

5TH MEETING ON THE IMPLEMENTATION OF THE DECLARATION OF PRINCIPLES FOR INTERNATIONAL ELECTION OBSERVATION

The Carter Center – Atlanta, GA
October 13 – 14, 2010

OBSERVING ELECTRONIC VOTING¹

Revised November 2010²

The *Declaration of Principles for International Election Observation* provides some guidance for observers on issues related to the technology, most notably in paragraphs 12 (b), 14 and 15 which outline the need for international observers, domestic monitors and political contestants to have access to the all aspects of the electoral process including the functioning of electronic and electoral technologies.

However, this guidance is limited. The purpose of this discussion paper, therefore, is to expand upon the provisions of the Declaration related to electronic voting and to provide a set of draft principles on observation of electronic voting to guide observer organizations in their efforts to develop methodologies for the observation and assessment of elections with an electronic voting component. The discussion paper draws on documents and handbooks previously published by various international organizations (see Bibliography).

Background

Electronic voting, while controversial, continues to receive attention and new technologies are being used or are under consideration for use in a number of countries around the world.³ On the one hand, these technologies⁴ have the potential to facilitate and improve electoral processes, and are adopted for a number of reasons, including the perceived advantages in increasing voter access; the possibility of decreased costs (in the long-term); facilitation of the conduct of simultaneous or complex elections; earlier announcement of results; potentially limiting opportunities for retail fraud; and reducing errors by both, voters and poll workers.

On the other hand, however, these technologies pose risks to the integrity of the electoral process that can quickly erode public confidence. Such risks include the possibility of technical failure; external interference with the system; internal malfeasance; and the loss of oversight by and

¹ This document was prepared by Jonathan Stonestreet and Avery Davis-Roberts, on behalf of The Carter Center, and incorporates discussions from past Declaration of Principles Implementation Meetings, as well as key points included in the handbooks and efforts of other endorsing organizations.

² Revisions were made based on comments received during the 5th Meeting on the Implementation of the Declaration of Principles for International Election Observation, October 13 – 14, 2010, as well as comments received from meeting participants between October 15 – December 1, 2010.

³ Electronic voting can be defined as the use of electronic means to cast, record and count votes.

⁴ Electronic voting devices may include, for example, those in polling stations, internet voting, mixed systems, voting by mobile telephone, etc. Within the category of voting machines in polling stations, there are Direct Recording Electronic devices (DRE), DRE devices with a VVPAT, optical scan devices, and other devices. In some of these systems, votes are recorded on each voting machine; in others all votes are stored on a single device in the polling station; and in some, the votes are sent to a central server exterior to the polling station.

accountability of the election management bodies. These threats have the potential to violate fundamental electoral rights and to subvert the will of the people on a large scale and in an undetectable manner.

Faced with the reality of electronic voting technologies, observers must respond to the very real challenges that they pose to observation itself. There are aspects of electronic voting systems that are inherently unobservable. While observers can directly observe that the secrecy of the vote is respected, that the ballot is cast, and that vote counting takes place according to procedures in paper-based elections, this is not always the case in e-enabled elections. In addition, intellectual property concerns and the need to ensure the security of the system may prevent observers (both international and domestic) from having full access to it.

The introduction of electronic voting also poses quite practical challenges. It requires specialized knowledge and technical expertise of the different technologies and methods of conducting electronic voting that are used. Like all technologies, automated voting solutions will continue to evolve and will do so rapidly, and observers will likewise have to continue to develop and adapt their observation methodologies.

While the election management bodies (EMBs) and other relevant authorities have a special responsibility to balance the pros and cons of introducing electronic voting technologies, it is critical that the electoral process continue to belong to the citizens of country upon whose will the authority of government is based. Election Observation organizations therefore have a responsibility to respond to the challenges that such technologies pose to our work so that we may continue to promote the rights of citizens to genuine democratic elections. Endorsers of the Declaration must ensure that observation continues to serve as an effective tool to promote the transparency, credibility and integrity of electoral processes regardless of the technology used.

Finally, although international obligations and commitments for democratic elections apply to electronic as well as paper-based elections, there are few international obligations and commitments specific to electronic voting which would provide a clear basis for assessment (for instance, regarding requirements for a Voter-Verified Paper Audit Trail (VVPAT), audits, open source code, and certification).⁵ However, in addition to those obligations and commitments that do exist, a number of critical, overarching principles may be identified based on the collective experience of international election observation organizations that are relevant to the introduction of such technologies regardless of the specificities of the system. These include:

- (1) ***inclusivity*** of the public and all stakeholders in the process of choosing and using the system and ownership of the electoral process as a whole by the citizenry;
- (2) ***proportionality*** of introducing a new technology to solve problems that would otherwise not have existed;
- (3) ***transparency*** in all aspects of the decision making process with regard to the technology;
- (4) ***accountability*** for the impact of the technology on the integrity of the electoral process and to be understood by the average voter what kind of (personal) data is processed by the system;
- (5) ***accuracy and speed*** in the voting and vote counting process;

⁵ The Council of Europe 2004 Recommendation on Legal, Operational and Technical Standards for E-Voting sets non-binding standards for its Member States.

- (6) *sustainability and cost-effectiveness* of the system based on the realities of the country in which it is being introduced; and
- (7) *security* of the system.

In addition, collective experience has shown that there a number of good practices which, if implemented in the introduction and use of the technology, can help to uphold these principles. This document goes some way to articulate these principles and practices.

Discussion of E-voting at Previous Meetings

The observation of electronic voting was discussed at the First and Second Meetings on the Implementation of the Declaration of Principles, hosted by the Commonwealth Secretariat in London, and the Organization of American States in Washington, D.C. respectively. In each case, the challenges presented by the use of election technologies, both for the electoral process itself and for election observation, were raised. In addition, the earlier meetings also considered the impact of the electronic voting on the practicalities of observation, for example the impact on the duration of the mission and how to best ensure that members of the EOM have the skills necessary to assess electronic electoral technologies.

In previous meetings, some initial recommendations were made on how endorsers of the Declaration of Principles might begin to address the challenges posed by the use of electronic voting technologies. First and foremost among these recommendations was the suggestion that groups continue to harmonize their approaches (per art 19 of the Declaration) to the observation of electronic voting. In Washington, steps were taken towards highlighting points of agreement regarding the use and observation of electronic voting. This conversation was continued during the working session at the 5th Meeting on the Implementation of the Declaration of Principles for International Election Observation.

Principles for Observing Electronic Voting

The following draft principles on observing electronic voting complement and expand upon the text of the Declaration of Principles, which remains fully applicable for elections involving the use of electronic voting. Points 1 – 8 focus on the broad responsibilities of the state when introducing and using an electronic voting system. Subsequent points provide guidance to international election observation organizations on issues to be considered when observing e-enabled elections.

Guiding Principles on Use of Electronic Voting Technologies in Controlled Environments

1. The introduction of technology into the electoral process should be a response to an identified need, and be to the benefit not only of the election administrators, but also the voters and candidates. Before introducing new technologies into the electoral process, states should consider ways in which these needs may be met using alternative mechanisms (for example, electoral reforms) that may be more cost effective and beneficial to voters and candidates.
2. If a state decides to introduce electronic voting, this process should be gradual and undertaken only after thorough public consideration of the potential risks, legal implications, and technical issues involved in its introduction. Emphasis should be placed on ensuring an

inclusive and transparent public debate on the technology prior to its introduction and throughout its use. In addition, there should be broad agreement among political parties regarding the introduction of electronic voting so as to promote public confidence in the election process.

3. Elections conducted by means of electronic voting must respect all international obligations and commitments for democratic elections, including the secrecy of the ballot, the ability of citizens to vote free from intimidation or coercion, the honest and accurate reporting of results, the equality and universality of the vote, and non-discrimination against political parties or candidates contesting the election.⁶ Systems should be designed with these obligations, commitments and fundamental rights in mind, and should provide safeguards to protect them from technical or other threats.
4. Given the complexities of electronic voting and the potential risks to electoral integrity, it is important for there to be public confidence in the election management body before introducing electronic voting, and the EMB should ensure that it itself has the technical capacity to implement an e-enabled election. Careful consideration should also be given to the cost and sustainability of the election technologies by the EMB and others.
5. Voter education is essential to the effective exercise of voting rights. When new technologies are introduced into the electoral process, it is essential that voters receive adequate education to ensure they can use the voting technologies to cast their ballot.
6. All aspects of electronic voting should be independently and publicly verifiable. Steps should be taken to ensure that it is possible to verify that the secrecy of the vote has been maintained during the use of the technology, and that election results are an accurate representation of votes cast by the electors.

Thorough and consistent verification of the secrecy and accuracy of the vote is the responsibility of official bodies. Verification processes should be completely open to citizens and election stakeholders as well as to international and domestic observers and should provide evidence that the system has functioned as purported. International and domestic observers should have full access to any audit or other reports or protocols issued as part of the verification process, and be permitted to make copies of these documents.

7. Verified paper trails are the most effective means of ensuring electoral integrity with respect to the storing and counting of ballots, especially since software alone cannot reliably and effectively guarantee that the votes have been accurately counted. The paper record may be produced by the voter and recorded by the electronic device (for example, optical scan technologies), or it may be printed by the device and verified by the voter (a voter verified paper audit trail or VVPAT). In either case, the paper record should be retained in the polling station for immediate review and then securely stored for subsequent audits that take place

⁶ DoP, para 3, “The will of the people of a country is the basis for the authority of government, and that will must be determined through genuine periodic elections, which guarantee the right and opportunity to vote freely and to be elected fairly through universal and equal suffrage by secret ballot or equivalent free voting procedures, the results of which are accurately counted, announced and respected.”

prior to the announcement of official results, if needed, and pending the conclusion of any potential complaints.

Such a system can ensure the integrity of the electronic results *only* if the paper record is counted as a cross-check against the electronic results or, at a minimum, if a statistically valid and randomly selected sample of the record is audited prior to the announcement of results.

Adding a paper record can, however, increase the cost and complexity of the process, as well as the potential for error, technical failures and discrepancies in results.

8. The legal framework should determine the legal relationship between electronic and paper records, as well as what constitutes the legal record of the vote (the electronic ballot vs. a paper ballot). It should provide clear and consistent guidance on the steps to be taken in the event that verification processes finds discrepancies or anomalies between election results and other records of the vote. In addition, open and fair dispute resolution processes that provide effective remedy for rights violations resulting from the use of the technology should be in place.

Guiding Principles on the Observation of Electronic Voting Technologies

9. Observers should have unimpeded access to all stages of the electronic voting process without discrimination. This includes access to the certification process, testing, and audits, and to all reports and documentation on the system. Election observation organizations must not be required to enter into confidentiality or other non-disclosure agreements in order to obtain access.⁷
10. As in all elections, the international election observation mission must follow the laws of the country and must not interfere in the election process.⁸ In this context, international election observation missions may examine and test devices and software outside the voting period for the purposes of understanding their design and functioning, but they should not attempt to reverse engineer, hack or otherwise tamper with any device or software.
11. International election observation missions should not certify electronic election technologies and should make clear to the authorities of the host country and the election management body that such responsibilities are beyond the mandate of international election observers, which is to provide an impartial assessment of the electoral process as a whole.⁹

⁷ See DoP, para 12 (b), “Guarantees unimpeded access of the international election observer mission to all stages of the election process and all election technologies, including electronic technologies, and the certification processes for electronic voting and other technologies, without requiring election observation missions to enter into confidentiality or other nondisclosure agreements concerning technologies or election processes.”

⁸ DoP Para 9, “International election observation missions must respect the laws of the host country...” and DoP Para 4, “International election observation should offer recommendations for improving the integrity of and effectiveness of the electoral and related processes, while not interfering in and thus hindering such processes.”

⁹ DoP, para 12 (b), “...international election observation missions may not certify technologies as acceptable.”

12. Partisan¹⁰ and non-partisan domestic observers and other civil society organizations, as well as the media, play a crucial role in long-term assessment and monitoring of elections that use electronic voting, especially as they are present before the deployment of international election observation missions. International election observation missions should assess the extent to which domestic organizations can meaningfully observe electronic voting, are granted access to all parts of the process, are free to make statements regarding the process, and are able to respond to the potential challenges posed by electronic voting.¹¹
13. Internet voting poses additional challenges to observation, because, like postal voting, it generally occurs in an uncontrolled environment (for example, people's homes) where it is difficult to ensure the secrecy of the vote and that voters have been able to express their choices freely. International organizations invited to deploy a mission in a country in which remote electronic voting (e.g. internet voting) is used should carefully consider the value of their presence versus the risks of legitimizing a potentially non-transparent process.¹²

While international election observation missions can assess some aspects of remote electronic voting – including context, legal framework, design, certification, testing, voter education, access of domestic observers, and public confidence – they may not be able to reach definitive conclusions about the degree to which the process meets international obligations and commitments for democratic elections. If they choose to deploy a mission in such a context, the mission should include multiple experts with relevant expertise, especially in internet security where internet voting is allowed.

14. Organizations conducting international election observation should additionally consider the following as they develop their methodologies for the observation of electronic voting:
 - a) ***The context in which the technology was introduced.*** Observers should consider, for example, the reasons for the introduction/use of electronic voting, potential advantages over the previous system, the method of choosing the system, and any previous legal challenges. International election observation missions should seek to hear the views of all major political parties and political contestants; civil society organizations and

¹⁰ DoP Para 14, “Political contestants (parties, candidates and supporters of positions on referenda) have vested interests in the electoral process through their rights to be elected and to participate directly in government. They therefore should be allowed to monitor all processes related to elections and observe procedures, including among other things the functioning of electronic and other electoral technologies inside polling stations, counting centers and other electoral facilities...”

¹¹ DoP, Para 16, “Citizens have the right to associate and a right to participate in governmental and public affairs in their country. These rights may be exercised through nongovernmental organizations monitoring all processes related to elections and observing procedures, including among other things the functioning of electronic and other electoral technologies in side polling stations, counting centers and other electoral facilities... International election observation missions should evaluate and report on whether domestic nonpartisan election monitoring and observation organizations are able, on a nondiscriminatory basis, to conduct their activities without undue restrictions or interference...”

¹² DoP Para 11, “A decision by any organization to organize an international election observation mission or to explore the possibility of organizing an observation mission does not imply that the organization necessarily deems the election process in the country holding the elections to be credible. An organization should not send an international election observation mission to a country under conditions that make it likely that its presence will be interpreted as giving legitimacy to a clearly undemocratic electoral process, and international election observation missions in any such circumstance should make public statements to ensure that their presence does not imply such legitimacy.”

academics with regard to the introduction and use of electronic voting technologies, and the degree to which there is public confidence in the system.

- b) ***The extent to which the legal framework adequately regulates the electronic voting process.*** When reviewing the legal framework, observation missions should determine whether it includes adequate provision for certification of the technology, data protection, audits, access by observers and political contestants, recounts, and adjudication of disputes and potential remedies. Consideration should also be given to how changes to the system are accommodated in law and in certification procedures.
- c) ***The extent to which ‘checks and balances’ exist.*** In addition, observers should consider whether a system of ‘checks and balances’ exists that, in practice, promotes and strengthens electoral integrity when electronic voting technologies are used. Such a system could be, but does not necessarily have to be, regulated by law.
- d) ***The degree to which the system upholds international obligations and commitments for democratic elections.*** Observers should seek to understand the impact that the hardware, software and processes of the electronic voting system may have on the secrecy of the vote, the protection of voters from intimidation or coercion, and the honest counting of the votes. In addition, observers should consider whether the accurate reporting of results is ensured and can be verified by the host government and independent third bodies. Observers must understand the security measures in place to protect against potential internal and external threats and should assess the usability of the system, the impact of the technology on ballot design and vice versa, and voter accessibility. The use of an electronic voter register or other electronic technologies should be considered in this context, particularly with respect to secrecy of the vote.
- e) ***Procurement.*** The use of electronic voting technologies may increase observer interest in understanding the procurement process. While observers often arrive after procurement is complete, consideration may still be given to the extent to which the process was open and transparent and followed recognized good practice in tendering.
- f) ***Documentation related to the use of electronic voting technologies.*** International election observation missions should review official documentation related to the electronic voting system, as well as reports made by certification and testing authorities. Consideration should also be given to assessments of the system made by others, whether partisan, non-partisan, academic, or official. International election observer missions must be careful to reach their own conclusions based on the evidence gathered.
- g) ***The source code.*** While it is unlikely that international observers will have the time, resources or access necessary to conduct a thorough review of the source code, international election observation missions should determine whether domestic observers or others have meaningful access to the source code and have reviewed it, and whether it is possible to verify that the reviewed source code is identical to that used on election day.
- h) ***Certification and testing of electronic voting devices.*** Certification should be performed by an independent, qualified body. Certification requirements should be carefully written to adequately cover all aspects of the electronic voting process, including security against external and internal threats, and accessibility for observers. Certification should be done prior to each election after any software or hardware changes have been made to the system. There should be a cut-off point defined after which no changes to the software

should be made. Certification reports should be fully available to international and domestic observation organizations, academics, and other interested parties. Testing should be comprehensive and conducted with adequate time to respond to any errors or anomalies that may arise. Domestic observation organizations should have the opportunity to conduct their own tests.

- i) ***The role of election management bodies.*** Observers should scrutinize the division of responsibility and accountability between election officials and vendors, particularly in cases where the vendor continues to play an active role throughout the electoral process (for example by providing technical assistance). The capacity of the EMB at all levels to fulfill its function when implementing an e-enabled election is of paramount importance, and so observers should assess the efficacy of training programs for election officials. In addition, missions should consider the procedures related to electronic voting and their implementation before, during and after election day (e.g., updating, distribution, storage, and operation of devices). The accuracy and extent of voter education should also be considered.
- j) ***Tabulation and reporting of results.*** Observers should consider the impact that technologies may have on the tabulation and reporting of results including the steps taken to ensure that the results reported at each level of tabulation are accurate, and open to verification by domestic and international observers, and political contestants.
- k) ***The conduct of verification and audit procedures.*** Observers should consider the size, scope and methods of conducting audits or recounts of any paper records of votes cast during the use of electronic voting, as well as the means used to determine statistical samples (if used). Observers should have sufficient access to assess such verification and audit processes themselves, but should also assess the degree to which third parties are able to conduct audits independent of those conducted by the host government. Where appropriate, observers may consider conducting their own audits or other statistical analyses.
- l) ***Complaints, appeals or lawsuits concerning the electronic voting system.*** Electoral dispute resolution processes can be complicated by the introduction of electronic voting technologies. Observation of disputes should include consideration of whether, in law and in practice, effective remedies are available to candidates and citizens who seek redress for violations caused by the introduction of the electronic system.
- m) ***The integration of paper and electronic voting systems.*** In electoral processes using both paper and electronic voting systems, the relationship between the systems may have an effect on citizens' rights and electoral integrity, and observers should be cognizant of this fact in their assessments. This is increasingly important in more sophisticated democracies, where multiple voting channels (postal voting, advance voting, voting abroad, to name a few) are present. The conciliation becomes a major challenge to proper election administration.
- n) ***Other issues which an election observation mission may identify as significant.*** These may include the use of technologies in aspects of the electoral process beyond voting, for example, the use of biometric data gathering technologies in the voter registration process.

15. International election observation missions should include relevant experts when electronic voting is assessed.¹³ In some cases, different aspects of electronic voting may require different expertise and more than one expert may be necessary in order to understand fully the impact of the technology on the electoral and political process. Moreover, given that specialized expertise is required, multiple experts can provide a collective opinion and corroborate facts, thereby enhancing confidence in the assessments and conclusions of the mission regarding electronic voting.
16. International election observation missions making assessments of electronic voting will do so in accordance with the Declaration of Principles and will base their assessments on international obligations, principles and commitments for democratic elections.¹⁴

In making assessments, international election observation missions should bear in mind that electronic voting is only one element of the broader election process, and an election must be assessed in this light. International election missions must report their findings and conclusions fully and impartially, taking care not to overstate or minimize shortcomings.¹⁵ If the mission finds serious shortcomings in an electronic voting process, especially in terms of public confidence, transparency, or verifiability, the mission may recommend that the use of electronic voting be reconsidered or the technology withdrawn.

17. In line with the commitment to share approaches and harmonize methodologies, international election observation missions will undertake to publish their methodologies on observation of electronic voting and will provide sufficient training to long-term and short-term observers.¹⁶

¹³ DoP, Para 20, “The intergovernmental and international nongovernmental organizations endorsing this Declaration recognize that international election observation missions should include persons of sufficiently diverse political and professional skills, standing and proven integrity to observe and judge processes in light of: ... comparative election law and administration practices (including the use of computer and other election technology.”

¹⁴ DoP, Para 18, “The intergovernmental and international nongovernmental organizations endorsing this Declaration recognize that substantial progress has been made in establishing standards, principles and commitments concerning genuine democratic elections and commit themselves to use a statement of such principles in making observations, judgments and conclusions about the character of elections processes and pledge to be transparent about the principles and observation methodologies they employ.”

¹⁵ DoP, Para 6, “International election observation missions are expected to issue timely, accurate and impartial statements to the public (including providing copies to electoral authorities and other appropriate national entities), presenting their findings, conclusions and any appropriate recommendations they determine could help improve election related processes.”

¹⁶ DoP, Para 19, “The intergovernmental and nongovernmental organizations endorsing this Declaration recognize that there are a variety of credible methodologies for observing election processes and commit to sharing approaches and harmonizing methodologies as appropriate.” See also, DoP, Para 21 (d). “The intergovernmental and international nongovernmental organizations endorsing this Declaration commit to:... instruct all participants in the election observation mission concerning the methodologies to be employed...”

Bibliography

Code of Good Practice in Electoral Matters, Venice Commission of the Council of Europe, October 2002

www.venice.coe.int/docs/2002/CDL-AD%282002%29023-e.pdf

Declaration of Principles for International Election Observation, United Nations, October 2005

www.ndi.org/files/1923_declaration_102705_0.pdf

Developing a Methodology for Observing Electronic Voting, The Carter Center, October 2007

www.cartercenter.org/documents/elec_voting_oct11_07.pdf

Discussion Paper in Preparation of Guidelines for the Observation of Electronic Voting, OSCE Office for Democratic Institutions and Human Rights (OSCE/ODIHR), October 2008

www.osce.org/documents/odihr/2008/10/34647_en.pdf

Discussion Paper, Workshop on Observation of E-Enabled Elections, Council of Europe, March 2010

www.coe.int/t/dgap/democracy/Activities/GGIS/E-voting/E-voting%202010/Evoting_Oslo_Seminar/Default_en.asp#TopOfPage

Election Observation Handbook, Sixth Edition, OSCE/ODIHR, 2010

www.osce.org/odihr/item_11_44437.html

Monitoring Electronic Technologies in Electoral Processes, National Democratic Institute, 2007

www.ndi.org/node/14616

Observing the Use of Electoral Technologies: A Manual for OAS Election Observation Missions, General Secretariat of the Organization of American States, 2010

www.oas.org/sap/docs/DECO/Publicaciones/Manual_para_las_Misiones_e.pdf

Recommendation on Legal, Operational and Technical Standards for E-Voting (2004)11, Council of Europe, 2004

[www.coe.int/t/dgap/democracy/activities/ggis/e-voting/Key_Documents/Rec\(2004\)11_Eng_Evoting_and_Expl_Memo_en.pdf](http://www.coe.int/t/dgap/democracy/activities/ggis/e-voting/Key_Documents/Rec(2004)11_Eng_Evoting_and_Expl_Memo_en.pdf)

Summary of Proceedings, International Meeting on the Implementation of the Declaration of Principles for International Election Observation, London, May-June 2006

Summary of Proceedings, Second International Meeting on the Implementation of the Declaration of Principles for International Election Observation, Washington, November 2007

www.oas.org/sap/docs/DECO/Washington_Meeting%20%20Final.pdf