

Analysis of Signature Verification rejection rates of Mail-In-Ballots (MIB)

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1. I observed two groups of signature verification operations that I considered were reasonably reviewed.
 - a. The first group was counting number of screens of 4 between rejects. $40 \text{ screens} * 4 \text{ per screen} / 7 \text{ rejects} = 22.9$ (accepts /per reject)
 - b. The second group was $46 \text{ screens} * 4 \text{ per screen} / 7 \text{ rejects} = 26.3$ (accepts per reject)
 - c. The average of these two groups was 24.6 accepts per reject.
 - d. Another watcher observed review times of all teams operating on the same day that ranged from less than 2 seconds to over 10 seconds for a screen of 4 signature pairs.
 - e. Both sample groups I observed were operating at a rate of about 4 to 5 seconds per screen of 4 signature pairs.
2. I observed the team reviewing the rejected signatures and found that about 1 in 4 were changed back to "OK".
3. Per my preliminary calculations I observed a net average of about 33 accepts per reject that indicates we should expect about 3% of mail in ballots being rejected for signatures.
4. One source shows 127,875 MIB were sent out; however another source shows 130,252 were counted
5. Of those returned MIBs, 1,155 had problems with "No ID", "no Signature" or "Signature Discrepancy" of which 693 problems were for signature discrepancies for a reject rate of about 0.54%.
6. With a 3% observed rejection rate I would expect about 3,836 signatures rejects but we had only 693. Therefore there may have been $3,836 - 693 = 3,143$ undetected falsely accepted MIBs with false signatures. This is a false acceptance rate of about 2.5%.
7. Why did about 2.5% (3,143) of the MIBs returned go undetected for possible false signatures?