prior to uploading in CAMM and has been included as part of the Queue checklist. • An independent check is required by a second CSO to review the completeness and accuracy of those photo cards that do not require to go through CAMM (ie reprints, card read errors, tech letters and facial recognition) and has been included as part of the Batch Balance Checklist. • A sample check of the first and final four carriers to ensure the names and addresses on both the cards and carriers are the same and match the information contained on the CAMM carrier file was included as part of the Queue checklist. It is acknowledged that prior to the incident this check was performed however, was not specifically outlined in the Queue checklist. The enhanced quality control checks do not check 100% of the data and therefore there is a risk that the address fields may be inadvertently or inappropriately changed particularly in the middle of the job data file, without detection. Additionally, sample testing of 21 (additional one included the date of incident) Queue Checklists and Batch Balance Checklists at the Parkes Card Operation centre and 15 Queue Checklists and Batch Balance Checklists at the Newcastle Card Operation centre, identified the following: • 1 Batch Balance Checklist and 1 Queue Checklist, the second check was not independent and was performed by the same person completing the checklists at the Parkes Card Operation centre • 3 Queue checklists were not completed at the Parkes Card Operation centre	Management should: • Enhance the preventative controls in the Excel file by utilising a macro job data file excel report template for the CSOs to input the job data file extract into the macro excel to minimise the requirement for manual manipulation of the raw data file. • Reinforce that quality checks must be completed and documented as specified and without exception. Review these periodically to ensure this is occurring. • In the medium term, consider automating the interface from DRIVES to CAMM to remove the manual interface.

Ref.	Risks and Issues Observed	Recommendation
	• 1 Queue checklist was not completed at the Newcastle Card Operation centre.	

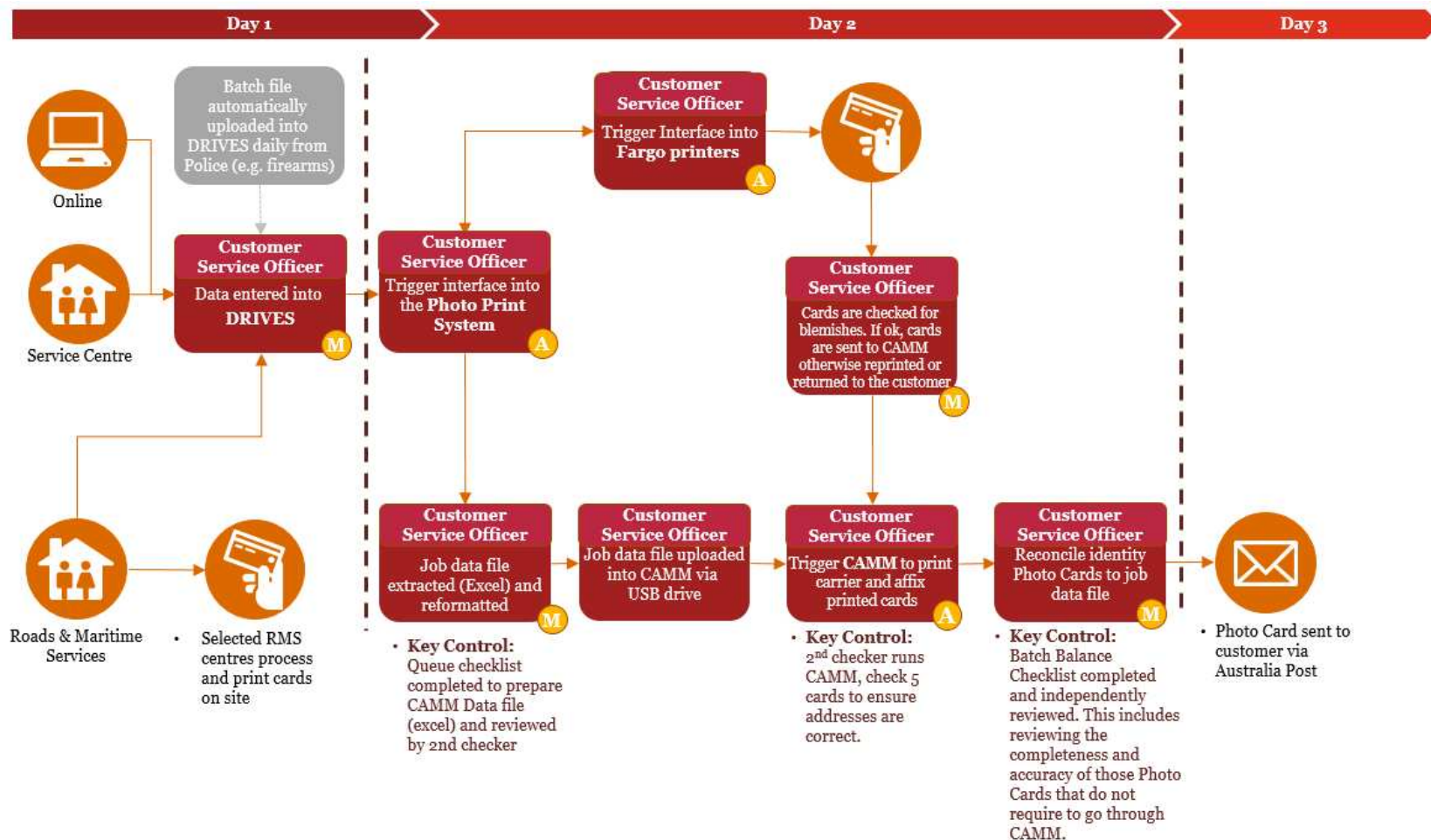| Ref.	Risks and Issues Observed	Recommendation
4	***User access controls to the Card Operations network shared drive should be strengthened*** The job batch files extracted from DRIVES via the Photo Print System is maintained on a network shared drive (Card Operations G Drive). The file contains customer personal information including name, address and licence identification numbers. Our review of the system user access listing to the Card Operations network shared drive identified that access is not restricted to appropriate personnel. There are a total of 36 users with access to the network shared drive and the following was noted: • 1 user is from RMS and does not require access • 12 users are no longer with the organisation • 13 users are former CSOs who have transitioned to another department, noting that these users do not have access to Service NSW systems and therefore cannot access the G Drive. The risk of unauthorised access to the Card Operations network shared drive is increased without the performance of periodic user access reviews.	Management should: • Review access to the Card Operations network shared drive and remove those who do not require access. • Ensure processes operate to immediately remove access to the Card Operations network shared drive once a user no longer works in Card Operations. • Perform periodic user access reviews of the Card Operations network shared drive to ensure all users with access are appropriate.

Appendices

Appendix A Photo Card Production process

Day 1 | **Day 2** | **Day 3**

Online

Service Centre

Batch file automatically uploaded into DRIVES daily from Police (e.g. firearms)

Customer Service Officer
Data entered into **DRIVES** (M)

Customer Service Officer
Trigger interface into the **Photo Print System** (A)

Customer Service Officer
Trigger Interface into **Fargo printers** (A)

Customer Service Officer
Cards are checked for blemishes. If ok, cards are sent to CAMM otherwise reprinted or returned to the customer (M)

Roads & Maritime Services

- Selected RMS centres process and print cards on site

Customer Service Officer
Job data file extracted (Excel) and reformatted (M)

Customer Service Officer
Job data file uploaded into CAMM via USB drive

Customer Service Officer
Trigger **CAMM** to print carrier and affix printed cards (A)

Customer Service Officer
Reconcile identity Photo Cards to job data file (M)

- Photo Card sent to customer via Australia Post

- **Key Control:**
  Queue checklist completed to prepare CAMM Data file (excel) and reviewed by 2nd checker

- **Key Control:**
  2nd checker runs CAMM, check 5 cards to ensure addresses are correct.

- **Key Control:**
  Batch Balance Checklist completed and independently reviewed. This includes reviewing the completeness and accuracy of those Photo Cards that do not require to go through CAMM.
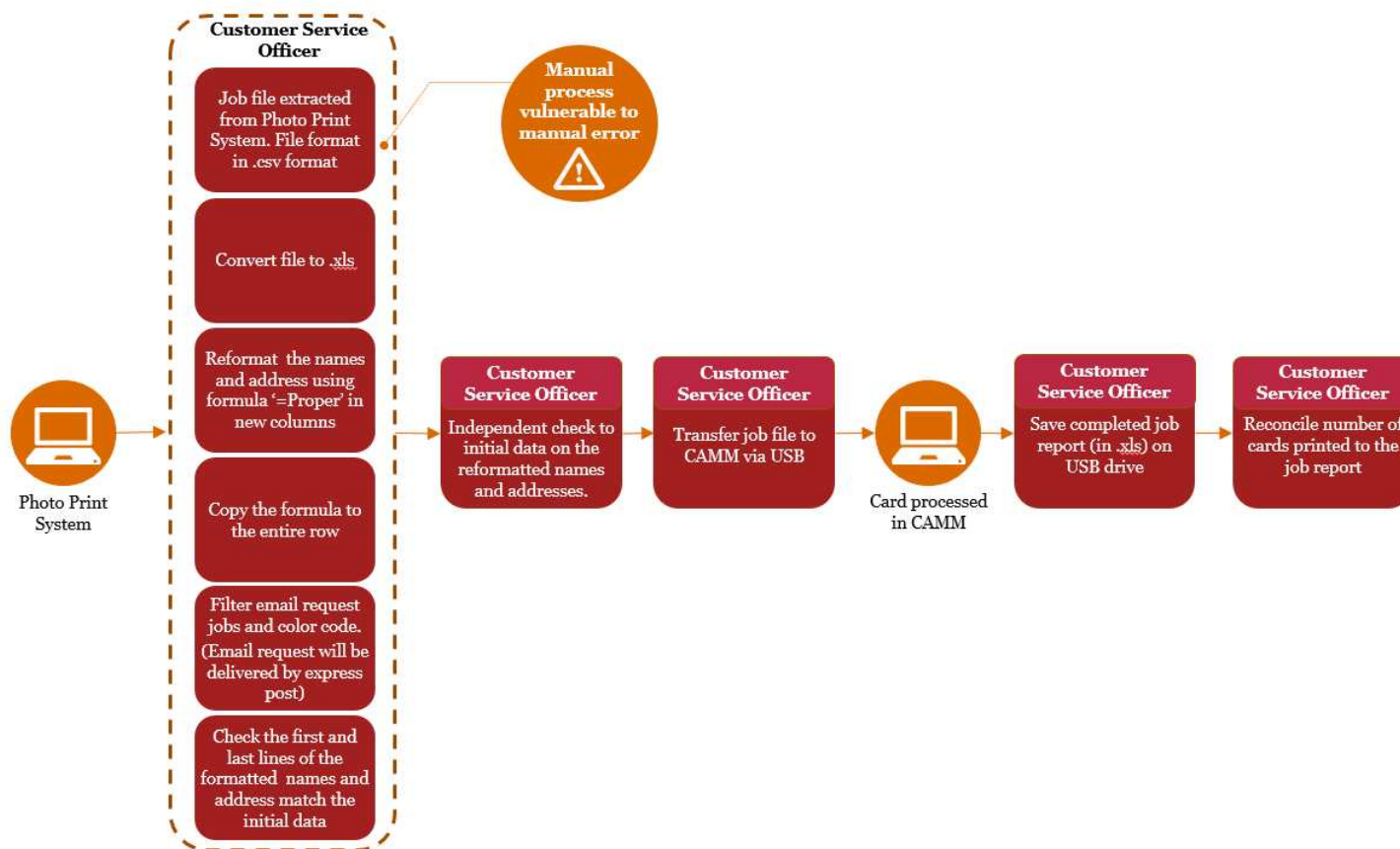
Legend
DRIVES – Record of registration and licensing (used by Service NSW, Police, RMS)
CAMM – Card Attach and Match Machines
(M) – Manual Process (A) – Automatic Process

Appendix B Job data file preparation manual process

Legend

'=proper' - Converts a text string to proper case; the first letter in each word in uppercase and all other letters to lowercase

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