



Post-Election Testing of Voting Equipment (5% Audit)

September 29, 2016

Chicago Board of Elections

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Report

Attn: Mr. Lance Gough, Executive Director
Chicago Board of Election Commissioners, City of Chicago
69 West Washington Street, Suite 600
Chicago, Illinois 60602

We are pleased to provide our report on the *Post-Election Testing of Voting Equipment (5% Audit) Review* performed by **BKD, LLP** (BKD). We want to thank management and staff members who contributed positively to our efforts.

We have performed the procedures enumerated in Section III of this report, which were agreed to by you pursuant to your contract, dated July 22, 2016, to provide recommendations for improving the Chicago Board of Elections (CBOE) post-election testing of voting equipment procedures, efficiency, document flow, and internal controls. This engagement was not an audit and was not designed to provide assurance over the prevention or discovery of errors, misrepresentations, fraud, or illegal acts. Inherent limitations in any internal control structure are that errors, fraud, illegal acts, or instances of noncompliance may occur and not be detected. Controls may become inadequate because of changes in conditions or deterioration in design or operation. Two or more people may also circumvent controls or management may override the system.

We were not engaged to provide an opinion with respect to the effectiveness of your controls or degree of compliance with your policies and procedures or applicable laws and / or regulations. Accordingly, we do not express such an opinion. Our procedures were performed on an interview basis only and cannot be relied upon to detect all errors or violations of laws, regulations, or Company policy. Had we performed additional procedures, other matters might have come to our attention that would have been reported to you. Our report is intended for use only by management of the Company; solely for reporting findings with respect to the procedures performed by us.

This report is not intended to be, and should not be, used by anyone other than the Chicago Board of Election Commissioners.

BKD, LLP

BKD, LLP

September 29, 2016

II. Executive Summary

As it relates to the Chicago Board of Elections (CBOE) *Five Percent Audit* process, several issues were noted that present an excellent opportunity for process improvement. An overview of noted issues, in order of subjective importance, can be presented as follows:

- A.** Recount integrity may possibly be impacted with election results being available to those performing the recount procedural steps (lack of blind recount).
- B.** Instances were noted in which procedural guidance was either inadequate (i.e. lack of guidance as to the administration of breaks), or, did not reflect current practices (i.e. three employees utilized for touchscreen recounting versus procedural reference of two employees).
- C.** Data manipulation risks are increased within the touchscreen recount procedural steps via the use of pencil (versus non-erasable ink) in the recording of recount efforts.
- D.** A lack of programming consistency was noted in that optical scanner ballot rejection programming utilized for precinct voting tabulation is not available to all optical scanning devices utilized during the Five Percent Audit procedure.
- E.** Manual error risks are increased in that instances were noted in which pollwatchers were interacting with CBOE employees engaged in recount activity versus requesting information from management.
- F.** Vendor programming internal control integrity is not verified via the use of Service Organization Control (SOC 1) Reporting.
- G.** Manual error risks are increased in that:
 - Job descriptions associated with recount positions are not clearly defined (increasing the risk of selecting temporary workers with skills sets that are inadequate to perform the necessary recount procedural steps);
 - A formal recount training program has not been developed;
 - A procedural review (to ensure current practices / expectations are adequately documented) is not performed / documented prior to the execution of the recount procedure.
- H.** Procedural ambiguity was noted in that general corrective action steps are not documented.
- I.** Inconsistent public notice was noted in that, as compared to pre-election testing, the Five Percent Audit location, date, and time of procedure is, per management, not legally required to be published.
- J.** Inadequate sample coverage was discussed with management in that the Five Percent Audit procedure may not meet the intent of the Election Code due to the sampling procedure not providing for replacement sampling for instances in which an early voting device was not utilized (i.e. zero votes recorded).

III. Scope and Procedures

We are pleased to provide our report on the Post-Election Testing of Voting Equipment (Five Percent Audit) Review performed by **BKD, LLP** (BKD). We want to thank management and staff members who contributed positively to our efforts.

The scope of this project was established by the Chicago Board of Election Commissioners, outlined in the May 6, 2016, Request for Proposal for an “internal control review of the post-election testing of voting equipment.” In BKD’s proposal submitted to the CBOE, we outlined specific procedures to evaluate the design and control of the post-election Five Percent Audit to meet the CBOE’s scope. The CBOE’s management has sole responsibility for the sufficiency of the procedures performed to meet their scope, and by acceptance of our proposal, approved the procedures performed prior to execution of the procedures. Pre-election and election day issues, such as voter legitimacy and handling of provisional ballots, as well as meeting with members of the public was outside of the scope established by the CBOE.

We performed an evaluation of the post-election Five Percent Audit process and control design. The overall objective of our services was to review and provide recommendations for improving related procedures and control design.

This report addresses Five Percent Audit control activities related to the following sub-processes:

- Equipment Sampling;
- Personnel Selection;
- Public Notice;
- Information Technology;
- Optical Scanners;
- Touchscreens.

Our review approach consisted of the following phases:

1. **General Overview**—The following procedural steps were performed to obtain a detailed level of understanding of the Five Percent Audit sub-processes listed above.
 - a. **Initial Existing Documentation Review**—An initial review of procedural guidance related to the current operational practices of the Five Percent Audit process was conducted as the initial review procedural step.
 - b. **Performance of Risk Assessment**—Based upon the output of the initial existing documentation review, detailed risk assessment questions were provided to management in an effort to increase the level of understanding as to the current practices associated with the Five Percent Audit prior to onsite interviews.
 - c. **Completion of Duties Grid**—Based upon the output of the initial existing documentation review, management was requested to complete a “duties grid”;

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identifying specific individuals and / or functional roles associated with each step of the Five Percent Audit process.

- d. Onsite Interviews—Utilizing information derived from pre-visit reviews, onsite interviews were conducted, with the below listed individuals, to refine / clarify the understanding of current Five Percent Audit practices.
 - i. Assistant Executive Director (Kelly Bateman; considered management)
 - ii. Legal Counsel (Joan Agnew; considered management)
 - iii. Assistant Manager Electronic Voting Equipment (Derrick Hurde)
 - iv. IT Associate (Ronald Boyd)
 - v. Warehouse Supervisor (DeAnna Spires)
 - vi. Assistant Manager Community Services (Laura Grimm)
 - vii. IT Manager (Matthew Lin)
 - viii. IT Associate (Al Chase)
2. **Documentation Development**—Utilizing the information obtained from the General Overview procedures (see 1. above), process flowcharting was developed and approved by management to address control activities related to each of the Five Percent Audit sub-processes (contained within two all-encompassing flowcharts; see *Appendices A* and *B*). Each prepared flowchart provides for the following:
- a. Identification of various process level controls utilized to support the sub-process’ objective;
 - b. Identification of key documents, *e.g.*, applicable forms, spreadsheets, etcetera, utilized within the sub-process;
 - c. Supporting narrative to provide clarifying detail;
 - d. Evidence to support the process experts’ approval of the process flow as of the date of documentation.

To assist with clarification, each process level control was assigned a unique number utilizing the following nomenclature:

- a. Process Identifier—For the Five Percent Audit, the process identifier of “FPA” was assigned.
- b. Sub-Process Identifier—Each applicable Five Percent Audit sub-process was assigned a unique identifier. A listing of each sub-process identifier is as follows:

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- i. Equipment Sampling—ES;
 - ii. Personnel Selection—PS;
 - iii. Public Notice—PN;
 - iv. Optical Scanners—OS;
 - v. Touchscreens—TS;
 - vi. Information Technology—IT.
- c. Control Number—Each control identified within a Five Percent Audit sub-process was assigned a unique number.

In addition, each identified process control GAP (instances in which control design was noted as not adequate) was assigned a risk level of High, Medium, or Low. Although the assigned values are subjective, the below general guidelines were utilized in the assignment of the listed risk value.

- a. Manual processes were viewed as medium to high risks.
- b. Automatic processes were viewed as low to medium risks.
- c. Segregation of duties was viewed as high risk (Note: Segregation of duties will include controls associated with system access).

Also, for controls with GAPs noted, a remediation priority was assigned utilizing the following guidelines:

- a. Immediate Action Required—Current status of control environment and associated risk indicate immediate remediation is required.
- b. Needed–Not Urgent—Current status of control environment and associated risk indicate recommended remediation efforts should be put into place at the earliest opportunity.
- c. Desired—Current status of control environment and associated risk indicate recommended remediation efforts should be considered only after Immediate Action Required and Needed–Not Urgent opportunities have been addressed.

IV. Observations and Recommendations

As indicated in Section III., Scope and Procedures, BKD documented the processes and controls within flowcharts for all process level controls identified. It should be noted, our flowcharts depict a point in time, and processes may have changed since our meetings. Inquiry results and recommended corrective action detail are contained within *Appendix C: Remediation Log—CBOE*. However, a summary of noted improvement opportunities is as follows:

Improvement Opportunity (GAP) #1

Control: *FPA(ES)-CI State Board Sampling*: Equipment sampling, related to the Five Percent Audit, is administered by the State Board of Elections.

Summary of Improvement Opportunity:

Although the equipment subject to the Five Percent Audit procedure is selected by the State Board of Elections, the sampling procedure does not provide for replacement sampling for instances in which an early voting device was not utilized (i.e. zero votes recorded). As such, for instances in which the sampling results include an early voting device that was not utilized (zero votes recorded), the Five Percent Audit procedure may not meet the intent of the Election Code that requires the selection of five percent of the devices used in early voting.

It should be noted that precinct election results are combined (optical scanner and touchscreen) prior to transmittal. As such, for non-early voting devices, determination as to usage may be impossible prior to sample selection.

Observation:

Guidance provided within the Election Code states the following (emphasis added by BKD):

Election Code 10 ICLS 5/24B-15:

“As an additional part of this check prior to the proclamation, in those jurisdictions where in-precinct counting equipment is used, the election authority shall retabulate the total number of votes cast in 5% of the precincts within the election jurisdiction, as well as 5% of the voting devices used in early voting. The precincts and the voting devices to be retabulated shall be selected after election day on a random basis by the State Board of Elections, so that every precinct in the election jurisdiction and every voting device used in early voting has an equal mathematical chance of being selected.”

Election Code 10 ICLS 5/24C-15:

“Prior to the proclamation, the election authority shall test the voting devices and equipment in 5% of the precincts within the election jurisdiction, as well as 5% of the voting devices used in early voting. The precincts and the voting devices to be tested shall be selected after election day on a random basis by the State Board of Elections, so that every precinct and every device used in early voting in the election jurisdiction has an equal mathematical chance of being selected.”

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Recommendation:

We recommend working with the State Board of Elections to investigate the possibility of replacement sampling to assist in the assurance of selecting 5% of the early voting devices utilized for early voting.

Management Response:

Management agrees with improvement opportunity (GAP) content and recommendation detail.¹

Management noted that discussions related to the possibility of replacement sampling are currently underway.

Improvement Opportunity (GAP) #2

Control: *FPA(PS)-C1 Pollwatcher Authority & Responsibility:* Pollwatcher authority and responsibilities are summarized within the provided Public Notice.

Summary of Improvement Opportunity:

Interaction between pollwatchers and CBOE employees does not appear to be adequately controlled; with the current practice allowing for process deviation, such as conversations between CBOE employees conducting the Five Percent Audit and pollwatchers. Examples of such interaction include the following detail obtained from the provided Public Comment related to the primary election dated March 15, 2016:

- "At the first table I monitored, for early voting touch screen unit #3219, location #23, after the last vote was read, the CBOE employee allowed me to witness her tabulation sheet, but not take a picture, because, she said, "this was not the final version." (see affidavit of William B. Shipley)
- "I observed a CBOE tallier to not tally a vote for a Voting Rights referendum, and instead to mark the tally in the grid space for a Logan Square Zoning referendum. I asked that employee if she had marked the Zoning referendum; she had. I then asked the reader if the vote he had read had been for Voting Rights; it had. The tallier did not correct the vote tally. The reader did not question the tallier's actions." (see affidavit of Rebecca Kerlin)
- "The CBOE reader discussed in item 11 asserted that he would prefer that I not photograph the tally sheet of the CBOE tallier who performed items 5 - 10 above." (see affidavit of Rebecca Kerlin)
- "Several personnel obstructed my vision of the paper ballots as they were being fed into the machines. I witnessed management telling personnel they did not need to facilitate our viewing, and one table actively obstructed my participation by placing their large blue ballot box horizontally in the chair next to them. As I was not permitted to touch anything,

¹ Management response obtained 08/25/16 via discussion with Assistant Executive Director (Kelly Bateman) and Legal Counsel (Joan Agnew).

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I asked them to move the chair so I could step closer and see, but they refused. When I asked, they also refused to let me see their tally sheets for more than the brief second they were marking that page, and turned the sheet so I couldn't see from my end of the table without moving the chair and blue box blocking my view." (see affidavit of Michelle Suzanne Gale).

Observation:

Responsibilities and authority of pollwatchers are summarized within the Public Notice via the following guidance (emphasis added by BKD):

"Persons authorized to attend the 5% retabulation / test may observe the proceedings; they may not touch any election materials. Photographs and filming will be permitted; however, no photographs or filming of individual ballots (whether optical scan or touchscreen ballots) shall be permitted. Board employees will conduct their duties without delay; they will not stop or slow down the performance of their duties simply to allow photographs or filming or to answer questions from pollwatchers or observers. Board employees shall refer questions, problems or requests to a Supervisor.

Board employees/supervisors are not giving consent to have their conversations audio recorded.

Requests for copies of any materials shall be made in writing to the Board's Freedom of Information Officer (consult the Board's web site at www.chicagoelections.com).

Any person who is disorderly or who, in the judgment of the Board, unreasonably disrupts the 5% retabulation / test may be removed."

Recommendation:

We recommend that in an effort to minimize distractions and / or the providing of false information, management should consider actively monitoring interactions between Chicago Board of Elections (CBOE) employees and pollwatchers.

Management Response:

Management agrees with improvement opportunity (GAP) content and recommendation detail.¹

Improvement Opportunity (GAP) #3

Control: *FPA(PS)-C2 Staffing Need Fulfillment:* Staffing needs related to the Five Percent Audit process are fulfilled by either CBOE Warehouse Associates or temporary staffing via employment agencies.

¹ Management response obtained 08/25/16 via discussion with Assistant Executive Director (Kelly Bateman) and Legal Counsel (Joan Agnew).

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Summary of Improvement Opportunity:

The following attributes may increase the probability of manual error during the execution of the Five Percent Audit procedure:

- *Lack of clearly defined job requirements*—Specific job requirements / skills are not detailed to support the execution of the Five Percent Audit procedure. As such, temporary staff selections may include those with substandard reading, writing, and / or match skills. Note, this concern was noted by management during discussions with BKD.
- *Lack of specific training*—Instructions related to the Five Percent Audit process (i.e. procedural guidance) is provided to the selected CBOE employees a few days prior to the execution of the process. However, detailed / structured training (i.e. walkthrough of the procedural guidance and equipment demonstration; with time devoted to address specific questions) has not been developed.
- *Lack of procedural review*—Evidence to support a procedural review (i.e. current revision date; revision history detailing modifications to the process) does not exist. In addition, the current procedure may not address all aspects of accuracy risk associated with the process (e.g. how is accuracy of the count maintained while accommodating worker break periods).

Recommendation:

Given the use of temporary employment personnel (high knowledge turnover) and the time between elections, to assist in the assurance of process accuracy and increase in process efficiency, we recommend management consider the following:

- Developing a written job description for each function outlined within the Five Percent Audit procedural guidance;
- Developing a formal training program (to include the use of process walkthroughs) to address the functionality requirements / expectations for each job description;
- Formally reviewing the Five Percent Audit procedural guidance (evidenced by appropriate management signature, revision / review date, and documentation revision history [outlining any procedural changes]) prior to each election in which the Five Percent Audit is to be performed.

Management Response:

Management agrees with improvement opportunity (GAP) content and recommendation detail.¹

¹ Management response obtained 08/25/16 via discussion with Assistant Executive Director (Kelly Bateman) and Legal Counsel (Joan Agnew).

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Improvement Opportunity (GAP) #4

Control: *FPA(PN)-C1 Notification Detail:* Public notice (date, time, and location) is provided to support the performance of the Five Percent Audit process.

Summary of Improvement Opportunity:

Although the current practice does provide for Five Percent Audit public notice, the notification appears not legally required to be published per the Election Code. It should be noted that the apparent lack of legal requirement does appear to support a lack of public notice process consistency in that the Election Code does require public notice for voting equipment pre-election testing. For example, the following detail is included within Election Code 10 ICLS 5/24C-9:

“On any day not less than 5 days prior to the election day, the election authority shall publicly test the Direct Recording Electronic Voting System equipment and programs to determine that they will correctly detect voting errors and accurately count the votes legally cast for all offices and on all public questions. Public notice of the time and place of the test shall be given at least 48 hours before the test by publishing the notice in one or more newspapers within the election jurisdiction of the election authority, if a newspaper is published in that jurisdiction. If a newspaper is not published in that jurisdiction, notice shall be published in a newspaper of general circulation in that jurisdiction. Timely written notice stating the date, time, and location of the public test shall also be provided to the State Board of Elections.”

Recommendation:

We recommend management work with the legislature in an effort to modify the Election Code; providing clarity to the expectations associated with public notice for the Five Percent Audit.

Management Response:

Management agrees with the improvement opportunity (GAP) content. Management remains neutral (neither agreeing, nor disagreeing) with the provided recommendation.³

Improvement Opportunity (GAP) #5

Control: *FPA(IT)-C2 Service Organization Control Reporting:* CBOE obtains a Service Organization Control (SOC 1) Report (prepared in accordance with guidelines contained within the American Institute of Certified Public Accounts Statement on Standards for Attestation Engagements (SSAE) No. 16, Reporting on Controls at Service Organizations) from Dominion Voting Systems to provide evidence that associated internal controls (i.e. access; change management) are adequate for BPS and WIN EDS.

Summary of Improvement Opportunity:

Through conversations with management, Service Organization Control (SOC 1) Reporting is not utilized to verify adequacy of internal controls related to BPS and WIN EDS programming.

³ Management response obtained 09/28/16 via discussion with Assistant Executive Director (Kelly Bateman).

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Recommendation:

To assist with accuracy verification and best practice performance, we recommend management coordinate with Dominion Voting Systems to obtain the applicable Service Organization Control (SOC 1) Report for BPS and WIN EDS programming.

Management Response:

Management agrees with the improvement opportunity (GAP) content. Management remains neutral (neither agreeing, nor disagreeing) with the provided recommendation. Note, management has contacted Dominion Voting Systems to inquire as to the possibility of SOC1 reporting.³

Improvement Opportunity (GAP) #6

Control: *FPA(OS)-C6 Ballot Auto-Rejection Programming:* Scanner programming rejects re-tabulated ballot attempts based upon the following criteria:

- Ballot Missing Initials;
- Overvoted Office;
- Undervoted Office;
- No Votes Recorded.

Summary of Improvement Opportunity:

Per the *Instructions for 5% Re-Tabulation*, the following statement is provided:

“It is possible that the ballot scanner will not be programmed to reject ballots with the messages described”

As validated with management, the above statement would indicate the same programming utilized for election day scanning devices is not available for the re-tabulation exercise; increasing the chance for count variance.

Recommendation:

For process consistency (i.e. precinct optical scanner versus Five Percent Audit optical scanner functionality), we recommend management ensure consistent optical scanner programming prior to the execution of the Five Percent Audit procedure.

Management Response:

Management agrees with improvement opportunity (GAP) content and recommendation detail.¹

³ Management response obtained 09/28/16 via discussion with Assistant Executive Director (Kelly Bateman).

¹ Management response obtained 08/25/16 via discussion with Assistant Executive Director (Kelly Bateman) and Legal Counsel (Joan Agnew).

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Improvement Opportunity (GAP) #7

Control: *FPA(OS)-C9 Insight Tally Report:* Re-tabulation results are analyzed for agreement; utilizing the data contained within the Insight Tally Report.

Summary of Improvement Opportunity:

Per conversation with management, the detail contained within the *Instructions for 5% Re-Tabulation* does not reflect the current practice in that the Insight Tally Report is not signed to reflect the analysis of election results to those obtained via the Five Percent Audit.

Recommendation:

To assist in the assurance of process accuracy and consistency, we recommend management consider formally reviewing the Five Percent Audit procedural guidance, evidenced by appropriate management signature, revision / review date, and documentation revision history (outlining any procedural changes), prior to each election in which the Five Percent Audit is to be performed; modifying said documentation to reflect the current technology utilized and / or performance expectations.

Management Response:

Management agrees with improvement opportunity (GAP) content and recommendation detail.

Improvement Opportunity (GAP) #8

Control: *FPA(OS)-C9 Insight Tally Report:* Re-tabulation results are analyzed for agreement; utilizing the data contained within the Insight Tally Report.

Summary of Improvement Opportunity:

Per conversation with management, the results analysis (election vs. Five Percent Audit) is performed by management; not the CBOE employees performing the optical scanning portion of the Five Percent Audit. As such, the requirements outlined within the Certificate of Results Audit / Re-tabulation of Ballots in 5% of Precincts (Form 5% P) cannot be achieved (i.e. “We recorded the vote totals from the ballot scanner results tape on the Insight Tally Report and compared the results with the Election Day totals to verify whether they match”).

Recommendation:

To assist in the assurance of process accuracy and consistency, we recommend management consider formally reviewing the Five Percent Audit procedural guidance (evidenced by appropriate management signature, revision / review date, and documentation revision history [outlining any procedural changes]) prior to each election in which the Five Percent Audit is to be performed; modifying said documentation to reflect the current technology utilized and / or performance expectations.

Management Response:

Management agrees with improvement opportunity (GAP) content and recommendation detail.¹

¹ Management response obtained 08/25/16 via discussion with Assistant Executive Director (Kelly Bateman) and Legal Counsel (Joan Agnew).

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Improvement Opportunity (GAP) #9

Control: *FPA(OS)-C9 Insight Tally Report:* Re-tabulation results are analyzed for agreement; utilizing the data contained within the Insight Tally Report.

Summary of Improvement Opportunity:

Election results are available to the employees performing the audit (via material contained within the transfer case); thus, preventing a blind count.

In addition, the optical scanning equipment cannot distinguish a ballot that has been processed versus a ballot that has not been processed. As such, ballots may be processed more than once. It should be noted that the risk of undetected duplicate ballot processing is minimized in that each voter choice would be increased for each duplicate processing; thus, increasing the chance of detection (variance between election results as detailed within the Insight Tally Report versus the results tape from the Five Percent Audit).

Recommendation:

We recommend management consider modifying the current practices to provide for a blind count.

Management Response:

Management agrees with improvement opportunity (GAP) content and recommendation detail.

Improvement Opportunity (GAP) #10

Control: *FPA(OS)-C9 Insight Tally Report:* Re-tabulation results are analyzed for agreement; utilizing the data contained within the Insight Tally Report.

Summary of Improvement Opportunity:

Per conversation with management, general corrective actions for noted variances (election vs. Five Percent Audit) are as follows:

- Determination if the variance is related to a “shared precinct” (physical voting site that has ballot scanning equipment for two precincts);
- Inquiring as to equipment failure during ballot processing (Note, this situation would require “emergency procedures”; placing ballots into an auxiliary ballot box until new equipment is provided, placing memory pack from old optical scanner into new optical scanner, processing ballots collected during the interim after polls close);
- Contacting applicable Election Judge to determine if any anomalies occurred during ballot processing;
- Verifying provisional ballots were not included with regular ballots;
- Re-running Five Percent Audit process utilizing a different optical scanner;
- Contacting Legal Counsel for guidance for variances that cannot be resolved.

IV. Observations and Recommendations

However, the provided procedural documentation (*Instructions for 5% Re-Tabulation*) does not detail any “standard” corrective procedures. Rather, the procedural guidance only references the notification of a monitor for note variances. Note, the above detail should be considered in conjunction with Improvement Opportunity #7 in that management is performing the initial analysis; not the CBOE employees. Thus, the procedural reference of monitor notification reflects an additional procedural guidance step which does not align with current practice.

Recommendation:

To increase process performance transparency, we recommend management consider modifying the Five Percent Audit procedural guidance; providing general corrective action measures taken to rectify noted variances between election and Five Percent Audit results.

Management Response:

Management agrees with the improvement opportunity (GAP) content. Management remains neutral (neither agreeing, nor disagreeing) with the provided recommendation.³

Improvement Opportunity (GAP) #11

Control: *FPA(TS)-C2 Voter Verifiable Paper Audit Trail:* Election results are manually recounted; tabulating each vote registered within the applicable Voter Verifiable Paper Audit Trail (VVPAT).

Summary of Improvement Opportunity:

Recount results are recorded via pencil (versus ink); thus allowing for recorded results to be easily erased.

Recommendation:

Recount results recorded on the E2P Tally Report are considered evidence supporting the performance of a mandated process (the Five Percent Audit procedure). As such, we recommend documented efforts be made via ink (permanent; non-erasable) versus pencil.

Management Response:

Management agrees with improvement opportunity (GAP) content and recommendation detail.¹

Improvement Opportunity (GAP) #12

Control: *FPA(TS)-C2 Voter Verifiable Paper Audit Trail:* Election results are manually recounted; tabulating each vote registered within the applicable Voter Verifiable Paper Audit Trail (VVPAT).

³ Management response obtained 09/28/16 via discussion with Assistant Executive Director (Kelly Bateman).

¹ Management response obtained 08/25/16 via discussion with Assistant Executive Director (Kelly Bateman) and Legal Counsel (Joan Agnew).

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Summary of Improvement Opportunity:

The process recorded within the *Instructions for 5% Re-Tabulation* requires the use of two employees (one to call out the vote recorded within the VVPAT; another to record the vote on the E2P Tally Report). However, per conversation with management, the current practice is to utilize three employees (one to call out the vote recorded within the VVPAT; two to record the vote on the E2P Tally Report).

In addition, the procedure does not adequately address the common error of counting voided votes in that the procedure requires the employee to unroll the VVPAT to the beginning to verify the precinct and ward; which leads to the employee starting at the top of the VVPAT. However, voided vote detail is contained at the bottom (end) of the VVPAT. As such, unnecessary corrections may need to be performed by starting at the top (beginning) of the VVPAT roll.

Also, the procedure does not address how to ensure manual count accuracy while accommodating employee work breaks. (Note, similar concerns appear to be reflected within the public comment affidavits of Rebecca Kerlin and Clare J. Tobin.)

Finally, the procedure does not address the recording space limitation associated with the E2P Tally Report in that only 34 boxes are present to record “hash marks”; thus limiting the number of votes to be recorded to 170. It should be noted that the current practice (which is not detailed within the procedural guidance) is to utilize the back of the E2P Tally Report to continue recording votes.

Recommendation:

To assist in the assurance of process accuracy and consistency, we recommend management consider formally reviewing the Five Percent Audit procedural guidance (evidenced by appropriate management signature, revision / review date, and documentation revision history [outlining any procedural changes]) prior to each election in which the Five Percent Audit is to be performed; modifying said documentation to reflect the current technology utilized and / or performance expectations.

Space limitations outlined within the exception may be addressed by utilizing an additional E2P Tally Report versus recording additional votes on the back of the first report (short term), or, via the use of an Excel worksheet within a portable tablet (long term).

Management Response:

Management agrees with improvement opportunity (GAP) content and recommendation detail.¹

¹ Management response obtained 08/25/16 via discussion with Assistant Executive Director (Kelly Bateman) and Legal Counsel (Joan Agnew).

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Improvement Opportunity (GAP) #13

Control: *FPA(TS)-C4 E2P Tally Report:* Recount results are analyzed for agreement; utilizing the data contained within the E2P Tally Report.

Summary of Improvement Opportunity:

Election results are recorded on the E2P Tally Report; thus preventing a blind count.

Recommendation:

To facilitate a blind count, we recommend management consider modifying the current practice by not providing the election results on the E2P Tally Report prior to the commencement of the manual recount efforts.

Management Response:

Management agrees with improvement opportunity (GAP) content and recommendation detail.¹

Improvement Opportunity (GAP) #14

Control: *FPA(TS)-C5 Evidence of Recount Analysis:* Analysis of the recount results is appropriately evidenced (completion of the final portion of step #7; signatures of two Chicago Board of Elections employees) on the Certificate of Results Audit / Re-tabulation of Ballots in 5% of Precincts (Form 5% P), or, in the case of early voting review (completion of the final portion of step #2; signatures of two Chicago Board of Elections employees) on the Certificate of Results Audit / Re-tabulation of Ballots on 5% of Early Voting Devices (Form 5% EV) and the signed E2P Tally Report.

Summary of Improvement Opportunity:

Per conversation with management, general corrective action for noted variances (election vs. Five Percent Audit) is to perform additional recounts to obtain agreement. However, the provided procedural documentation (Instructions for 5% Re-Tabulation) does not detail any “standard” corrective procedures, and does not address the number of recounts required to ensure accuracy (i.e. obtain an additional recount; with both employee counts agreeing to election results).

Recommendation:

We recommend management consider modifying the Five Percent procedural guidance to provide clarity as to when a recount is necessary, and how many additional recounts are required to satisfy accuracy / validation (i.e. agreement between election and Five Percent Audit results) concerns.

Management Response:

Management agrees with improvement opportunity (GAP) content and recommendation detail.¹

¹ Management response obtained 08/25/16 via discussion with Assistant Executive Director (Kelly Bateman) and Legal Counsel (Joan Agnew).

IV. Observations and Recommendations

Overall Conclusion

Our procedures identified both major and minor findings, including risk and control gaps. We have summarized our improvement opportunities, evaluated risk, made recommendations and prioritized our findings for you within *Appendix C: Remediation Log—CBOE*. We encourage management to consider the recommendations made in this report to assist in further strengthening the controls of the Five Percent Audit.

Finally, all CBOE personnel were responsive and helpful in regard to BKD's requests for documents, interview time and additional explanations. Records were retrieved quickly and were well organized.

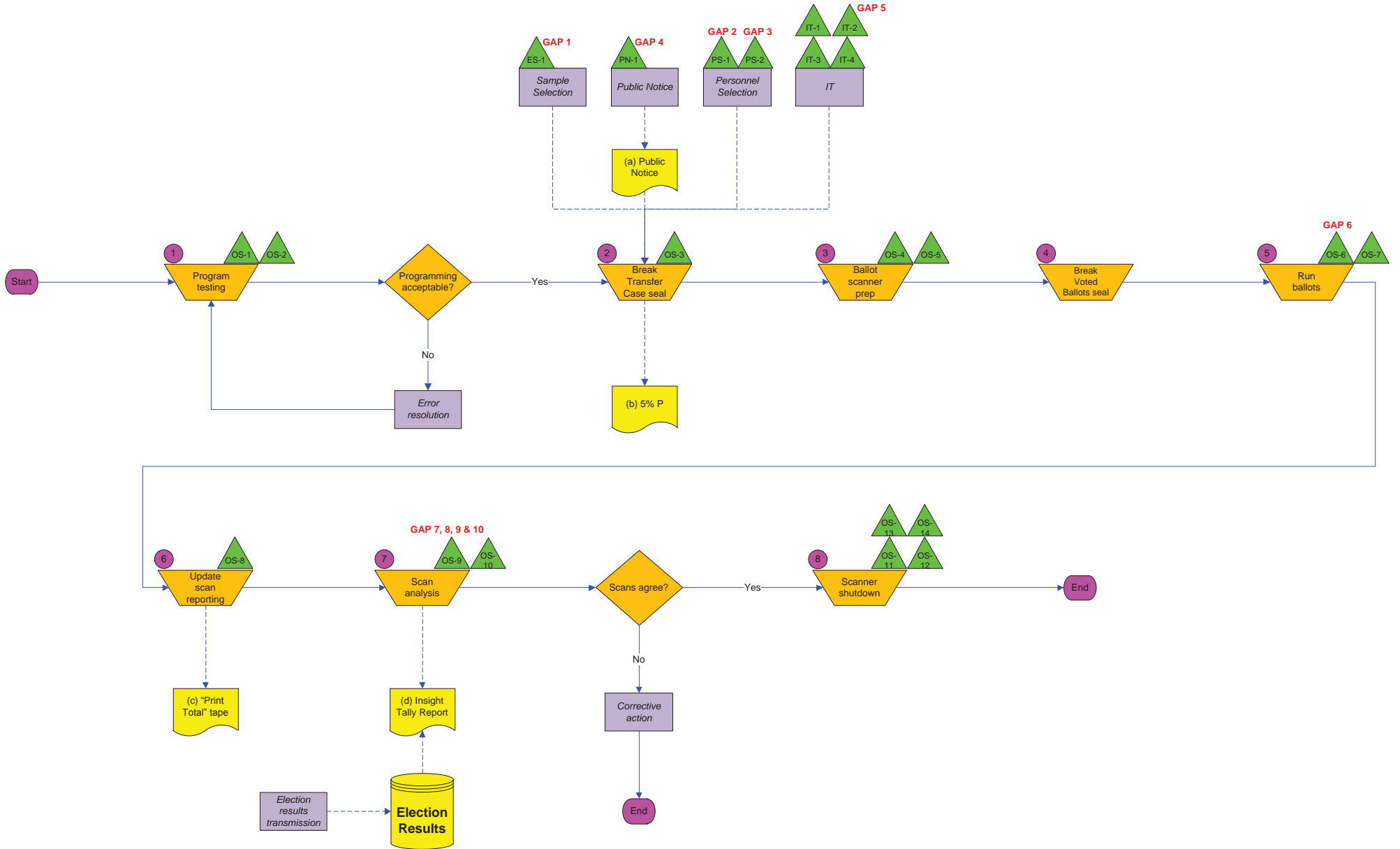
V. Appendices

A listing of associated appendices is as follows:

- *Appendix A*: Optical Scanners;
- *Appendix B*: Touchscreens;
- *Appendix C*: Remediation Log—CBOE.

Appendix A

Five Percent Audit – Optical Scanners



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The following narrative documents the utilization of the *Five Percent Audit – Optical Scanners* process.

The detail contained within is derived from the following sources:

- Instructions for 5% Re-Tabulation;
- Election Code 10 ICLS 5/24B-15;
- Election Code 10 ICLS 5/24C-15;
- Election Code 10 ICLS 5/7-34;
- Election Code 10 ICLS 5/17-23;
- Provided Public Comment related to the primary election dated March 15, 2016;
- Interviews with the following staff members: Assistant Executive Director (Kelly Bateman); Legal Counsel (Joan Agnew); Assistant Manager Electronic Voting Equipment (Derrick Hurde); IT (Ronald Boyd); Warehouse Supervisor (DeAnna Spires); Assistant Manager Community Services (Laura Grimm); IT Manager (Matthew Lin); IT Associate (Al Chase).

Background:

The Chicago Board of Elections (CBOE) facilitates voting needs for 2,069 precincts; with each precinct having both optical scanning and touchscreen voting capability. In addition, approximately 550 early voting devices (touchscreens) are provided. As such, the below narrative outlines the *Five Percent Audit – Optical Scanners* process associated with the CBOE 5% re-tabulation procedure; with assistance from the following sub-processes:

A. *Sample Selection* – As it relates to sample selections for the *Five Percent Audit*, the below guidance is provided within the Election Code (with emphasis provided by BKD). Note, code 24B-15 relates to optical scanning devices, while code 24C-15 addresses touchscreen voting devices.

Election Code 10 ICLS 5/24B-15:

"As an additional part of this check prior to the proclamation, in those jurisdictions where in-precinct counting equipment is used, the ***election authority shall retabulate the total number of votes cast in 5% of the precincts*** within the election jurisdiction, as well as ***5% of the voting devices used in early voting***. The precincts and the voting devices to be retabulated shall be ***selected*** after election day on a random basis ***by the State Board of Elections***, so that every precinct in the election jurisdiction and ***every voting device used*** in early voting has an equal mathematical chance of being selected."

Election Code 10 ICLS 5/24C-15:

"Prior to the proclamation, the ***election authority shall test the voting devices and equipment in 5% of the precincts*** within the election jurisdiction, as well as ***5% of the voting devices used in early voting***. The precincts and the voting devices to be tested shall be ***selected*** after election day on a random basis ***by the State Board of Elections***, so that every precinct and ***every device used in early voting*** in the election jurisdiction has an equal mathematical chance of being selected."

Equipment sampling, related to the Five Percent Audit, is administered by the State Board of Elections. FPA(ES)-C1

GAP#1: Although the equipment subject to the *Five Percent Audit* procedure is selected by the State Board of Elections, the sampling procedure does not provide for replacement sampling for instances in which an early voting device was not utilized (i.e. zero votes recorded). As such, for instances in which the sampling results include an early voting device that was not utilized (zero votes recorded), the *Five Percent Audit* procedure may not meet the intent of the Election Code that requires the selection of five percent of the devices used in early voting.

It should be noted that precinct election results are combined (optical scanner and touchscreen) prior to transmittal. As such, for non-early voting devices, determination as to usage may be impossible prior to sample selection.

B. *Personnel Selection* – For the purposes of this flowcharting, participation in the Five Percent Audit process is aggregated into the two categories of Pollwatchers and CBOE Employees; with selection criteria for each discussed below (emphasis added by BKD).

1. **Pollwatchers** – For the selection for pollwatchers the below selection guidance is provided within the Election Code, and the *Instructions for 5% Re-Tabulation*. In addition, pollwatcher authority and responsibilities are outlined within the provided Public Notice.

Election Code 10 ICLS 5/7-34:

"(1) Each established political party shall be entitled to appoint one pollwatcher per precinct. Such pollwatchers must be affiliated with the political party for which they are pollwatching and must be a registered voter in Illinois.

(2) Each candidate shall be entitled to appoint two pollwatchers per precinct. For Federal, State, county, township, and municipal primary elections, the pollwatchers must be registered to vote in Illinois.

(3) Each organization of citizens within the county or political subdivision, which has among its purposes or interests the investigation or prosecution of election frauds, and which shall have registered its name and address and the names and addresses of its principal officers with the proper election authority at least 40 days before the primary election, shall be entitled to appoint one pollwatcher per precinct. For all primary elections, the pollwatcher must be registered to vote in Illinois.

(3.5) Each State nonpartisan civic organization within the county or political subdivision shall be entitled to appoint one pollwatcher per precinct, provided that no more than 2 pollwatchers appointed by State nonpartisan civic organizations shall be present in a precinct polling place at the same time. Each organization shall have registered the names and addresses of its principal officers with the proper election authority at least 40 days before the primary election. The pollwatchers must be registered to vote in Illinois. For the purpose of this paragraph, a "State nonpartisan civic organization" means any corporation, unincorporated association, or organization that:

- (i) as part of its written article, bylaws, or charter or by separate written declaration, has among its stated purposes the provision of voter information and education, the protection of individual voters' rights, and the promotion of free and equal elections;
- (ii) is organized or primarily conducts its activities within the State of Illinois; and
- (iii) continuously maintains an office or business location within the State of Illinois, together with a current listed telephone number (a post office box number without a current listed telephone number is not sufficient).

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(4) Each organized group of proponents or opponents of a ballot proposition, which shall have registered the name and address of its organization or committee and the name and address of its chairman with the proper election authority at least 40 days before the primary election, shall be entitled to appoint one pollwatcher per precinct. The pollwatcher must be registered to vote in Illinois.

(5) In any primary election held to nominate candidates for the offices of a municipality of less than 3,000,000 population that is situated in 2 or more counties, a pollwatcher who is a resident of a county in which any part of the municipality is situated shall be eligible to serve as a pollwatcher in any polling place located within such municipality, provided that such pollwatcher otherwise complies with the respective requirements of subsections (1) through (4) of this Section and is a registered voter whose residence is within Illinois."

Election Code 10 ICLS 5/17-23:

"(1) Each established political party shall be entitled to appoint two pollwatchers per precinct. Such pollwatchers must be affiliated with the political party for which they are pollwatching. For all elections, the pollwatchers must be registered to vote in Illinois.

(2) Each candidate shall be entitled to appoint two pollwatchers per precinct. For all elections, the pollwatchers must be registered to vote in Illinois.

(3) Each organization of citizens within the county or political subdivision, which has among its purposes or interests the investigation or prosecution of election frauds, and which shall have registered its name and address and the name and addresses of its principal officers with the proper election authority at least 40 days before the election, shall be entitled to appoint one pollwatcher per precinct. For all elections, the pollwatcher must be registered to vote in Illinois.

(3.5) Each State nonpartisan civic organization within the county or political subdivision shall be entitled to appoint one pollwatcher per precinct, provided that no more than 2 pollwatchers appointed by State nonpartisan civic organizations shall be present in a precinct polling place at the same time. Each organization shall have registered the names and addresses of its principal officers with the proper election authority at least 40 days before the election. The pollwatchers must be registered to vote in Illinois. For the purpose of this paragraph, a "State nonpartisan civic organization" means any corporation, unincorporated association, or organization that:

- (i) as part of its written articles of incorporation, bylaws, or charter or by separate written declaration, has among its stated purposes the provision of voter information and education, the protection of individual voters' rights, and the promotion of free and equal elections;
- (ii) is organized or primarily conducts its activities within the State of Illinois; and
- (iii) continuously maintains an office or business location within the State of Illinois, together with a current listed telephone number (a post office box number without a current listed telephone number is not sufficient).

(4) In any general election held to elect candidates for the offices of a municipality of less than 3,000,000 population that is situated in 2 or more counties, a pollwatcher who is a resident of Illinois shall be eligible to serve as a pollwatcher in any poll located within such municipality, provided that such pollwatcher otherwise complies with the respective requirements of subsections (1) through (3) of this Section and is a registered voter in Illinois.

(5) Each organized group of proponents or opponents of a ballot proposition, which shall have registered the name and address of its organization or committee and the name and address of its chairman with the proper election authority at least 40 days before the election, shall be entitled to appoint one pollwatcher per precinct. The pollwatcher must be registered to vote in Illinois."

Instructions for 5% Re-Tabulation:

"3. The State Board of Elections, the State's Attorney and other appropriate law enforcement agencies, the county chairman of each established political party and qualified civic organizations shall be given prior written notice of the time and place of the retabulation and may be represented at the retabulation. Pollwatchers authorized pursuant to Sections 7-34 and 17-23 of the Election Code (10 ILCS 5/7-34: 5/17-23) will be permitted to observe all proceedings with regard to the 5% retabulation: however, pollwatchers must obtain pollwatcher credentials marked "5% Retabulation."

Note, for the purposes of this review, pollwatcher selection was deemed out-of-scope. As such, no control activity was considered.

Public Notice:

"Candidates shall be entitled to have two (2) pollwatchers per station where ballots are retabulated or counted; established political parties shall be entitled to have one (1) pollwatcher per station at a primary election, and two (2) pollwatchers per station at a general election; and qualified organizations shall be entitled to have one (1) pollwatcher per station.

Persons authorized to attend the 5% retabulation / test may observe the proceedings; they may not touch any election materials. Photographs and filming will be permitted; however, no photographs or filming of individual ballots (whether optical scan or touchscreen ballots) shall be permitted. **Board employees will conduct their duties without delay; they will not stop or slow down the performance of their duties simply to allow photographs or filming or to answer questions from pollwatchers or observers. Board employees shall refer questions, problems or requests to a Supervisor.**

Board employees/supervisors are not giving consent to have their conversations audio recorded.

Requests for copies of any materials shall be made in writing to the Board's Freedom of Information Officer (consult the Board's web site at www.chicagoelections.com).

Any person who is disorderly or who, in the judgment of the Board, unreasonably disrupts the 5% retabulation / test may be removed."

Pollwatcher authority and responsibilities are summarized within the provided Public Notice. FPA(PS)-C1

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GAP#2: Interaction between pollwatchers and CBOE employees does not appear to be adequately controlled; with the current practice allowing for process deviation (i.e. conversations between CBOE employees conducting the *Five Percent Audit* and pollwatchers). Examples of such interaction include the following (obtained from the provided Public Comment related to the primary election dated March 15, 2016):

"Poll watchers were instructed that they could not take any photos of the staff tally sheet, until after the "corrections" were made" (see affidavit of Clare J. Tobin; Note, the provided statement (via interaction between pollwatcher and CBOE employee) appears to contradict the pollwatcher authority / responsibilities outlined within the Public Notice)

"At the first table I monitored, for early voting touch screen unit #3219, location #23, after the last vote was read, the CBOE employee allowed me to witness her tabulation sheet, but not take a picture, because, she said, "this was not the final version." (see affidavit of William B. Shipley)

"I observed a CBOE tallier to not tally a vote for a Voting Rights referendum, and instead to mark the tally in the grid space for a Logan Square Zoning referendum. I asked that employee if she had marked the Zoning referendum; she had. I then asked the reader if the vote he had read had been for Voting Rights; it had. The tallier did not correct the vote tally. The reader did not question the tallier's actions." (see affidavit of Rebecca Kerlin)

"The CBOE reader discussed in item 11 asserted that he would prefer that I not photograph the tally sheet of the CBOE tallier who performed items 5 - 10 above." (see affidavit of Rebecca Kerlin)

"Several personnel obstructed my vision of the paper ballots as they were being fed into the machines. I witnessed management telling personnel they did not need to facilitate our viewing, and one table actively obstructed my participation by placing their large blue ballot box horizontally in the chair next to them. As I was not permitted to touch anything, I asked them to move the chair so I could step closer and see, but they refused. When I asked, they also refused to let me see their tally sheets for more than the brief second they were marking that page, and turned the sheet so I couldn't see from my end of the table without moving the chair and blue box blocking my view." (see affidavit of Michelle Suzanne Gale)

2. **CBOE Employees** – Per conversation with CBOE management, staffing needs related to the *Five Percent Audit* process are fulfilled by either CBOE Warehouse Associates or temporary staffing via employment agencies. It should be noted that most temporary staff assist with other CBOE staffing needs prior to the performance of the *Five Percent Audit* procedure; thus allowing for additional CBOE experience prior to the execution of the procedure.

Staffing needs related to the Five Percent Audit process are fulfilled by either CBOE Warehouse Associates or temporary staffing via employment agencies. FPA(PS)-C2

GAP#3: The following attributes may increase the probability of manual error during the execution of the *Five Percent Audit* procedure:

- **Lack of clearly defined job requirements** – Specific job requirements / skills are not detailed to support the execution of the *Five Percent Audit* procedure. As such, temporary staff selections may include those with substandard reading, writing, and / or match skills. Note, this concern was noted by management during discussions with BKD.

- **Lack of specific training** – Instructions related to the *Five Percent Audit* process (i.e. procedural guidance) is provided to the selected CBOE employees a few days prior to the execution of the process. However, detailed / structured training (i.e. walkthrough of the procedural guidance and equipment demonstration; with time devoted to address specific questions) has not been developed.

- **Lack of procedural review** – Evidence to support a procedural review (i.e. current revision date; revision history detailing modifications to the process) does not exist. In addition, the current procedure may not address all aspects of accuracy risk associated with the process (e.g. how is accuracy of the count maintained while accommodating worker break periods).

C. **Public Notice** – In general, the *Five Percent Audit* process is conducted eight days subsequent to the election (i.e. the Wednesday eight days subsequent to election Tuesday); with written public notice being provided prior to the execution of said procedure. Notification is generally provided using the following methodologies: website posting, CBOE posting board, hardcopy material at reception area, and notification to known pollwatching organizations.

Public notice (date, time, and location) is provided to support the performance of the Five Percent Audit process. FPA(PN)-C1

GAP#4: Although the current practice does provide for *Five Percent Audit* public notice, said notice is not legally required to be published. It should be noted that this lack of legal requirement does appear to support a lack of public notice process consistency in that the Election Code does require public notice for voting equipment pre-election testing. For example, the following detail is included within Election Code 10 ICLS 5/24B-9 (emphasis added by BKD):

"On any day not less than 5 days prior to the election day, the election authority shall publicly test the automatic Precinct Tabulation Optical Scan Technology tabulating equipment and program to determine that they will correctly detect Voting Defects and count the votes cast for all offices and on all measures. Public notice of the time and place of the test shall be given at least 48 hours before the test by publishing the notice in one or more newspapers within the election jurisdiction of the election authority, if a newspaper is published in that jurisdiction. If a newspaper is not published in that jurisdiction, notice shall be published in a newspaper of general circulation in that jurisdiction. Timely written notice stating the date, time, and location of the public test shall also be provided to the State Board of Elections."

D. **Information Technology (IT)** – Voting equipment (Optical Scanners; Touchscreens) is maintained by Dominion Voting Systems. A brief overview of the "IT process" (ballot detail certification to vote collection) is represented below via brief data flow; with accompanying explanation.

Ballot Detail Certification → CBOE Input → BPS → WIN EDS → Voting Equipment → Memory Storage
CLR =^

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1. *Ballot Detail Certification* – Ballot detail (i.e. candidate listing by party; referendums; etcetera) is certified by the State Board of Elections to the counties; which in turn, certifies to cities.
2. *CBOE Input* – Upon receipt of the certified ballot detail, said detail is hand keyed into BPS.
3. *BPS (Ballot Preparation Software)* – Converts hand keyed ballot detail into format readable by voting equipment and usable by voters to include:
 - *Optical Scanners* – Electronic PDF format for scanning equipment and printed PDF format for voter usable ballots;
 - *Touchscreens* – Produces touchscreen imaging that is readable by voting equipment and usable / readable by individual voters.

In addition, BPS creates programming parameters to allow for ballot counting for both optical scanning and touchscreen voting equipment.

Finally, CLR (Congressional Legislative and Representative) codes are maintained by the Re-Districting Department, and are utilized to establish which voters receive which ballots. It should be noted that physical property locations represented within the CLR code are mapped to the correct ballot to ensure each individual receives the correct ballot. This mapping (physical property-to-CLR code) is performed / maintained; even for cases in which the property is not utilized.

4. *WIN EDS (Window Election Data Software)* – Converts input from BPS to voting equipment (optical scanners and touchscreens) instructions as to how to count voter ballot detail.
5. *Voting Equipment* – Receives voting input from individual voter; recording selection in accordance with BPS-to-WIN EDS programming.
6. *Memory Storage* – Voting detail is stored within the associated memory pack (optical scanners) or USB (touchscreens) device.

Although the above process is not directly referenced within the *Instructions for 5% Re-Tabulation*, the following control statements assist with maintaining the accuracy of the election totals; which are utilized as the primary comparative value within the *Five Percent Audit*.

CBOE data manipulation is limited to ballot detail entry into BPS. Access to BPS and WIN EDS programming is restricted to the manufacturer. FPA(IT)-C1

CBOE obtains a Service Organization Control (SOC 1) Report (prepared in accordance with guidelines contained within the American Institute of Certified Public Accounts Statement on Standards for Attestation Engagements (SSAE) No. 16, Reporting on Controls at Service Organizations) from Dominion Voting Systems to provide evidence that associated internal controls (i.e. access; change management) are adequate for BPS and WIN EDS. FPA(IT)-C2

GAP#5: Through conversations with management, Service Organization Control (SOC 1) Reporting is not utilized to verify adequacy of internal controls related to BPS and WIN EDS programming.

CLR coding access is restricted to the Re-Districting Department. FPA(IT)-C3

Ballot detail (BPS entry data) is reviewed for content accuracy (i.e. candidate listing; applicable referendums; language clarity (i.e. English; Chinese; Hindi), and approved (via signature) by Election Consultants. FPA(IT)-C4

Narrative:

1. *Program testing* – Optical scanning devices utilized within the selected precincts are required to be tested from programming accuracy. Testing requirements are mandated via the following guidance:

Election Code 10 ICLS 5/24B-15:

"As part of the retabulation, the election authority shall test the computer program in the selected precincts and on the selected early voting devices. The test shall be conducted by processing a preaudited group of ballots marked to record a predetermined number of valid votes for each candidate and on each public question, and shall include for each office one or more ballots which have votes in excess of the number allowed by law to test the ability of the equipment and the marking device to reject such votes. If any error is detected, the cause shall be determined and corrected, and an errorless count shall be made prior to the official canvass and proclamation of election."

Instructions for 5% Re-Tabulation:

"As part of this retabulation, the Board has tested the computer program in the selected precincts by processing a pre-audited group of ballots so marked as to record a predetermined number of valid votes for each candidate and on each public question appearing on the ballot and has included for each office one or more ballots which have votes in excess of the number allowed by law in order to test the ability of the equipment to reject such votes."

Note, the above testing procedure is referred to as the Pre-LAT (Logic and Accuracy Testing), and is performed on optical scanners utilized on election day; tested prior to said election day. For those utilized for the *Five Percent Audit*, said testing is performed immediately prior to the *Five Percent Audit*.

In addition to the Pre-LAT testing, optical scanning equipment preventive maintenance (verifying the accuracy / sensitivity of the optical reader) is performed subsequent to every election, and for instances of noted issues during the execution of the Pre-LAT testing requirement. A high-level description of the preventive maintenance procedure is the optical reader's ability to read (detect) shades of grey; with a minimum detection threshold of 16% shading required for the optical reader being tested; with optical reader replacement being the corrective action for noted instances in which the minimum detection threshold cannot be obtained.

Optical scanning devices utilized within the selected precincts (day of election and early voting) are tested for programming accuracy (Pre-LAT (Logic and Accuracy Testing)) via the utilization of a pre-audited ballot population; representing each candidate and public question associated with the election in question. In addition, the pre-audited ballot population includes ballot detail designed to validate programming rejection ability. Noted issues, if applicable, are researched / resolved. FPA(OS)-C1

Optical reader preventive maintenance is performed:

- Subsequent to each election;
- When issues are noted during the execution of the Pre-LAT testing.

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For instances in which the minimum detection threshold cannot be obtained, the optical reader assembly is replaced. FPA(OS)-C2

2. Break Transfer Case seal – The security seal on the applicable transfer case is broken to allow access to the optical voting ballots required for re-count. Proper evidencing of the security seal breakage is documented on the *Certificate of Results Audit / Re-tabulation of Ballots in 5% of Precincts (Form 5% P)*.

Breakage of the transfer case seal is appropriately evidenced (completion of step #1; signatures of two Chicago Board of Elections employees) on the Certificate of Results Audit / Re-tabulation of Ballots in 5% of Precincts (Form 5% P). FPA(OS)-C3

3. Ballot scanner prep – The optical scanner is prepared for use by verifying the following:

- Morning zero tape indicates "0" (for both candidate and referendum voting);
- Bottom of the morning zero tape indicates "Polls open, OK to read ballots";
- Green "Ready to Read Ballots" light is illuminated;
- Public counter indicates "0000";
- Paper tape is attached to the scanner (Note, paper tape must be attached throughout the re-tabulation process).

Preparing the optical scanner for use during the 5% re-tabulation must include the following verifications:

- Morning zero tape indicates "0" (for both candidate and referendum voting);*
- Bottom of the morning zero tape indicates "Polls open, OK to read ballots";*
- Green "Ready to Read Ballots" light is illuminated;*
- Public counter indicates "0000";*
- Paper tape is attached to the scanner. FPA(OS)-C4*

Proper scanner preparation is appropriately evidenced (completion of step #2; signatures of two Chicago Board of Elections employees) on the Certificate of Results Audit / Re-tabulation of Ballots in 5% of Precincts (Form 5% P). FPA(OS)-C5

4. Break Voted Ballots seal – Election ballots are contained within a plastic bag (located within the transfer case). Access to said ballots is accomplished by breaking the "Voted Ballots" seal.

5. Run ballots – Election day ballots are re-tabulated by processing through the optical scanner; with scanner programming determining if the ballot is accepted (increasing the public counter by "1"), or rejected (rejection message recorded on the paper tape). Ballot rejection programming is based upon the following criteria:

- Ballot Missing Initials – missing judges' initials;
- Overvoted Office – contains an over-vote situation (Note, by depressing the "override-number 3-button", the scanner will count all votes on the ballot with the exception of the over-vote occurrence);
- Undervoted Office – contains an under-vote situation (**Note**, this is applicable only to elections containing state-wide constitutional offices on the ballot AND the under-vote option is activated);
- No Votes Recorded – contains a no-vote situation (Note, the situation requires the depression of "override-number 3-button").

In addition, damaged ballots that are not counted on the initial pass can be re-entered utilizing a different orientation. If the damaged ballot is rejected a second time, management is notified; with the situation being documented on the *Certificate of Results Audit / Re-tabulation of Ballots in 5% of Precincts (Form 5% P)*.

Scanner programming rejects re-tabulated ballot attempts based upon the following criteria:

- Ballot Missing Initials;*
- Overvoted Office;*
- Undervoted Office;*
- No Votes Recorded. FPA(OS)-C6*

GAP6: Per the Instructions for 5% Re-Tabulation, the following statement is provided:

"It is possible that the ballot scanner will not be programmed to reject ballots with the messages described"

As validated with management, the above statement would indicate the same programming utilized for election day scanning devices is not available for the re-tabulation exercise; increasing the chance for count variance.

Reprocessing of damaged ballots is documented on the Certificate of Results Audit / Re-tabulation of Ballots in 5% of Precincts (Form 5% P). FPA(OS)-C7

6. Update scan reporting – Upon completion of reprocessing the ballots, the results tape is printed via the following procedure:

- Opening the back door of the optical scanner;
- Depressing the "Print Totals" button;
- Depressing "0".

Upon printing completion, the results tape is removed, and signed by the two CBOE operators. In addition, two additional results tapes are printed, and removed from the optical scanner.

Finally, re-tabulation results are transferred from the results tape to the Insight Tally Report; with the CBOE operator printing the results for each candidate / referendum in the applicable location.

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Completed re-tabulations via optical scanning is supported / evidenced by the following:

- Signed results tape;
- Printing of two additional results tape (with each being signed by the applicable CBOE employees);
- Properly completed Insight Tally Report;
- Certificate of Results Audit / Re-tabulation of Ballots in 5% of Precincts (Form 5% P) indicating completion of steps #4, #5 and the first portion step #6. FPA(OS)-C8

7. Scan analysis – Re-tabulation results are compared to election results via the Insight Tally Report data. If results agree, the process proceeds to step #8. If there is disagreement, management is notified for proper corrective action.

Note, the detail contained within the Insight Tally Report is provided via the main election results database; which is updated from the election results transmission process that occurs immediately after polls are closed. The transmission process, and thus the accuracy / completeness of the Insight Tally Report, is not detailed within this flowcharting. However, variances (i.e. Insight Tally Report results versus Five Percent Audit procedures) would be detected / researched.

Re-tabulation results are analyzed for agreement; utilizing the data contained within the Insight Tally Report. FPA(OS)-C9

GAP#7: Per conversation with management, the detail contained within the *Instructions for 5% Re-Tabulation* does not reflect the current practice in that the Insight Tally Report is not signed to reflect the analysis of election results to those obtained via the *Five Percent Audit*.

GAP#8: Per conversation with management, the results analysis (election vs. *Five Percent Audit*) is performed by management; not the CBOE employees performing the optical scanning portion of the *Five Percent Audit*. As such, the requirements outlined within the *Certificate of Results Audit / Re-tabulation of Ballots in 5% of Precincts (Form 5% P)* cannot be achieved (i.e. “We recorded the vote totals from the ballot scanner results tape on the Insight Tally Report and compared the results with the Election Day totals to verify whether they match”).

GAP #9: Election results are available to the employees performing the audit (via material contained within the transfer case); thus, preventing a blind count.

In addition, the optical scanning equipment cannot distinguish a ballot that has been processed versus a ballot that has not been processed. As such, ballots may be processed more than once. It should be noted that risk of undetected duplicate ballot processing is minimized in that each voter choice would be increased for each duplicate processing; thus, increasing the chance of detection (variance between election results as detailed within the Insight Tally Report versus the results tape from the *Five Percent Audit*).

GAP#10: Per conversation with management, general corrective actions for noted variances (election vs. *Five Percent Audit*) are as follows:

- Determination if the variance is related to a “shared precinct” (physical voting site that has ballot scanning equipment for two precincts);
- Inquiring as to equipment failure during ballot processing (Note, this situation would require “emergency procedures”; placing ballots into an auxiliary ballot box until new equipment is provided, placing memory pack from old optical scanner into new optical scanner, processing ballots collected during the interim after polls close);
- Contacting applicable Election Judge to determine if any anomalies occurred during ballot processing;
- Verifying provisional ballots were not included with regular ballots;
- Re-running Five Percent Audit process utilizing a different optical scanner;
- Contacting Legal Counsel for guidance for variances that cannot be resolved.

However, the provided procedural documentation (*Instructions for 5% Re-Tabulation*) does not detail any “standard” corrective procedures. Rather, the procedural guidance only references the notification of a monitor for note variances. Note, the above detail should be considered in conjunction with GAP#7 in that management is performing the initial analysis; not the CBOE employees. Thus, the procedural reference of monitor notification reflects an additional procedural guidance step which does not align with current practice.

Analysis of the re-tabulation results is appropriately evidenced (completion of second portion of step #6; signatures of two Chicago Board of Elections employees) on the Certificate of Results Audit / Re-tabulation of Ballots in 5% of Precincts (Form 5% P) and the signed Insight Tally Report. FPA(OS)-C10

8. Scanner shutdown – Upon completion of the 5% re-tabulation procedure, the optical scanner process is completed via the following steps:

- Removal of scanned ballots from the front and rear bins;
- Placing of scanned ballots inside a new plastic bag;
- Sealing said plastic bag with a signed / dated Voted Ballot Security seal;
- Placing sealed scanned ballots inside of original transfer case;
- Preparing two additional copies of the Insight Tally Report;
- Recording the new seal number on the *Certificate of Results Audit / Re-tabulation of Ballots in 5% of Precincts (Form 5% P)*;
- Stapling the signed final results tape, the morning zero tape, and the original Insight Tally Report to the *Certificate of Results Audit / Re-tabulation of Ballots in 5% of Precincts (Form 5% P)*;
- Place the stapled package (final results tape; morning zero tape; original *Certificate of Results Audit / Re-tabulation of Ballots in 5% of Precincts (Form 5% P)*) inside the transfer case;
- Sealing the transfer case (with the seal number being recorded on the *Certificate of Results Audit / Re-tabulation of Ballots in 5% of Precincts (Form 5% P)*);
- Attaching copies of the results tape and Insight Tally Report to the yellow and pink copies of the *Certificate of Results Audit / Re-tabulation of Ballots in 5% of Precincts (Form 5% P)*;
- Returning the sealed transfer case, and all associated material (i.e. memory pack; yellow and pink copies of the *Certificate of Results Audit / Re-tabulation of Ballots in 5% of Precincts (Form 5% P)*) to the checkpoint.

Five Percent Audit – Optical Scanners – Page 7 of 7

Note, the above procedure is performed upon completion of a successful 5% re-tabulation procedure (i.e. agreement of re-tabulation vs. election results). Unsuccessful procedure results require correction (as indicated within step #7).

Scanned ballots successfully re-tabulated via the 5% audit procedures, are sealed via a signed / dated Voted Ballot Security seal. FPA(OS)-C11

Original documentation (i.e. final results tape; morning zero tape; Insight Tally Report; Certificate of Results Audit / Re-tabulation of Ballots in 5% of Precincts (Form 5% P)) is placed within the sealed transfer case. FPA(OS)-C12

5% re-tabulation results (i.e. sealed transfer case; copies of Certificate of Results Audit / Re-tabulation of Ballots in 5% of Precincts (Form 5% P)) are returned to the appropriate checkpoint. FPA(OS)-C13

Proper scanner shutdown is appropriately evidenced (completion of steps #8 and #9; signatures of two Chicago Board of Elections employees) on the Certificate of Results Audit / Re-tabulation of Ballots in 5% of Precincts (Form 5% P). FPA(OS)-C14

Five Percent Audit – Optical Scanners – Key Documents – Page 1 of 1

(a) Public Notice

Preparer: Chicago Board of Elections

Source: Hardcopy format

Purpose: Official notification to public as to the date, time and location of the *Five Percent Audit*

(b) Certificate of Results Audit / Re-tabulation of Ballots in 5% of Precincts (Form 5% P)

Preparer: Chicago Board of Elections employees executing the *Five Percent Audit*

Source: Hardcopy format

Purpose: Validation of steps performed during the *Five Percent Audit*

(c) "Print Total" Tape

Preparer: Chicago Board of Elections employees executing the *Five Percent Audit*

Source: Optical Scanner utilized for *Five Percent Audit*

Purpose: Election scanning equipment printout detailing re-tabulation results

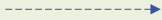
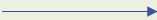
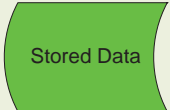
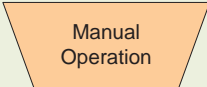
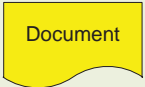
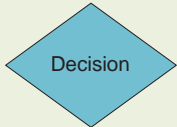
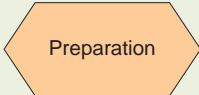
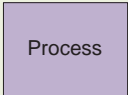
(d) Insight Tally Report

Preparer: Chicago Board of Elections employees

Source: Election night transmitted results

Purpose: Allow for comparison (election results versus *Five Percent Audit*)

Shape Legend



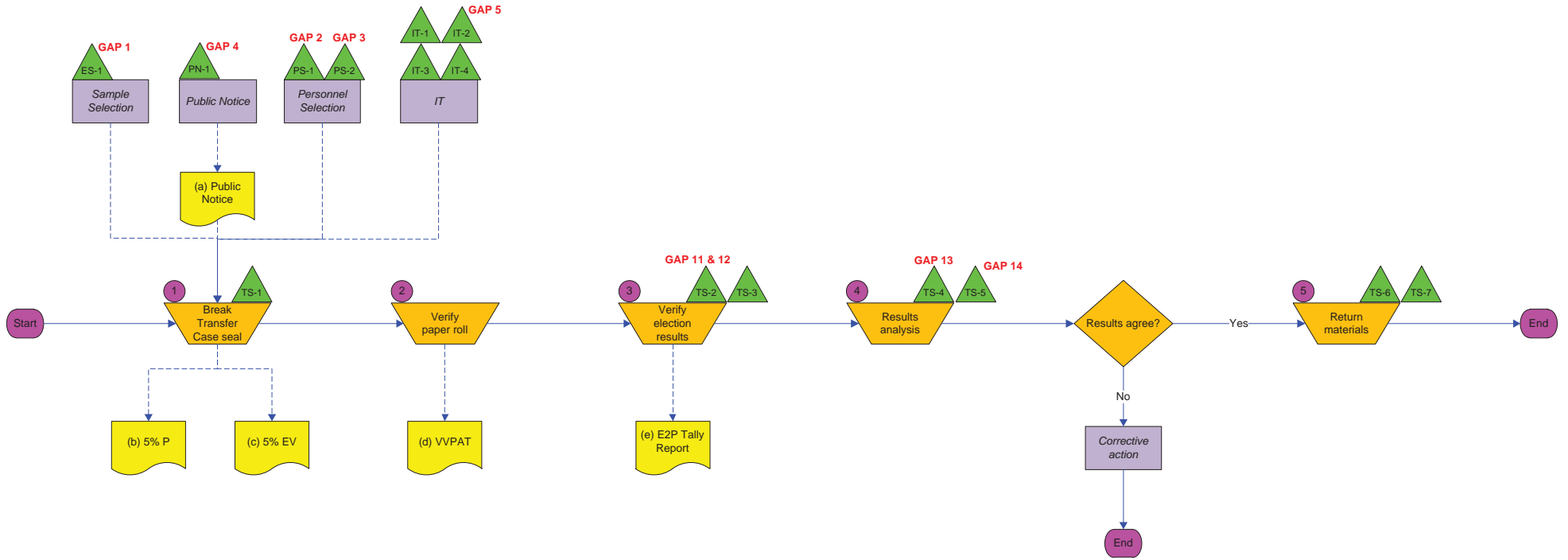
Process Step #

Manual flow

Auto process or rpt generation

Appendix B

Five Percent Audit – Touchscreens



Five Percent Audit – Touchscreens – Page 1 of 5

The following narrative documents the utilization of the *Five Percent Audit – Touchscreens* process.

The detail contained within is derived from the following sources:

- Instructions for 5% Re-Tabulation;
- Election Code 10 ICLS 5/24B-15;
- Election Code 10 ICLS 5/24C-15;
- Election Code 10 ICLS 5/7-34;
- Election Code 10 ICLS 5/17-23;
- Provided Public Comment related to the primary election dated March 15, 2016;
- Interviews with the following staff members: Assistant Executive Director (Kelly Bateman); Legal Counsel (Joan Agnew); Assistant Manager Electronic Voting Equipment (Derrick Hurde); IT (Ronald Boyd); Warehouse Supervisor (DeAnna Spires); Assistant Manager Community Services (Laura Grimm); IT Manager (Matthew Lin); IT Associate (AI Chase).

Background:

The Chicago Board of Elections (CBOE) facilitates voting needs for 2,069 precincts; with each precinct having both optical scanning and touchscreen voting capability. In addition, approximately 550 early voting devices (touchscreens) are provided. As such, the below narrative outlines the *Five Percent Audit – Touchscreens* process associated with the CBOE 5% re-tabulation procedure; with assistance from the following sub-processes:

A. **Sample Selection** – As it relates to sample selections for the *Five Percent Audit*, the below guidance is provided within the Election Code (with emphasis provided by BKD). Note, code 24B-15 relates to optical scanning devices, while code 24C-15 addresses touchscreen voting devices.

Election Code 10 ICLS 5/24B-15:

"As an additional part of this check prior to the proclamation, in those jurisdictions where in-precinct counting equipment is used, the ***election authority shall retabulate the total number of votes cast in 5% of the precincts*** within the election jurisdiction, as well as ***5% of the voting devices used in early voting***. The precincts and the voting devices to be retabulated shall be ***selected*** after election day on a random basis ***by the State Board of Elections***, so that every precinct in the election jurisdiction and ***every voting device used*** in early voting has an equal mathematical chance of being selected."

Election Code 10 ICLS 5/24C-15:

"Prior to the proclamation, the ***election authority shall test the voting devices and equipment in 5% of the precincts*** within the election jurisdiction, as well as ***5% of the voting devices used in early voting***. The precincts and the voting devices to be tested shall be ***selected*** after election day on a random basis ***by the State Board of Elections***, so that every precinct and ***every device used in early voting*** in the election jurisdiction has an equal mathematical chance of being selected."

Equipment sampling, related to the Five Percent Audit, is administered by the State Board of Elections. FPA(ES)-C1

GAP#1: Although the equipment subject to the Five Percent Audit procedure is selected by the State Board of Elections, the sampling procedure does not provide for replacement sampling for instances in which an early voting device was not utilized (i.e. zero votes recorded). As such, for instances in which the sampling results include an early voting device that was not utilized (zero votes recorded), the Five Percent Audit procedure may not meet the intent of the Election Code that requires the selection of five percent of the devices used in early voting.

It should be noted that precinct election results are combined (optical scanner and touchscreen) prior to transmittal. As such, for non-early voting devices, determination as to usage may be impossible prior to sample selection.

B. **Personnel Selection** – For the purposes of this flowcharting, participation in the Five Percent Audit process is aggregated into the two categories of Pollwatchers and CBOE Employees; with selection criteria for each discussed below (emphasis added by BKD)..

1. **Pollwatchers** – For the selection for pollwatchers the below selection guidance is provided within the Election Code, and the *Instructions for 5% Re-Tabulation*. In addition, pollwatcher authority and responsibilities are outlined within the provided Public Notice.

Election Code 10 ICLS 5/7-34:

"(1) Each established political party shall be entitled to appoint one pollwatcher per precinct. Such pollwatchers must be affiliated with the political party for which they are pollwatching and must be a registered voter in Illinois.

(2) Each candidate shall be entitled to appoint two pollwatchers per precinct. For Federal, State, county, township, and municipal primary elections, the pollwatchers must be registered to vote in Illinois.

(3) Each organization of citizens within the county or political subdivision, which has among its purposes or interests the investigation or prosecution of election frauds, and which shall have registered its name and address and the names and addresses of its principal officers with the proper election authority at least 40 days before the primary election, shall be entitled to appoint one pollwatcher per precinct. For all primary elections, the pollwatcher must be registered to vote in Illinois.

(3.5) Each State nonpartisan civic organization within the county or political subdivision shall be entitled to appoint one pollwatcher per precinct, provided that no more than 2 pollwatchers appointed by State nonpartisan civic organizations shall be present in a precinct polling place at the same time. Each organization shall have registered the names and addresses of its principal officers with the proper election authority at least 40 days before the primary election. The pollwatchers must be registered to vote in Illinois. For the purpose of this paragraph, a "State nonpartisan civic organization" means any corporation, unincorporated association, or organization that:

- as part of its written article, bylaws, or charter or by separate written declaration, has among its stated purposes the provision of voter information and education, the protection of individual voters' rights, and the promotion of free and equal elections;
- is organized or primarily conducts its activities within the State of Illinois; and
- continuously maintains an office or business location within the State of Illinois, together with a current listed telephone number (a post office box number without a current listed telephone number is not sufficient).

Five Percent Audit – Touchscreens – Page 2 of 5

(4) Each organized group of proponents or opponents of a ballot proposition, which shall have registered the name and address of its organization or committee and the name and address of its chairman with the proper election authority at least 40 days before the primary election, shall be entitled to appoint one pollwatcher per precinct. The pollwatcher must be registered to vote in Illinois.

(5) In any primary election held to nominate candidates for the offices of a municipality of less than 3,000,000 population that is situated in 2 or more counties, a pollwatcher who is a resident of a county in which any part of the municipality is situated shall be eligible to serve as a pollwatcher in any polling place located within such municipality, provided that such pollwatcher otherwise complies with the respective requirements of subsections (1) through (4) of this Section and is a registered voter whose residence is within Illinois."

Election Code 10 ICLS 5/17-23:

"(1) Each established political party shall be entitled to appoint two pollwatchers per precinct. Such pollwatchers must be affiliated with the political party for which they are pollwatching. For all elections, the pollwatchers must be registered to vote in Illinois.

(2) Each candidate shall be entitled to appoint two pollwatchers per precinct. For all elections, the pollwatchers must be registered to vote in Illinois.

(3) Each organization of citizens within the county or political subdivision, which has among its purposes or interests the investigation or prosecution of election frauds, and which shall have registered its name and address and the name and addresses of its principal officers with the proper election authority at least 40 days before the election, shall be entitled to appoint one pollwatcher per precinct. For all elections, the pollwatcher must be registered to vote in Illinois.

(3.5) Each State nonpartisan civic organization within the county or political subdivision shall be entitled to appoint one pollwatcher per precinct, provided that no more than 2 pollwatchers appointed by State nonpartisan civic organizations shall be present in a precinct polling place at the same time. Each organization shall have registered the names and addresses of its principal officers with the proper election authority at least 40 days before the election. The pollwatchers must be registered to vote in Illinois. For the purpose of this paragraph, a "State nonpartisan civic organization" means any corporation, unincorporated association, or organization that:

- (i) as part of its written articles of incorporation, bylaws, or charter or by separate written declaration, has among its stated purposes the provision of voter information and education, the protection of individual voters' rights, and the promotion of free and equal elections;
- (ii) is organized or primarily conducts its activities within the State of Illinois; and
- (iii) continuously maintains an office or business location within the State of Illinois, together with a current listed telephone number (a post office box number without a current listed telephone number is not sufficient).

(4) In any general election held to elect candidates for the offices of a municipality of less than 3,000,000 population that is situated in 2 or more counties, a pollwatcher who is a resident of Illinois shall be eligible to serve as a pollwatcher in any poll located within such municipality, provided that such pollwatcher otherwise complies with the respective requirements of subsections (1) through (3) of this Section and is a registered voter in Illinois.

(5) Each organized group of proponents or opponents of a ballot proposition, which shall have registered the name and address of its organization or committee and the name and address of its chairman with the proper election authority at least 40 days before the election, shall be entitled to appoint one pollwatcher per precinct. The pollwatcher must be registered to vote in Illinois."

Instructions for 5% Re-Tabulation:

"3. The State Board of Elections, the State's Attorney and other appropriate law enforcement agencies, the county chairman of each established political party and qualified civic organizations shall be given prior written notice of the time and place of the retabulation and may be represented at the retabulation. Pollwatchers authorized pursuant to Sections 7-34 and 17-23 of the Election Code (10 ILCS 5/7-34: 5/17-23) will be permitted to observe all proceedings with regard to the 5% retabulation: however, pollwatchers must obtain pollwatcher credentials marked "5% Retabulation."

Note, for the purposes of this review, pollwatcher selection was deemed out-of-scope. As such, no control activity was considered.

Public Notice:

"Candidates shall be entitled to have two (2) pollwatchers per station where ballots are retabulated or counted; established political parties shall be entitled to have one (1) pollwatcher per station at a primary election, and two (2) pollwatchers per station at a general election; and qualified organizations shall be entitled to have one (1) pollwatcher per station.

Persons authorized to attend the 5% retabulation / test may observe the proceedings; they may not touch any election materials. Photographs and filming will be permitted; however, no photographs or filming of individual ballots (whether optical scan or touchscreen ballots) shall be permitted. **Board employees will conduct their duties without delay; they will not stop or slow down the performance of their duties simply to allow photographs or filming or to answer questions from pollwatchers or observers. Board employees shall refer questions, problems or requests to a Supervisor.**

Board employees/supervisors are not giving consent to have their conversations audio recorded.

Requests for copies of any materials shall be made in writing to the Board's Freedom of Information Officer (consult the Board's web site at www.chicagoelections.com).

Any person who is disorderly or who, in the judgment of the Board, unreasonably disrupts the 5% retabulation / test may be removed."

Pollwatcher authority and responsibilities are summarized within the provided Public Notice. FPA(PS)-C1

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GAP#2: Interaction between pollwatchers and CBOE employees does not appear to be adequately controlled; with the current practice allowing for process deviation (i.e. conversations between CBOE employees conducting the *Five Percent Audit* and pollwatchers). Examples of such interaction include the following (obtained from the provided Public Comment related to the primary election dated March 15, 2016):

"Poll watchers were instructed that they could not take any photos of the staff tally sheet, until after the "corrections" were made" (see affidavit of Clare J. Tobin; Note, the provided statement (via interaction between pollwatcher and CBOE employee) appears to contradict the pollwatcher authority / responsibilities outlined within the Public Notice)

"At the first table I monitored, for early voting touch screen unit #3219, location #23, after the last vote was read, the CBOE employee allowed me to witness her tabulation sheet, but not take a picture, because, she said, "this was not the final version." (see affidavit of William B. Shipley)

"I observed a CBOE tallier to not tally a vote for a Voting Rights referendum, and instead to mark the tally in the grid space for a Logan Square Zoning referendum. I asked that employee if she had marked the Zoning referendum; she had. I then asked the reader if the vote he had read had been for Voting Rights; it had. The tallier did not correct the vote tally. The reader did not question the tallier's actions." (see affidavit of Rebecca Kerlin)

"The CBOE reader discussed in item 11 asserted that he would prefer that I not photograph the tally sheet of the CBOE tallier who performed items 5 - 10 above." (see affidavit of Rebecca Kerlin)

"Several personnel obstructed my vision of the paper ballots as they were being fed into the machines. I witnessed management telling personnel they did not need to facilitate our viewing, and one table actively obstructed my participation by placing their large blue ballot box horizontally in the chair next to them. As I was not permitted to touch anything, I asked them to move the chair so I could step closer and see, but they refused. When I asked, they also refused to let me see their tally sheets for more than the brief second they were marking that page, and turned the sheet so I couldn't see from my end of the table without moving the chair and blue box blocking my view." (see affidavit of Michelle Suzanne Gale)

2. **CBOE Employees** – Per conversation with CBOE management, staffing needs related to the *Five Percent Audit* process are fulfilled by either CBOE Warehouse Associates or temporary staffing via employment agencies. It should be noted that most temporary staff assist with other CBOE staffing needs prior to the performance of the *Five Percent Audit* procedure; thus allowing for additional CBOE experience prior to the execution of the procedure.

Staffing needs related to the Five Percent Audit process are fulfilled by either CBOE Warehouse Associates or temporary staffing via employment agencies. FPA(PS)-C2

GAP#3: The following attributes may increase the probability of manual error during the execution of the *Five Percent Audit* procedure:

- **Lack of clearly defined job requirements** – Specific job requirements / skills are not detailed to support the execution of the *Five Percent Audit* procedure. As such, temporary staff selections may include those with substandard reading, writing, and / or match skills. Note, this concern was noted by management during discussions with BKD.

- **Lack of specific training** – Instructions related to the *Five Percent Audit* process (i.e. procedural guidance) is provided to the selected CBOE employees a few days prior to the execution of the process. However, detailed / structured training (i.e. walkthrough of the procedural guidance and equipment demonstration; with time devoted to address specific questions) has not been developed.

- **Lack of procedural review** – Evidence to support a procedural review (i.e. current revision date; revision history detailing modifications to the process) does not exist. In addition, the current procedure may not address all aspects of accuracy risk associated with the process (e.g. how is accuracy of the count maintained while accommodating worker break periods).

C. **Public Notice** – In general, the *Five Percent Audit* process is conducted eight days subsequent to the election (i.e. the Wednesday eight days subsequent to election Tuesday); with written public notice being provided prior to the execution of said procedure. Notification is generally provided using the following methodologies: website posting, CBOE posting board, hardcopy material at reception area, and notification to known pollwatching organizations.

Public notice (date, time, and location) is provided to support the performance of the Five Percent Audit process. FPA(PN)-C1

GAP#4: Although the current practice does provide for *Five Percent Audit* public notice, said notice is not legally required to be published. It should be noted that this lack of legal requirement does appear to support a lack of public notice process consistency in that the Election Code does require public notice for voting equipment pre-election testing. For example, the following detail is included within Election Code 10 ICLS 5/24C-9 (emphasis added by BKD):

"On any day not less than 5 days prior to the election day, the election authority shall publicly test the Direct Recording Electronic Voting System equipment and programs to determine that they will correctly detect voting errors and accurately count the votes legally cast for all offices and on all public questions. Public notice of the time and place of the test shall be given at least 48 hours before the test by publishing the notice in one or more newspapers within the election jurisdiction of the election authority, if a newspaper is published in that jurisdiction. If a newspaper is not published in that jurisdiction, notice shall be published in a newspaper of general circulation in that jurisdiction. Timely written notice stating the date, time, and location of the public test shall also be provided to the State Board of Elections."

D. **Information Technology (IT)** – Voting equipment (Optical Scanners; Touchscreens) is maintained by Dominion Voting Systems. A brief overview of the "IT process" (ballot detail certification to vote collection) is represented below via brief data flow; with accompanying explanation.

Ballot Detail Certification → CBOE Input → BPS → WIN EDS → Voting Equipment → Memory Storage
CLR = ^

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1. *Ballot Detail Certification* – Ballot detail (i.e. candidate listing by party; referendums; etcetera) is certified by the State Board of Elections to the counties; which in turn, certifies to cities.
2. *CBOE Input* – Upon receipt of the certified ballot detail, said detail is hand keyed into BPS.
3. *BPS (Ballot Preparation Software)* – Converts hand keyed ballot detail into format readable by voting equipment and usable by voters to include:
 - *Optical Scanners* – Electronic PDF format for scanning equipment and printed PDF format for voter usable ballots;
 - *Touchscreens* – Produces touchscreen imaging that is readable by voting equipment and usable / readable by individual voters.

In addition, BPS creates programming parameters to allow for ballot counting for both optical scanning and touchscreen voting equipment.

Finally, CLR (Congressional Legislative and Representative) codes are maintained by the Re-Districting Department, and are utilized to establish which voters receive which ballots. It should be noted that physical property locations represented within the CLR code are mapped to the correct ballot to ensure each individual receives the correct ballot. This mapping (physical property-to-CLR code) is performed / maintained; even for cases in which the property is not utilized.

4. *WIN EDS (Window Election Data Software)* – Converts input from BPS to voting equipment (optical scanners and touchscreens) instructions as to how to count voter ballot detail.
5. *Voting Equipment* – Receives voting input from individual voter; recording selection in accordance with BPS-to-WIN EDS programming.
6. *Memory Storage* – Voting detail is stored within the associated memory pack (optical scanners) or USB (touchscreens) device.

Although the above process is not directly referenced within the *Instructions for 5% Re-Tabulation*, the following control statements assist with maintaining the accuracy of the election totals; which are utilized as the primary comparative value within the *Five Percent Audit*.

CBOE data manipulation is limited to ballot detail entry into BPS. Access to BPS and WIN EDS programming is restricted to the manufacturer. FPA(IT)-C1

CBOE obtains a Service Organization Control (SOC 1) Report (prepared in accordance with guidelines contained within the American Institute of Certified Public Accounts Statement on Standards for Attestation Engagements (SSAE) No. 16, Reporting on Controls at Service Organizations) from Dominion Voting Systems to provide evidence that associated internal controls (i.e. access; change management) are adequate for BPS and WIN EDS. FPA(IT)-C2

GAP#5: Through conversations with management, Service Organization Control (SOC 1) Reporting is not utilized to verify adequacy of internal controls related to BPS and WIN EDS programming.

CLR coding access is restricted to the Re-Districting Department. FPA(IT)-C2

Ballot detail (BPS entry data) is reviewed for content accuracy (i.e. candidate listing; applicable referendums; language clarity (i.e. English; Chinese; Hindi), and approved (via signature) by Election Consultants. FPA(IT)-C3

Narrative:

1. *Break Transfer Case seal* – The security seal on the applicable transfer case is broken to allow access to the optical voting ballots required for re-count. Proper evidencing of the security seal breakage is documented on the *Certificate of Results Audit / Re-tabulation of Ballots in 5% of Precincts (Form 5% P)* or the *Certificate of Results Audit / Re-tabulation of Ballots on 5% of Early Voting Devices (Form 5% EV)*.

Breakage of the transfer case seal is appropriately evidenced (completion of step #1: signatures of two Chicago Board of Elections employees) on the Certificate of Results Audit / Re-tabulation of Ballots in 5% of Precincts (Form 5% P), or for instances of early voting devices, the Certificate of Results Audit / Re-tabulation of Ballots on 5% of Early Voting Devices (Form 5% EV)). FPA(TS)-C1

2. *Verify paper roll* – The operator performs the following steps to validate the Voter Verifiable Paper Audit Trail (VVPAT):

- Removes the VVPAT from the transfer case;
- Unrolls the paper roll (or rolls for instances in which more than one VVPAT being associated with the applicable touchscreen);
- Verifies the VVPAT is associated with the applicable precinct / ward and / or machine serial number.

3. *Manual recount* – The CBOE employees, working in teams of three, manually recount election votes via the following process:

- One employee calls out the vote result (i.e. name of candidate receiving vote; decision related to a specific referendum);
- Two additional employees record the vote on separate E2P Tally Reports via the use of “hash marks” (Note, each box within the E2P Tally Report should contain only five “hash marks”);
- Repeating the process (calling out vote result; manually recording vote result on E2P Tally Report) for every ballot reflected on the VVPAT;
- Adding all “hash marks” and writing the vote totals to the far right of each candidate’s name or referendum.

Note, voided votes (instances in which the voter deletes the initial vote prior, and changes voting detail before casting the final vote) should not be counted and / or recorded.

Election results are manually recounted; tabulating each vote registered within the applicable Voter Verifiable Paper Audit Trail (VVPAT). FPA(TS)-C2

GAP#11: Recount results are recorded via pencil (versus ink); thus allowing for recorded results to be easily erased.

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GAP#12: The process recorded within the Instructions for 5% Re-Tabulation requires the use of two employees (one to call out the vote recorded within the VVPAT; another to record the vote on the E2P Tally Report). However, per conversation with management, the current practice is to utilize three employees (one to call out the vote recorded within the VVPAT; two to record the vote on the E2P Tally Report).

In addition, the procedure does not adequately address the common error of counting voided votes in that the procedure requires the employee to unroll the VVPAT to the beginning to verify the precinct and ward; which leads to the employee starting at the top of the VVPAT. However, voided vote detail is contained at the bottom (end) of the VVPAT. As such, unnecessary corrections may need to be performed by starting at the top (beginning) of the VVPAT roll.

Also, the procedure does not address how to ensure manual count accuracy while accommodating employee work breaks.

Finally, the procedure does not address the recording space limitation associated with the E2P Tally Report in that only 34 boxes are present to record “hash marks”; thus limiting the number of votes to be recorded to 170. It should be noted that the current practice (which is not detailed within the procedural guidance) is to utilize the back of the E2P Tally Report to continue recording votes.

Recount performance is appropriately evidenced (completion of the first two portions of step #7; signatures of two Chicago Board of Elections employees) on the Certificate of Results Audit / Re-tabulation of Ballots in 5% of Precincts (Form 5% P), or, in the case of early voting review (completion of the first two portions of step #2; signatures of two Chicago Board of Elections employees) on the Certificate of Results Audit / Re-tabulation of Ballots on 5% of Early Voting Devices (Form 5% EV) and the signed E2P Tally Report. FPA(TS)-C3

4. *Results analysis* – Recount results are compared to election results (manual recount “hash mark” totals versus election results printed on the E2P Tally Report). If results agree, the E2P Tally Report is signed by the applicable CBOE employees and the process proceeds to step #5. If there is disagreement, management is notified for proper corrective action.

Recount results are analyzed for agreement; utilizing the data contained within the E2P Tally Report. FPA(TS)-C4

GAP#13: Election results are recorded on the E2P Tally Report; thus preventing a blind count.

Analysis of the recount results is appropriately evidenced (completion of the final portion of step #7; signatures of two Chicago Board of Elections employees) on the Certificate of Results Audit / Re-tabulation of Ballots in 5% of Precincts (Form 5% P), or, in the case of early voting review (completion of the final portion of step #2; signatures of two Chicago Board of Elections employees) on the Certificate of Results Audit / Re-tabulation of Ballots on 5% of Early Voting Devices (Form 5% EV) and the signed E2P Tally Report. FPA(TS)-C5

GAP#14: Per conversation with management, general corrective action for noted variances (election vs. Five Percent Audit) is to perform additional recounts to obtain agreement. However, the provided procedural documentation (Instructions for 5% Re-Tabulation) does not detail any “standard” corrective procedures, and does not address the number of recounts required to ensure accuracy (i.e. obtain an additional recount; with both employee counts agreeing to election results).

5. *Return of materials* – Upon successful completion of the manual recount (election results agree with Five Percent Audit output), the following process is performed:

- Prepare two additional copies of the E2P Tally Report;
- Separate forms *Certificate of Results Audit / Re-tabulation of Ballots in 5% of Precincts (Form 5% P)* and *Certificate of Results Audit / Re-tabulation of Ballots on 5% of Early Voting Devices (Form 5% EV)*;
- Staple original E2P Tally Report to the *Certificate of Results Audit / Re-tabulation of Ballots in 5% of Precincts (Form 5% P)* or *Certificate of Results Audit / Re-tabulation of Ballots on 5% of Early Voting Devices (Form 5% EV)*;
- Place the stapled package inside the transfer case;
- Seal the transfer case (with the seal number being recorded on the *Certificate of Results Audit / Re-tabulation of Ballots in 5% of Precincts (Form 5% P)*, or, *Certificate of Results Audit / Re-tabulation of Ballots on 5% of Early Voting Devices (Form 5% EV)*);
- Attach copies of the E2P Tally Report to the yellow and pink copies of the *Certificate of Results Audit / Re-tabulation of Ballots in 5% of Precincts (Form 5% P)*, or, *Certificate of Results Audit / Re-tabulation of Ballots on 5% of Early Voting Devices (Form 5% EV)*;
- Return the sealed transfer case, and all associated material (i.e. yellow and pink copies of the *Certificate of Results Audit / Re-tabulation of Ballots in 5% of Precincts (Form 5% P)*) to the checkpoint.

Note, the above procedure is performed upon completion of a successful 5% re-tabulation procedure (i.e. agreement of re-tabulation vs. election results). Unsuccessful procedure results require correction (as indicated within step #4).

Original documentation (i.e. E2P Tally Report; Certificate of Results Audit / Re-tabulation of Ballots in 5% of Precincts (Form 5% P)) is placed within the sealed transfer case. FPA(TS)-C6

5% re-tabulation results (i.e. sealed transfer case; copies of Certificate of Results Audit / Re-tabulation of Ballots in 5% of Precincts (Form 5% P)) are returned to the appropriate checkpoint. FPA(TS)-C7

Five Percent Audit – Touchscreens – Key Documents – Page 1 of 1

(a) Public Notice

Preparer: Chicago Board of Elections

Source: Hardcopy format

Purpose: Official notification to public as to the date, time and location of the *Five Percent Audit*

(b) Certificate of Results Audit / Re-tabulation of Ballots in 5% of Precincts (Form 5% P)

Preparer: Chicago Board of Elections employees executing the *Five Percent Audit*

Source: Hardcopy format

Purpose: Validation of steps performed during the *Five Percent Audit*

(c) Certificate of Results Audit / Re-tabulation of Ballots on 5% of Early Voting Devices (Form 5% EV)

Preparer: Chicago Board of Elections employees executing the *Five Percent Audit*

Source: Hardcopy format

Purpose: Validation of steps performed during the *Five Percent Audit*

(d)- Voter Verifiable Paper Audit Trail (VVPAT)

Preparer: N/A

Source: Touchscreen device utilized during election

Purpose: Election touchscreen equipment printout detailing election results results

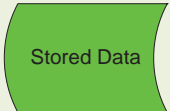
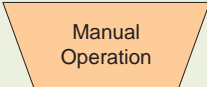
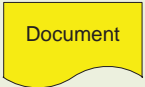
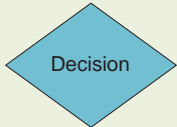
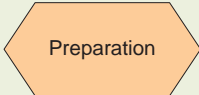
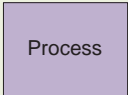
(e) E2P Tally Report

Preparer: Chicago Board of Elections employees

Source: Hardcopy format

Purpose: Allow for comparison (election results versus *Five Percent Audit*)

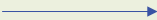
Shape Legend



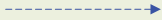
Internal Control #



Process Step #



Manual flow



Auto process or rpt generation

Appendix C

GAP Detail - Directions

Improvement Opportunity General Information

GAP # - Reference as to the item number.

Process - The scope of this engagement is limited to the *Five Percent Audit* process.

Sub-process - Additional partitioning of the *Five Percent Audit* process exception into one of the following categories:

- Equipment Sampling (EQ);
- Personnel Selection (PS);
- Public Notice (PN);
- Information Technology (IT);
- Optical Scanners (OS);
- Touchscreens (TS).

Date Entered - The date the exception was recorded within the original remediation log.

Control Testing Status - Control evaluation results are based solely upon interview responses (no detailed testing performed) during the flowcharting exercise, and are reflected with the designation of "Control GAP Noted".

Risk - Subjective categorization of risk as either "High", "Medium", or "Low" based upon the following general guidelines:

- Manual processes were viewed as medium to high risks.
- Automatic processes were viewed as low to medium risks.
- Spreadsheet controls were evaluated as medium risk.
- Segregation of duties were viewed as high risk areas.

Note, the above represents general guidelines; to be evaluated in conjunction with the noted exception when

Summary of Improvement Opportunity - Overview as to the nature of the exception (e.g. Inadequate segregation of duties consideration).

Exception Detail Information

Control Language - Control statement as recorded within the process flowcharting.

Improvement Opportunity - Noted exception.

Recommendation - General level remediation plan provided by BKD.

Management Response - Comments provided by the associated "Owner"; addressing the noted exception as either (1) agreement with the provided detail, or (2) disagreement, with an explanation as to why there is disagreement.

Source of Control Deficiency - Identification as to how the review source associated with the noted exception to either be:

- *Design Assessment* - Occurring during the flowcharting of the process;
- *Testing* - Occurring during substantive testing phase of the engagement.

Note, the scope of this engagement is limited to interviews and flowcharting. As such, the *Source of Control Deficiency* will be limited to *Design Assessment*.

Remediation Information

Priority - Categorization as either:

- *Immediate Action Required*;
- *Needed - Not Urgent*;
- *Desired*.

Note, the above are subjective "estimations" of the exception's priority.

Expected Completion Date - Subjective date associated with finalization of the applicable corrective action plan.

INTERNAL CONTROL TEST UPDATE						
Key Control #	Process	Sub-Process	Proposed Key Control Language	Current Status of Control Test	Notes	
1	FPA(ES)-C1 State Board Sampling	Five Percent Audit	Equipment Sampling	Equipment sampling, related to the Five Percent Audit, is administered by the State Board of Elections.	Control GAP Noted	
2	FPA(PS)-C1 Pollwatcher Authority & Responsibility	Five Percent Audit	Personnel Selection	Pollwatcher authority and responsibilities are summarized within the provided Public Notice.	Control GAP Noted	
3	FPA(PS)-C2 Staffing Need Fulfillment	Five Percent Audit	Personnel Selection	Staffing needs related to the Five Percent Audit process are fulfilled by either CBOE Warehouse Associates or temporary staffing via employment agencies.	Control GAP Noted	
4	FPA(PN)-C1 Notification Detail	Five Percent Audit	Public Notice	Public notice (date, time, and location) is provided to support the performance of the Five Percent Audit process.	Control GAP Noted	
5	FPA(OS)-C1 Programming Accuracy	Five Percent Audit	Optical Scanner	Optical scanning devices utilized within the selected precincts (day of election and early voting) are tested for programming accuracy (Pre-LAT (Logic and Accuracy Testing)) via the utilization of a pre-audited ballot population; representing each candidate and public question associated with the election in question. In addition, the pre-audited ballot population includes ballot detail designed to validate programming rejection ability. Noted issues, if applicable, are researched / resolved.	No Control GAP Discussed	
6	FPA(OS)-C2 Preventive Maintenance	Five Percent Audit	Optical Scanner	For instances in which the minimum detection threshold cannot be obtained, the optical reader assembly is replaced.	No Control GAP Discussed	
7	FPA(OS)-C3 Transfer Case Seal Breakage	Five Percent Audit	Optical Scanner	Breakage of the transfer case seal is appropriately evidenced (completion of step #1; signatures of two Chicago Board of Elections employees) on the Certificate of Results Audit / Re-tabulation of Ballots in 5% of Precincts (Form 5% P).	No Control GAP Discussed	
8	FPA(OS)-C4 Scanner Prep	Five Percent Audit	Optical Scanner	Preparing the optical scanner for use during the 5% re-tabulation must include the following verifications: <ul style="list-style-type: none"> - Morning zero tape indicates "0" (for both candidate and referendum voting); - Bottom of the morning zero tape indicates "Polls open, OK to read ballots"; - Green "Ready to Read Ballots" light is illuminated; - Public counter indicates "0000"; - Paper tape is attached to the scanner. 	No Control GAP Discussed	
9	FPA(OS)-C5 Evidence of Scanner Prep	Five Percent Audit	Optical Scanner	Proper scanner preparation is appropriately evidenced (completion of step #2; signatures of two Chicago Board of Elections employees) on the Certificate of Results Audit / Re-tabulation of Ballots in 5% of Precincts (Form 5% P).	No Control GAP Discussed	
10	FPA(OS)-C6 Ballot Auto-Rejection Programming	Five Percent Audit	Optical Scanner	Scanner programming rejects re-tabulated ballot attempts based upon the following criteria: <ul style="list-style-type: none"> - Ballot Missing Initials; - Overvoted Office; - Undervoted Office; - No Votes Recorded. 	Control GAP Noted	
11	FPA(OS)-C7 Damaged Ballot Processing	Five Percent Audit	Optical Scanner	Reprocessing of damaged ballots is documented on the Certificate of Results Audit / Re-tabulation of Ballots in 5% of Precincts (Form 5% P).	No Control GAP Discussed	
12	FPA(OS)-C8 Evidence of Re-Tabulation Completion	Five Percent Audit	Optical Scanner	Completed re-tabulations via optical scanning is supported / evidenced by the following: <ul style="list-style-type: none"> - Signed results tape; - Printing of two additional results tape (with each being signed by the applicable CBOE employees); - Properly completed Insight Tally Report; - Certificate of Results Audit / Re-tabulation of Ballots in 5% of Precincts (Form 5% P) indicating completion of steps #4, #5 and the first portion step #6. 	No Control GAP Discussed	
13	FPA(OS)-C9 Insight Tally Report	Five Percent Audit	Optical Scanner	Re-tabulation results are analyzed for agreement; utilizing the data contained within the Insight Tally Report.	Control GAP Noted	

INTERNAL CONTROL TEST UPDATE						
Key Control #	Process	Sub-Process	Proposed Key Control Language	Current Status of Control Test	Notes	
14	FPA(OS)-C10 Evidence of Re-Tabulation Analysis	Five Percent Audit	Optical Scanner	Analysis of the re-tabulation results is appropriately evidenced (completion of second portion of step #6; signatures of two Chicago Board of Elections employees) on the Certificate of Results Audit / Re-tabulation of Ballots in 5% of Precincts (Form 5% P) and the signed Insight Tally Report.	No Control GAP Discussed	
15	FPA(OS)-C11 Voted Ballot Security Seal	Five Percent Audit	Optical Scanner	Scanned ballots successfully re-tabulated via the 5% audit procedures, are sealed via a signed / dated Voted Ballot Security seal.	No Control GAP Discussed	
16	FPA(OS)-C12 Original Documentation Storage	Five Percent Audit	Optical Scanner	Original documentation (i.e. final results tape; morning zero tape; Insight Tally Report; Certificate of Results Audit / Re-tabulation of Ballots in 5% of Precincts (Form 5% P)) is placed within the sealed transfer case.	No Control GAP Discussed	
17	FPA(OS)-C13 Checkpoint Return	Five Percent Audit	Optical Scanner	5% re-tabulation results (i.e. sealed transfer case; copies of Certificate of Results Audit / Re-tabulation of Ballots in 5% of Precincts (Form 5% P)) are returned to the appropriate checkpoint.	No Control GAP Discussed	
18	FPA(OS)-C14 Evidence of Scanner Shutdown	Five Percent Audit	Optical Scanner	Proper scanner shutdown is appropriately evidenced (completion of steps #8 and #9; signatures of two Chicago Board of Elections employees) on the Certificate of Results Audit / Re-tabulation of Ballots in 5% of Precincts (Form 5% P).	No Control GAP Discussed	
19	FPA(TS)-C1 Transfer Case Seal Breakage	Five Percent Audit	Touchscreen	Breakage of the transfer case seal is appropriately evidenced (completion of step #1; signatures of two Chicago Board of Elections employees) on the Certificate of Results Audit / Re-tabulation of Ballots in 5% of Precincts (Form 5% P), or for instances of early voting devices, the Certificate of Results Audit / Re-tabulation of Ballots on 5% of Early Voting Devices (Form 5% EV).	No Control GAP Discussed	
20	FPA(TS)-C2 Voter Verifiable Paper Audit Trail	Five Percent Audit	Touchscreen	Election results are manually recounted; tabulating each vote registered within the applicable Voter Verifiable Paper Audit Trail (VVPAT).	Control GAP Noted	
21	FPA(TS)-C3 Evidence of Recount Completion	Five Percent Audit	Touchscreen	Recount performance is appropriately evidenced (completion of the first two portions of step #7; signatures of two Chicago Board of Elections employees) on the Certificate of Results Audit / Re-tabulation of Ballots in 5% of Precincts (Form 5% P), or, in the case of early voting review (completion of the first two portions of step #2; signatures of two Chicago Board of Elections employees) on the Certificate of Results Audit / Re-tabulation of Ballots on 5% of Early Voting Devices (Form 5% EV) and the signed E2P Tally Report.	No Control GAP Discussed	
22	FPA(TS)-C4 E2P Tally Report	Five Percent Audit	Touchscreen	Recount results are analyzed for agreement; utilizing the data contained within the E2P Tally Report.	Control GAP Noted	
23	FPA(TS)-C5 Evidence of Recount Analysis	Five Percent Audit	Touchscreen	Analysis of the recount results is appropriately evidenced (completion of the final portion of step #7; signatures of two Chicago Board of Elections employees) on the Certificate of Results Audit / Re-tabulation of Ballots in 5% of Precincts (Form 5% P), or, in the case of early voting review (completion of the final portion of step #2; signatures of two Chicago Board of Elections employees) on the Certificate of Results Audit / Re-tabulation of Ballots on 5% of Early Voting Devices (Form 5% EV) and the signed E2P Tally Report.	Control GAP Noted	
24	FPA(TS)-C6 Original Documentation Storage	Five Percent Audit	Touchscreen	Original documentation (i.e. E2P Tally Report; Certificate of Results Audit / Re-tabulation of Ballots in 5% of Precincts (Form 5% P)) is placed within the sealed transfer case.	No Control GAP Discussed	
25	FPA(TS)-C7 Checkpoint Return	Five Percent Audit	Touchscreen	5% re-tabulation results (i.e. sealed transfer case; copies of Certificate of Results Audit / Re-tabulation of Ballots in 5% of Precincts (Form 5% P)) are returned to the appropriate checkpoint.	No Control GAP Discussed	
26	FPA(IT)-C1 BPS & WIN EDS Programming Access	Five Percent Audit	Information Technology	CBOE data manipulation is limited to ballot detail entry into BPS. Access to BPS and WIN EDS programming is restricted to the manufacturer.	No Control GAP Discussed	
27	FPA(IT)-C2 Service Organization Control Reporting	Five Percent Audit	Information Technology	CBOE obtains a Service Organization Control (SOC 1) Report (prepared in accordance with guidelines contained within the American Institute of Certified Public Accountants Statement on Standards for Attestation Engagements (SSAE) No. 16, Reporting on Controls at Service Organizations) from Dominion Voting Systems to provide evidence that associated internal controls (i.e. access; change management) are adequate for BPS and WIN EDS.	Control GAP Noted	
28	FPA(IT)-C3 CLR Coding Access	Five Percent Audit	Information Technology	CLR coding access is restricted to the Re-Districting Department.	No Control GAP Discussed	
29	FPA(IT)-C4 Ballot Accuracy Review	Five Percent Audit	Information Technology	Ballot detail (BPS entry data) is reviewed for content accuracy (i.e. candidate listing; applicable referendums; language clarity (i.e. English; Chinese; Hindi), and approved (via signature) by Election Consultants.	No Control GAP Discussed	

Internal Control Responsibility						
Key Control Identification			Process Experts			
Key Control #	Process	Sub-Process	Primary Interviewee	Secondary Interviewees	Additional Interviewees	
1	FPA(ES)-C1 State Board Sampling	Five Percent Audit	Equipment Sampling	Kelly Bateman Joan Agnew		
2	FPA(PS)-C1 Pollwatcher Authority & Responsibility	Five Percent Audit	Personnel Selection	Kelly Bateman Joan Agnew	Derrick Hurde Ronald Boyd DeAnna Spires Laura Grimm	
3	FPA(PS)-C2 Staffing Need Fulfillment	Five Percent Audit	Personnel Selection	Kelly Bateman Joan Agnew	Derrick Hurde Ronald Boyd DeAnna Spires Laura Grimm	
4	FPA(PN)-C1 Notification Detail	Five Percent Audit	Public Notice	Kelly Bateman Joan Agnew		
5	FPA(OS)-C1 Programming Accuracy	Five Percent Audit	Optical Scanner	Derrick Hurde Ronald Boyd DeAnna Spires Laura Grimm	Kelly Bateman Joan Agnew	
6	FPA(OS)-C2 Preventive Maintenance	Five Percent Audit	Optical Scanner	Derrick Hurde Ronald Boyd DeAnna Spires Laura Grimm	Kelly Bateman Joan Agnew	
7	FPA(OS)-C3 Transfer Case Seal Breakage	Five Percent Audit	Optical Scanner	Derrick Hurde Ronald Boyd DeAnna Spires Laura Grimm	Kelly Bateman Joan Agnew	
8	FPA(OS)-C4 Scanner Prep	Five Percent Audit	Optical Scanner	Derrick Hurde Ronald Boyd DeAnna Spires Laura Grimm	Kelly Bateman Joan Agnew	
9	FPA(OS)-C5 Evidence of Scanner Prep	Five Percent Audit	Optical Scanner	Derrick Hurde Ronald Boyd DeAnna Spires Laura Grimm	Kelly Bateman Joan Agnew	
10	FPA(OS)-C6 Ballot Auto-Rejection Programming	Five Percent Audit	Optical Scanner	Derrick Hurde Ronald Boyd DeAnna Spires Laura Grimm	Kelly Bateman Joan Agnew	
11	FPA(OS)-C7 Damaged Ballot Processing	Five Percent Audit	Optical Scanner	Derrick Hurde Ronald Boyd DeAnna Spires Laura Grimm	Kelly Bateman Joan Agnew	
12	FPA(OS)-C8 Evidence of Re-Tabulation Completion	Five Percent Audit	Optical Scanner	Derrick Hurde Ronald Boyd DeAnna Spires Laura Grimm	Kelly Bateman Joan Agnew	
13	FPA(OS)-C9 Insight Tally Report	Five Percent Audit	Optical Scanner	Derrick Hurde Ronald Boyd DeAnna Spires Laura Grimm	Kelly Bateman Joan Agnew	
14	FPA(OS)-C10 Evidence of Re-Tabulation Analysis	Five Percent Audit	Optical Scanner	Derrick Hurde Ronald Boyd DeAnna Spires Laura Grimm	Kelly Bateman Joan Agnew	
15	FPA(OS)-C11 Voted Ballot Security Seal	Five Percent Audit	Optical Scanner	Derrick Hurde Ronald Boyd DeAnna Spires Laura Grimm	Kelly Bateman Joan Agnew	
16	FPA(OS)-C12 Original Documentation Storage	Five Percent Audit	Optical Scanner	Derrick Hurde Ronald Boyd DeAnna Spires Laura Grimm	Kelly Bateman Joan Agnew	
17	FPA(OS)-C13 Checkpoint Return	Five Percent Audit	Optical Scanner	Derrick Hurde Ronald Boyd DeAnna Spires Laura Grimm	Kelly Bateman Joan Agnew	
18	FPA(OS)-C14 Evidence of Scanner Shutdown	Five Percent Audit	Optical Scanner	Derrick Hurde Ronald Boyd DeAnna Spires Laura Grimm	Kelly Bateman Joan Agnew	
19	FPA(TS)-C1 Transfer Case Seal Breakage	Five Percent Audit	Touchscreen	Derrick Hurde Ronald Boyd DeAnna Spires Laura Grimm	Kelly Bateman Joan Agnew	
20	FPA(TS)-C2 Voter Verifiable Paper Audit Trail	Five Percent Audit	Touchscreen	Derrick Hurde Ronald Boyd DeAnna Spires Laura Grimm	Kelly Bateman Joan Agnew	
21	FPA(TS)-C3 Evidence of Recount Completion	Five Percent Audit	Touchscreen	Derrick Hurde Ronald Boyd DeAnna Spires Laura Grimm	Kelly Bateman Joan Agnew	
22	FPA(TS)-C4 E2P Tally Report	Five Percent Audit	Touchscreen	Derrick Hurde Ronald Boyd DeAnna Spires Laura Grimm	Kelly Bateman Joan Agnew	
23	FPA(TS)-C5 Evidence of Recount Analysis	Five Percent Audit	Touchscreen	Derrick Hurde Ronald Boyd DeAnna Spires Laura Grimm	Kelly Bateman Joan Agnew	
24	FPA(TS)-C6 Original Documentation Storage	Five Percent Audit	Touchscreen	Derrick Hurde Ronald Boyd DeAnna Spires Laura Grimm	Kelly Bateman Joan Agnew	
25	FPA(TS)-C7 Checkpoint Return	Five Percent Audit	Touchscreen	Derrick Hurde Ronald Boyd DeAnna Spires Laura Grimm	Kelly Bateman Joan Agnew	
26	FPA(IT)-C1 BPS & WIN EDS Programming Access	Five Percent Audit	Information Technology	Ronald Boyd Matthew Lin Al Chase	Kelly Bateman Joan Agnew	
27	FPA(IT)-C2 Service Organization Control Reporting	Five Percent Audit	Information Technology	Ronald Boyd Matthew Lin Al Chase	Kelly Bateman Joan Agnew	
28	FPA(IT)-C3 CLR Coding Access	Five Percent Audit	Information Technology	Ronald Boyd Matthew Lin Al Chase	Kelly Bateman Joan Agnew	
29	FPA(IT)-C4 Ballot Accuracy Review	Five Percent Audit	Information Technology	Ronald Boyd Matthew Lin Al Chase	Kelly Bateman Joan Agnew	