Post-Election Audits: Verifying Election Integrity

6-8-21 (Rev 6-11-21)

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Note 1: All of the sections of this Report listed above, are clickable links.
In the Report, all of the light blue text are all also clickable links.
Note 2: For a short, interesting video about this Audit Report see here.

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Cover graphic credit.

1: Introduction

Following the contentious 2020 elections, we have been flooded with a lot of election-related technical terms that most citizens have little familiarity with. We're referring to things like: *adjudication*, *canvassing*, *recount*, *certification*, *risk-limiting audit*, *forensic audit*, etc.

A citizen would understandably think that with all these technical terms, that a lot of high-quality care is being given to assure vote integrity. *That would be an inaccurate conclusion.* Let's look at a parallel situation, to get a better understanding of what is going on.

Let's say that the only thing that the IRS did to verify the accuracy of tax submissions (by citizens and businesses), was to double-check the math on submitted tax forms.

So, if everyone *knew* that the only thing that the IRS would do is to double check the math on tax forms sent in — and that there would be no meaningful consequences for any mistakes or omissions — do you think that adherence to tax law would be excellent, good or poor?

It doesn't require a PhD to figure out that human nature being what it is, that the compliance with the tax code in that given scenario, would be **poor**.

This is a very close parallel to the situation we currently have with US elections. Despite mostly well-intentioned citizens, electronic voting equipment, and thousands of volunteers helping out, US election integrity is likely poor.

We say "likely" as we have considerable evidence that leads to this conclusion, but (so far) not sufficient scientific proof to come to a definitive conclusion about election-integrity countrywide.

A more in-depth investigation into vote accuracy is called a **forensic audit**. [In this situation, "forensic" means "the use of science in the investigation and establishment of facts."]

> A **Full Forensic Audit** (FFA) would be a **comprehensive**, in-depth investigation into vote accuracy. (*We'll explain what "comprehensive" means shortly*.)
>
> Fact: **In modern times there has never been an FFA done for any State, for any County, or for any Precinct! Zero…**

So, we don't have adequate proof of what US election integrity actually is, *because* there has never been a full, objective, detailed analysis of *any* state, county or precinct vote results.

Conversely, for the same reason, the media and others who claim that we have excellent election integrity, have no legitimate basis for making such assertions.

2: What is a Real Audit?

Let's continue with the IRS parallel, to better understand the relative differences between various types of audits. Basically, the IRS has four levels of increasing intensity audits:
1 - **Automatic**, 2 - **Correspondence**, 3 - **Office**, *and* 4 - **Field**.

1 - An ***Automatic audit*** is what the IRS computer does to ALL tax form submissions. Essentially it is a Match & Math audit. In other words the IRS: a) matches what third parties submit about you [e.g. what your bank sent the IRS about how much interest you earned] to what is on your tax forms, *and* b) makes sure that everything on your tax forms adds up correctly.

This type of "audit" is comparable to an Election Recount.

2 - A ***Correspondence audit*** is a small step up. Here the IRS sends you a letter asking for you to verify the amount on a particular tax form line item (e.g. interest earned in a bank account).

This is similar to a "Risk-Limiting Audit" of election ballots.

3 - An IRS ***Office audit*** is a larger step up. In this case the IRS requires you to meet with an agent at a nearby IRS office, *and* to bring your records on certain select matters. (For example, if you own a rental property, the IRS may ask you to bring the records for the expenses you claimed on Schedule E.)

The parallel would be the 2020 NH and AZ limited forensic election audits.

4 - An IRS ***Field audit*** is a major leap further. In this situation an IRS agent comes to your home or place of business. The agent has the authority to double-check anything and everything.

This would be like an election Full Forensic Audit (FFA) — *which has never been done*.
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Interestingly, as a result of IRS audits, plus its ability to civilly impose powerful financial and prison penalties, the Tax Accuracy (taxpayer compliance rate) is about 85%.

Let's make the optimistic assumption that (with no real audits, and almost no penalties imposed) the election accuracy rate is also 85%. Considering that there were 160± million votes cast in 2020, that would translate to about **24 Million votes being suspect!**

Note 1: 24 suspect million votes may seem far-fetched, but consider that in 2012 Pew Research found *24 million voter registrations were either invalid or significantly inaccurate!*

Note 2: the *taxpayer* part is roughly parallel to the *voter* portion in Elections. The additional *Machine* and *Process* problems would reduce the Election Accuracy to below 85%.

This level of inaccuracy is a disturbing and sobering thought — but without FFA audits, it is a conclusion that can not simply be dismissed.

3: What is a Full Forensic Election Audit?

Before discussing what an election Full Forensic Audit (FFA) consists of, let's review some basic definitions of a few common election terms:

— *Recount* is simply double-checking the math. Do all the numbers add up?

— *Canvassing* is verifying that no votes were lost in the balloting process.

— *Certification* is a state legislative stamp-of-approval. It follows canvassing (and recounts, if any), and is made when no obvious serious errors are identified (or are uncorrected).

There are three (3) main objectives for conducting meaningful election audits:

(a) to identify and fix honest mistakes,

(b) to detect evidence of malfeasance, *and*

(c) to maintain/restore public confidence in the outcome of an election.

An election **FFA** looks at the legitimacy of **three** major aspects of the reported election results:

1 - the **Voter**, **2 -** the **Machine** (voting System Equipment), *and* **3 -** the ballot **Process**.

Here are some things that an FFA would investigate, in-depth, in each category:

1 - Did only legally eligible citizens vote, and just once?

2 - Did the voting machines accurately report all ballots received, without any changes?

3 - Did third parties illegally change or delete any legitimate ballots, or add ballots?

> Note that NONE of those questions are fully answered by an election *recount,*
> by election *canvassing,* **or** by election *certification*.

As a **Voter Forensic Audit** (type 1) model, see the Binnall Report — which is for an entire state!

Ramsland's Michigan report is a good example of a **Machine Forensic Audit** (type 2).

A **Process Forensic Audit** (type 3) may seem difficult to accurately do, but consider that a judge did investigate some of the Process part of the 2020 election in one district. He then ruled that at least nine (9) different types of election process violations had occurred! For the gritty details, please read his actual court decisions: here and here. (Note: Other words for *Process* are *Handling* and *Administration*.)

See Appendices **A**, **B** and **C** for our checklists for each of these three partial forensic audits.

An election FFA would be doing all three (3) of these for some state, county, and/or precinct. *Again, to date that has not been done, anywhere.*

How much do each of these contribute to the inaccuracies? We roughly estimate the following:

1) Voter = 40%±, **2)** Machine = 20%±, and **3)** Process = 40%±.

4: Why Aren't States and Counties Doing Election Forensic Audits (Partial or Full)?

All three types of these forensic audits (**Voter/Machine/Process**) are reasonable and doable. Further, their results (see prior page) unequivocally prove the value of election forensic audits.

In our view the easiest — and likely most revealing — is the **Voter Forensic Audit**. Even if states don't do an election Full Forensic Audit (FFA) but rather just did a Voter Forensic Audit, that would be a hundredfold improvement over what is being done now (recounts and canvassing).

So why aren't States, Counties and Precincts doing even partial forensic audits?

Reason #1: To accurately do a forensic investigation, having election chain of custody is extremely important. Some States, Counties and Precincts may well be resisting forensic audits, as they know that their chain of custody is inadequate.

Reason #2: Based on how much disinformation the mainstream media is propagating, it is likely that some state legislators and election officials believe that they are already doing effective and meaningful election audits. (*Fact: They are not.*)

Reason #3: As a corollary to #2, some state legislators and election officials may believe that a "Risk-Limiting Audit" is a serious audit. *It is not*. A **Risk-Limiting Audit** is better than a simple Machine **Recount**, but it falls far short of a **FFA**. The name is likely purposefully chosen to mislead citizens and legislators to believe that a "Risk-Limiting Audit" provides more election integrity assurance than it actually does. A more accurate name would be "Minimal Election Audit."

Reason #4: Again, based on media misinformation, it is probable that some state legislators and election officials believe that their elections are devoid of bad actors — so why bother with a detailed audit? (*Fact: There is zero scientific proof that supports that claim*.)

Reason #5: Another possible pushback from election integrity opponents against an election FFA, is that it is too complicated, time-consuming, costly, etc. We don't believe any of those to be true. For one thing, that is why we are advocating a *statistically sampled* forensic audit (see next page). That would reduce the cost and time considerably.

Further, even if all the concerns in Reason #5 were true, those downsides would pale in comparison to the enormity of what is at stake.

Note: North Carolina has a page on their election website, which lists six (6) types of post-election audits. *None of them is a **forensic audit**!* In fact doing all six would **not** be equivalent to an election FFA! Here is another discussion of Post-Election Audits. Unfortunately, it also does not discuss an election FFA.

5: An Outline of Our Proposed Methodology
for Doing Election Sample Forensic Audits

A - For ALL elections our basic proposed methodology would be that every county that does not have limited absentee balloting would *automatically* select a statistically-valid random sample of their **mail-in ballots.** Envelopes these ballots were received in would be maintained, and remain connected with the ballot. These ballots would be inspected for such problem indicators as: **a)** being on different kinds of paper, **b)** voter signatures not matching signatures on record, **c)** voters not registered or not domiciled within the precinct, **d)** persons voting more than once, and **e)** other issues in a Voter Forensic Audit.

> Note 1: This sample forensic audit would be conducted by each county's election office, with active participation of one member from both major political parties.
> Note 2: The results of this sample forensic audit would be posted on the county's website, within five (5) business days of the election.
> Note 3: If forensic analyses show problematic results, then increase the random sample size to 10%. This would provide a better determination of the extent of any malfeasance.
> Note 4: If the number of questionable votes exceeds the difference between any candidates, the county would be required to assess the scope of the problem, and resolve the cause(s) — *prior* to the county passing on their election results to the State.

B - For the Presidential election our additional proposed basic methodology would be:
   a) Select the five states that have the lowest percentage of difference between candidates.
   b) Do a scientific contrast analysis of all counties in those states, to determine which have the highest statistical likelihood of anomalies. Then select the top five contrast counties.
   c) Do the same analysis of all precincts in these top five counties. Again, select the top five.
   d) As a minimum do a Voter Forensic Audit on each of these 125 precincts.

> Note 1: This sample Voter Forensic Audit will be conducted by the US Attorney General's office, with active participation of members from all major political parties.
> Note 2: The results of this sample Voter Forensic Audit will be posted on the US Attorney General's website, within two (2) weeks of the election.
> Note 3: Once election data is available, the first three levels of statistical analyses can be done in a few days.
> Note 4: There are reportedly about 175,000 US election precincts, so doing a targeted sample of 125 precincts is a quick, low cost, meaningful election integrity test.
> Note 5: If any of the sample Voter Forensic Audits show problematic results, then do additional precincts in the problematic counties.
> Note 6: If the number of questionable votes exceeds the differential between candidates, the state would not be allowed to certify the election results until the scope of the problem is determined, and the cause(s) resolved.

C - Establish "trip wires" to trigger investigations and additional forensic audits (e.g., vote surges, unusual counting pauses, voting system equipment connected to Internet, significant signature verification failures, etc.).

6: Conclusions

Real science-based (forensic) audits are the ONLY way we can verify whether we have election integrity. Since no state, county or precinct has *ever* done a Full Forensic Audit (FFA) — and less than a handful of counties have had a Partial Forensic Audit — it goes without saying that we have no legitimate basis for believing that the US election system is honest and accurate.

In fact, to the contrary, for many years now, we have been told by dozens of experts (both Democrats and Republicans), that the US election system has **serious**, **unsustainable flaws**. (See Recommendations Report: Appendix A.)

The tepid response to that information to date can be attributed to:
   a) the mainstream media and many politicians not wishing to materially change things, as they are benefiting from election system defects, *and*
   b) the public has been misinformed (or not informed) about these significant problems, thus there has been little push from citizens for genuine reform.

We expect that those who profit from the current system's failings will continue to aggressively push back against meaningful (forensic) audits. Since they will not likely acknowledge that their objections are self-serving, they will almost certainly resort to such deceptive retorts as "these audits are a waste of time and money." *Nothing could be further from the truth.*

Our rights and freedoms are inextricably tied to our ability as citizens to freely elect our representatives. If we allow bad actors and errors to undermine this, the fabric of our society will be fatally torn.

Contrary to the election palliative pablum we are being spoon-fed, the realities are:
1 - Prior to 2020, Independent experts on both sides of the political aisle were in almost universal agreement that the US electoral process and system is seriously flawed. *This is the primary reason that both state and federal election laws need to be changed.* (See Recommendations Report: Appendix A.)
2 - No one can say that: "there was no widespread election malfeasance in 2020" until a statistically significant number of forensic audits are performed by independent experts. Not surprisingly, the same people who are making this unsupported assertion, are those who are adamantly opposing the forensic audits.
3 - The narrative that: "there was no widespread election malfeasance in 2020" is almost certainly false, based on these three facts:
   a) As stated above, bipartisan experts have already indicted the US system as having major liabilities. To find out that the 2020 election results accurately reflect citizens' wishes, would not only be unexpected, but it would undermine the conclusions and competence of these independent experts.

b) There are multiple statistical analyses that have concluded that some 2020 Presidential election results are extremely unlikely to have occurred naturally. (See the first section of Election-Integrity.info.)

c) In the rare cases where voter and system equipment 2020 results *have* been forensically investigated, substantial irregularities have been revealed. (For example, see the second and third sections of Election-Integrity.info.)

4 - We have bi-partisan agreement that **both state** and **federal election laws** need to be significantly changed. However this should not be taken as an opportunistic situation to advance a political agenda (e.g., HR-1 /S-1). Rather it is a unique long-overdue chance (on both state and federal levels) to make creative, meaningful changes that will result in US citizens' wishes being more accurately reflected in the electoral process.

Is the Maricopa (AZ) audit an FFA? No. Based on economic and time constraints (due in part to the aggressive resistance against any meaningful election audit), the Maricopa audit is a *partial* forensics audit. Based on the Statement of Work, we'd estimate that it is 75%± of an FFA.

Stories like this: "Michigan completes most comprehensive post-election audit in state history," (referring to only a minimal "Risk-Limiting Audit"), is a damning indictment of how little states are actually doing regarding auditing election results.

As national election expert Dr. Phil Stark insightfully says: "We have a *procedure-based* election system, rather than an *evidence-based* election system." That's bad enough, but consider:
a) What sense does it make to have national elections based on 50 sets of procedures? *None.*
b) Who is assuring that these procedures are rigorously adhered to? *No one.*
c) What meaningful penalties are there when these procedures are not followed? *None.*

By contrast, an evidence-based election system would additionally rely on forensic audits to assure election integrity (combined with effective, monitored procedures).

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We need to step back and see this situation in an accurate perspective. Please read: Why Election Integrity Is So Important to Me.

This report also states it well:
"Elections can further democracy, development, human rights and security, or undermine them. For this reason, promoting and protecting the integrity of elections is critically important. Only when elections are credible can they legitimize governments, as well as effectively safeguard the right of citizens to exercise their political rights."

Appendix A: Forensic VOTER Audit Checklist

The objective of a forensic Voter Audit, is to ascertain with a high degree of certainty that only legitimate votes are counted. As stated in Part 3, we believe that the Binnall Report (for the entire state of Nevada!), is a superior example of a **Forensic Voter Audit**.

These are the types of anomalies (innocent or otherwise) that a Forensic Voter Audit would include:

1 - The voter is a US citizen at the time of their casting their ballot.

2 - The voter is of legal age to vote, at the time of their casting their ballot.

3 - The voter is otherwise legally eligible to vote (e.g. is not in prison), at the time of their casting their ballot.

4 - The voter has a legal residence in the precinct they are voting in, at the time of their casting their ballot.

5 - The voter's declared legal residence in the precinct is an actual residence for that voter, at the time of their casting their ballot.

6 - The voter's declared legal residence in the precinct is a valid residence (e.g. not an empty lot or commercial building), at the time of their casting their ballot.

7 - The voter is not casting more than one ballot in this precinct (e.g. in-person as well as absentee), for the election at hand.

8 - The voter is not casting a ballot in any other precinct (including other states), for the election at hand.

9 - The voter is not legally deceased, at the time of their ballot being cast.

10-The voter's age is not suspect (e.g. 120 years old), at the time of their ballot being cast.

11-Ballots allegedly cast by a legal voter, but not actually made by that individual.

12-Additional for absentee ballots: verify the voter's identify (e.g. by signature verification).

13-Additional for absentee ballots: has the voter's ballot been prepared or conveyed by a third party? (If yes, a direct verification with the voter is advisable.)

Note: this is a sample list of some potential **voter** anomalies, and it is not inclusive. If you have any suggestions for additions or modifications, please email us (*see bottom of page 2*).

Appendix B: Forensic Voting MACHINE Audit Checklist

The objective of a Voting Machine (System Equipment) Audit, is to ascertain with a high degree of certainty that no part of the voting system equipment modified any ballots, or changed the totals from the legal ballots submitted to it. As stated in Part 3, we believe that the Ramsland Michigan report, is a good example of a Forensic System Equipment Audit.

Below are the types of facts that a Forensic System Equipment Audit should try to verify. [*Note*: the voting *System Equipment* consists of all electronic equipment involved in ballot processing or tabulation, including voting machines, servers, USB drives, backup drives, Election Management Systems, etc.]

1 - That the voting System Equipment comply with all state regulations (e.g. here).

2 - That no part of the voting System Equipment is connectable to the Internet.

3 - That all voting System Equipment related passwords are available to an authorized auditor.

4 - That only software certified by the state's Secretary of State has been loaded on a computer used for counting or accumulating vote totals.

5 - That before and after use each day, all voting parts of the System Equipment are sealed with locks and with seals with unique serial numbers, and all election workers followed proper chain of custody procedures during the election, including a careful tracking of the serial numbers used to seal the machines at the end of each period of voting.

6 - That the voting System Equipment was tested three (3) times (twice before machines are used in the election and once immediately after), and documentation for these is complete.

7 - That background checks were done for all personnel that prepare, test or service all voting System Equipment, and that documentation for these checks is complete.

8 - That any and all servicing of any voting System Equipment within seven (7) days prior to its official use, and for thirty (30) days after it official use, has been transparent. ("Transparent" means having full documentation as to exactly what servicing was done, why it was done, when it was done, who did it, etc.)

9 - That any and all voting System Equipment programming modifications, additions or deletions (including those done wirelessly) are considered servicing.

10-That, consistent with the state's law, poll-watchers were allowed to watch any and all voting System Equipment activities, during and after election day, through the completion of the vote tabulation. Documentation should be available about who these parties were.

Note: this is a sample list of potential election **machine** considerations, and it is not claimed to be inclusive. If you have any suggestions for modifications, please email us (*see bottom of page 2*).

Appendix C: Forensic Election PROCESS Audit Checklist

The objective of an Election Process Audit, is to ascertain with a high degree of certainty that no part of the election process inappropriately modified legal ballots submitted, failed to count legal ballots, or did count ballots that were illegal. As stated in Part 3, we believe that the investigation and judge's rulings in the Claudia Tenney race (cited below), is a good example of a forensic Election Process Audit.

These are examples of the issues that a forensic Election Process Audit should try to identify:

1 - That the election process fully complies with all state regulations (e.g. here).

2 - That background checks were done for all personnel that were directly involved with the voting process, and that documentation for these checks is complete.

3 - When a campaign challenges a ballot, the reason should be specifically written on the ballot — not some abbreviation made on a sticky note (see here).

4 - Affidavit ballots (or provisional ballots), must be handled properly: see here. (These special ballots are given to voters at polling sites when their names or signatures are missing from poll books. These should all be adjudicated, and with full transparent documentation.)

5 - All "tabulation errors" need full transparency documentation (not like the 45 here).

6 - All "discovered" ballots need full transparency documentation (not like the 55 here).

7 - All "disputed" ballots need full transparency documentation (not like the 67 here).

8 - All "rejected" ballots need full transparency documentation (not like the 100 here).

9 - A county can not come up with its own numbering system (like Broom County here).

10- A county can not hide undetermined ballots in a drawer (like Chenango County here).

11- "Purged" voters can not be re-instated unless they go through the current registration process. Neither election officials nor the courts can waive that (see #1 here).

12- "Purged incomplete" voters can not be re-instated unless they go through the current registration process. Neither election officials nor the courts can waive that (see #2 here).

13- Ballots cast at the wrong polling site can not be counted (see #3 here).

14-Affidavit ballots cast in the wrong county can not be counted (see #4 here).

15-Legal ballots with ministerial errors must be counted (see #5 here).

16-Timely legal ballots subject to processing delays must be counted (see #6 here).

17-Votes from parties who voted more than once can not be counted (see #7 & #10 here).

18-Uncured ballots from citizens given proper notice, can not be counted (see #8 here).

19-Absentee ballots not complying with timing rules, must not be counted (see #9 here).

20-Absentee ballot signature verification rules are clarified (see #11 here).

21-The rules for extraneous marks on ballots are clarified (see #12 here).

22-The rules for additional paper within absentee ballots folders are clarified (see #13 here).

23-The rules for absentee ballots not being sealed are clarified (see #14 here).

24-The rules for absentee ballot's substantial compliance are clarified (see #15 here).

25-The rules for extrinsic evidence with absentee ballots are clarified (see #16 here).

26-Absentee ballot applications can not be challenged after the ballot is cast (see #17 here).

27-That, consistent with the state's law, poll-watchers were allowed to watch any and all voting Process activities, during and after election day, through the completion of the vote tabulation. Documentation should be available about who these parties were.
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This stunning list of actual documented processing errors only came to light because of lawsuits for an extremely close 2020 federal election (House seat for NYS District 22). Note that these are all "honest" mistakes, as no investigation was made of purposeful malfeasance by bad actors (e.g. ballot box stuffing, destroying legal ballots, manipulation of seniors, etc.).

The obvious question is: how many **processing** errors (due to incompetence, carelessness, malfeasance, etc.) exist in other US counties and precincts? Clearly the only way to get a reasonable idea as to the scope, is to conduct multiple forensic Election Process Audits.

Note: this is a *sample* list of possible election **process** issues, and it is *not* claimed to be inclusive. If you have any suggestions for additions or modifications, please email us (*see bottom of page 2*).

Appendix D: Sample Reports Relating to Election Audits

These are examples of reports and studies concerning US election audits, in reverse chronological order:

- Election-Integrity.info has several citations pertaining to audits (2021)
- Report: Using statistics to evaluate red flags believed to be associated with fraud (2021)
- Report: Vote 'Adjudication' Explained: it's a Rort (2021)
- Short video: Risk-Limiting Audits vs. Full Forensic Audits (2021)
- An excellent video as to why vote recounts do not resolve most types of fraud (2021)
- USEAC Report: Post-Election Audits (2020)
- NCSL Election Administration at State and Local Levels (2020)
- Study: Can Voters Detect Malicious Manipulation of Ballot Marking Devices? (2020)
- Report: Statistical Evidence of Dominion Election Fraud? Time to Audit the Machines. (2020)
- Study: Bernoulli Ballot Polling: A Manifest Improvement for Risk-Limiting Audits (2019)
- Pennsylvania Audit by SURE: Statewide Uniform Registry of Electors (2019)
- NCSL Post Election Audits (2019)
- USAID Study: A Guide to Election Forensics (2017)
- Study: Developments in Positive Empirical Models of Election Frauds (2017)
- Study: Detecting Election Fraud from Irregularities in Vote-Share Distributions (2017)
- Dr. Alex Halderman Testifies about how easy election equipment is to hack (2017)
- Study: Micro-motives and Macro-behavior in Electoral Fraud (2016)
- Brennan Center for Justice Study: America's Voting Machines at Risk (2014)
- NAS Study: Statistical Detection of Systematic Election Irregularities (2012)
- Study: Evidence-Based Elections (2012)
- Study: A Gentle Introduction to Risk-limiting Audits (2012)
- IFES: Guidelines for Understanding, Adjudicating, and Resolving Disputes in Elections (2011)
- USEAC Report: Canvassing and Certifying an Election (2010)
- NCSC Election Law Manual: Chapter 8 - Canvassing, Certification, and Recounts (2008)
- John Hopkins Study: Analysis of an Electronic Voting System (2004)
- USLegal: Regulation Of Elections
- USLegal: Violations of Election Laws
- Voting Machines Historical Timeline: 1900 - Present Day

These are some general resources about US election-integrity issues:

American National Election Studies (ANES)   Harvard Kennedy School: Election Resources

Rice University Baker Institute for Public Policy   The UN ACE Electoral Knowledge Network

Note: this is a *sample* list of election **audit** related reports, and it is *not* claimed to be inclusive. If you have any suggestions for additions or modifications, please email us (*see bottom page 2*).