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February 23, 2006

Neil W. Kelleher, Co-Chair  
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Evelyn J. Aquila, Commissioner  
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New York State Board of Elections  
40 Steuben Street  
Albany, NY 12207-2108

Re: New York City Board of Elections Response to New York State Board of Elections Request for Comment on 2<sup>nd</sup> Draft of the State Voting Standards.

Dear Commissioners:

This letter is the Response of the Board of Elections in the City of New York to the 2<sup>nd</sup> Draft of the New York State Board of Elections Proposed Voting System Standards. Our response was developed during the week beginning February 16, 2006 as a team effort between NYC BOE staff and Gartner and included a discussion with the Commissioners of the Board of Elections in the City of New York. Attached is a summary of the points that arose from our review of the 2<sup>nd</sup> draft of the Proposed State standards. The key points include:

1. **Unclear Acquisition Methodology** - Our of our major concerns is the lack of clarity and direction set by the State regarding the methodology by which County Boards are to select and procure our new voting system from among the systems that are certified by the state.
2. **Purchaser** - The state law mandates that the State Board is the purchaser but the proposed state standards in Section 6209 appears to indicate that local boards are the purchaser, though the Office of General Services (OGS) appears to be designated as the procurement official. The contract and procurement process is still not clearly defined.
3. **Required Date for Delivery is Too Short** - We suggested in our response to the 1<sup>st</sup> draft that a change from three (3) months to six (6) months be made for the delivery of the voting system. At the very least, we asked that 50% of the hardware and all of the software of a new voting system be delivered at least six (6) months before the election. In the 2<sup>nd</sup> draft, the delivery timeframe remains three (3) months. We are concerned that such a short preparation time sets up many jurisdictions, including the City of New York, for failure rather than for success. County Boards need sufficient time for an orderly implementation of a new voting system. We know the difficulties that other jurisdictions (that have less voters than NYC) have encountered, and want to avoid similar problems.
4. **Security** - We are concerned about the State's 2<sup>nd</sup> draft of the proposed standards regarding security. The 2<sup>nd</sup> draft does not include our recommendations regarding both the standards themselves, nor how the voting systems will be tested for compliance. We want State Certification to

mean that the voting systems have been completely tested and all can be confident that they are secure.

The 2<sup>nd</sup> draft of the proposed State standards specifically references the 2002 FEC Guidelines, which do not adequately address security. In order to insure that the most comprehensive standards are in use, the State should mandate that all voting systems certified for New York State, comply with the EAC 2005 Voluntary Voting Systems Guidelines. It is also not clear how the State will be verifying compliance with federal guidelines, or if the EAC is prepared to test against the 2005 guidelines this year. It appears that if the State BOE does not certify security aspects of these systems, then no one will ensure security as the counties will have neither the time nor the means to accomplish this testing.

5. **Training and Support** - The 2<sup>nd</sup> draft of the proposed State standards does not include our recommendations for requiring the vendors to provide the levels of on-site support and training that will be needed by County Boards including the City of New York.

Given the magnitude of New York City (including the number of pollworkers and pollsites) it is imperative that vendor-provided services in training and support match each County's needs. It is important that the vendors are prepared to supply sufficient support personnel especially since all of New York State's counties will also be requiring their support at the same time.

6. **Testing** - The 2<sup>nd</sup> draft of the proposed standards have not strengthened or clarified testing requirements as we suggested in our response to the 1<sup>st</sup> draft. End-to-end testing has not been included in the 2<sup>nd</sup> draft. Full voting system testing that includes the integration of the new system with current election board systems has not been determined. In addition, acceptance testing requirements need clarification. The scope of testing by the State Board for each voting system is not clear.
7. **Functionality and Capacity for NYC** - In our response to the 1st draft, we included sections on functions and features that are needed in New York City. We also included a section on volumes that the City of New York requires. Neither of these sections have been included in the 2nd draft. We are concerned that the voting systems that are certified will not meet the business or capacity requirements of New York City.
8. **Definition of Terms** - We recommended definitions that distinguish the various components of a voting system, as well as existing BOE election systems. Some of these definitions were accepted in the 2<sup>nd</sup> draft and some were not. References to the components throughout the document remain in the old terminology and thus all of the clarity intended by our proposed definitions remains unrealized in the 2<sup>nd</sup> draft.

In order to ensure that each board of elections has a full range of options in choosing a new voting system the City Board repeats its recommendation that the State Board require voting system vendors (who offer both DRE and optical scan systems) to simultaneously submit both systems for state certification.

I would appreciate it if we could schedule a meeting with you and your staff as soon as possible so that we can continue to work together regarding these standards and the subsequent selection and implementation of a new voting system and thus serve the voters of the City and the State in a responsible manner. If you have any questions regarding this matter please feel free to call me at 212-487-5412.

Sincerely,

John Ravitz  
Executive Director

cc: Peter S. Kosinski, Co-Executive Director  
Stanley Zalen, Co-Executive Director  
New York State Board of Elections

Commissioners of Elections – New York City Board  
George Gonzalez, Deputy Executive Director  
Pamela Perkins, Administrative Manager  
Steven H. Richman, General Counsel  
Lucille Grimaldi, Manager, Electronic Voting Systems

## Methodology

In the week of December 4, 2005, the Board of Elections in the City of New York (hereinafter, BOE in NYC) conducted a series of marathon work sessions to review the 1<sup>st</sup> draft of the State Voting System Standards. Using the "Track Changes" feature of MS-Word, we analyzed and edited the original standards document with revisions and enhancements to improve the clarity and completeness of the standards and to reflect specific needs of the City of New York. We submitted our recommendations in a timely manner to the New York State Board of Elections (hereinafter, NYS BOE) on Dec 20, 2005 at the State Board's Public Hearing.

For review and comment on the 2<sup>nd</sup> draft of the proposed State Voting System Standards, the BOE in NYC staff individually reviewed and commented on the 2<sup>nd</sup> draft, comments were compiled and supplemented by Gartner and the resulting document was reviewed, revised and approved by BOE in NYC executive staff.

In each of the items below, we restate our comments and recommendations from the 1<sup>st</sup> Draft of the proposed Voting System Standards, and then provide our comments and recommendations on the 2<sup>nd</sup> draft of the proposed Voting System Standards. Items number 23, 24, and 25 refer to voting standards that were introduced in the 2<sup>nd</sup> draft, and therefore our comments and recommendations are specific to the 2<sup>nd</sup> draft only.

In keeping with our recommendation that the State mandate that all certified systems comply with the EAC 2005 Voluntary Voting Systems Guidelines, we have referenced the applicable sections of the guidelines within our comments.

## Comments and Recommendations

Based on our review, these are the key points of our analysis of the 2<sup>nd</sup> draft:

1. Definitions
  - a) *Comments on 1st Draft* – We substantially revised and supplemented the definitions in the 1<sup>st</sup> draft to establish necessary distinctions for the remainder of the document.
  - b) *Recommendation for 1<sup>st</sup> Draft* - BOE in NYC recommended that the State Board adopt our revisions to the definitions in the document. *Reference:* Section 6209.1 Definitions. Page 3.
  - c) *Comment for 2<sup>nd</sup> Draft* – Several of the recommended revisions to definitions were adopted by NYS BOE in the 2<sup>nd</sup> Draft. Key definitions, however, such as "Voting System" were adopted but not consistently used in the 2<sup>nd</sup> draft standards. (See Voting System vs. Voting Equipment discussion below).
  - d) *Recommendation for 2<sup>nd</sup> Draft* - BOE in NYC again recommends that NYS BOE include the definitions set forth in our response to the 1<sup>st</sup> draft of the state standards and that they be used consistently and accurately throughout the document.
2. Purchaser of Voting Systems
  - a) *Comments on 1st Draft* – The 1<sup>st</sup> draft does not make clear who is the "purchaser" of the new voting system. It stipulates that purchases will be obtained under a statewide Office of General Services (OGS) contract and details some of the actions which the purchaser will take. We asked if OGS, State Board of Elections or Local Board of Elections were the purchaser? We asked who and how will the requirements of the local boards be incorporated into the contracts with the respective vendors? Once a standard contract is developed, we asked how will the specific orders of each local board be communicated (type, quantity, delivery requirements, support levels, training services, software functional requirements, etc.).
  - b) *Recommendation for 1<sup>st</sup> Draft* - BOE in NYC recommended that the State Board identify the purchaser party in the document. *Reference:* Section 6209.9 Contracts, (2) Service and Support Provisions. Page 30
  - c) *Comments on 2<sup>nd</sup> Draft* – The 2<sup>nd</sup> draft makes clear that the County BOEs are the purchasers of the system. It does not clarify:
    - i) Who and how the requirements of the local boards will be incorporated into the contracts with the respective vendors.

- ii) How will the specific orders of each local board be communicated (type, quantity, delivery requirements, support levels, training services, software functional requirements, etc.)?
- d) *Recommendation for 2<sup>nd</sup> Draft* – BOE in NYC recommends that the State Board provides the county boards with a well defined roadmap of how selection and acquisition of new voting systems will occur.

### 3. Contract Requirements

- a) *Comments on the 1<sup>st</sup> Draft* – There is no indication in the 1<sup>st</sup> draft of a plan by which to determine: i) General Requirements - The manner and procedure by which requirements will be developed and incorporated in to a contract and ii) Specific Requirements - The manner and procedure by which specific requirements of local boards will be negotiated for additional levels of training, support services and functionality in support of the their implementations of a new voting system.
- b) *Recommendation for 1<sup>st</sup> Draft* - BOE in NYC recommended that the State Board promptly initiate a meeting between OGS, the State Board and representatives of the local boards to determine contract matters. *Reference:* Section 6209.9 Contracts. Page 28
- c) *Comments on 2<sup>nd</sup> Draft:*
  - i) BOE in NYC requested a number of times since December 20, 2005 that a meeting be established between OGS, NYS BOE and representative county BOEs. BOE in NYC wants to meet with OGS and the State Board of Elections. Can the NYS BOE identify the appropriate party at OGS for this meeting?
  - ii) BOE in NYC requirements and recommendations regarding functions and features (Section 15) has not been adopted by NYS BOE in the 2<sup>nd</sup> draft.
- d) *Recommendation for 2<sup>nd</sup> Draft*
  - i) BOE in NYC recommends that NYS BOE identifies the appropriate party at OGS with which BOE in NYC can meet to clarify the methods by which procurement will occur.
  - ii) BOE in NYC recommends that statewide and county specific requirements be developed and used to enable counties to select a voting system from among the systems certified.
  - iii) Our recommendation is for the State to add our recommended Section 15 in the final standards.

### 4. Consolidation of DRE & Paper-based Requirements

- a) *Comments on the 1<sup>st</sup> Draft* - The 1<sup>st</sup> draft contained separate sections for requirements for a voting system depending upon its type (DRE or Op Scan). We revised the document to consolidate these requirements into a single set noting, where appropriate, any requirement differences applicable to one or the other type. This consolidation also included standardization of testing requirements for both types of voting systems.
- b) *Recommendation for 1<sup>st</sup> Draft* - BOE in NYC recommended that the State Board consolidate DRE & Paper-based requirements into a single set noting, where appropriate, any requirement differences applicable to one or the other type. *Reference:*
  - i) Section 6209.11 Routine Maintenance Test of Voting Systems. Page 34.
  - ii) Section 6209.12 Testing and Operational Procedures for Voting Systems. Page 36.
- c) *Comments on 2<sup>nd</sup> Draft* – While the state did restructure the language in section 6209.11 to include both DRE and paper based systems, the language in section 6209.12 only refers to central optical scan systems.
- d) *Recommendation for 2<sup>nd</sup> Draft* – The language in section 6209.12 should be written as indicated in BOE in NYC response to the 1<sup>st</sup> draft in a manner that applies to all voting systems not just for central count optical scan systems. Specific requirements relating only to a particular technology should be indicated as such.

### 5. Equipment vs. Voting System

- a) *Comments on 1<sup>st</sup> Draft* - The intent is to acquire voting systems, not just equipment. We revised the 1<sup>st</sup> draft document throughout to reflect this fact. We added definitions for Voting System, Election Day Tabulation Equipment and Voting System Supporting Software to make appropriate distinctions necessary throughout the document.
- b) *Recommendation for 1<sup>st</sup> Draft* - BOE in NYC recommended that the State Board adopt these definitional distinctions and re-examine the use of them throughout the document to ensure their appropriate use. *Reference:* Section 6209.1 Definitions. Bullet 24 and 25. Page 4.
- c) *Comments on 2<sup>nd</sup> Draft:*
  - i) NYS BOE largely ignored this recommendation in the 2<sup>nd</sup> draft. It adopted the definition of "Voting System" but did not consistently use the term in the 2<sup>nd</sup> draft. Instead, "Voting Equipment" remained throughout the document even though that term is not defined in the definitions and NYC in BOE's recommended changes for the term were ignored throughout the 2<sup>nd</sup> draft.
  - ii) The terms, "Election Day Tabulation Equipment", and "Voting System Support Software" which are key components of a "Voting System" were not included in the 2<sup>nd</sup> draft.
- d) *Recommendation for 2<sup>nd</sup> Draft:*
  - i) BOE in NYC recommends a review of the terms, "Voting System", "Election Day Tabulation Equipment", "Voting System Support Software", and their adoption throughout the standards.
  - ii) BOE in NYC recommends a replacement of "Voting Equipment" with the appropriate term above throughout the document in accordance with NYC in BOE suggestions in its response to the 1<sup>st</sup> Draft.

## 6. Training

- a) *Comments on the 1<sup>st</sup> Draft* - The discussion in the 1<sup>st</sup> draft regarding training requirements was inadequate. We provided revisions which outlined the scope of need training requirements.
- b) *Recommendation for 1<sup>st</sup> Draft* – BOE in NYC recommended that the State Board incorporate our more extensive outline of training requirements into the document. *Reference:* Section 6209.9 Contracts, (1) Training. Page 28.
- c) *Comments on 2<sup>nd</sup> Draft* – The BOE in NYC recommended Training requirements were not included in the 2<sup>nd</sup> Draft of the standards.
- d) *Recommendation for 2<sup>nd</sup> Draft* –BOE in NYC recommends that Training standards as previously recommended be included in the state standards.

## 7. Security

- a) *Comments on the 1<sup>st</sup> Draft* - The discussion in the 1<sup>st</sup> draft regarding security requirements was inadequate. The current 2002 FEC testing and certification process focuses on functional testing, not security testing.
- b) *Recommendation for 1<sup>st</sup> Draft* - BOE in NYC recommended that the State Board complement 2002 FEC directed testing and certification by specifically testing the security of the proposed systems. *Reference:* Section 6209.16 Security. Page 44.
- c) *Comments on 2<sup>nd</sup> Draft:*
  - i) NYS BOE has not adopted the BOE in NYC recommendation for statewide security testing in the 2<sup>nd</sup> draft. Section 6209.16 Security which detailed Security requirements recommended by BOE in NYC and which recommended that NYS BOE test these security requirements as part of state certification, has been ignored in the 2<sup>nd</sup> draft.
  - ii) It is our understanding that federal certification (2002 FEC Guidelines) does not specifically address security. If NYS BOE declines to certify security aspects, then security testing is left to the individual counties, which is an inefficient and incomplete approach to security. However, the currently released EAC 2005 Voting System Guidelines have included enhanced security requirements and testing procedures. (See EAC 2005 Voluntary Voting System Guidelines:

Volume I, Section 7 – Security Requirements and Volume II – National Certification Testing Guidelines.)

d) *Recommendation for 2<sup>nd</sup> Draft:*

- i) BOE in NYC recommends that the State Board ensure that certified systems comply with and be tested against EAC 2005 Voluntary Voting System Guidelines for Security.
- ii) If the State BOE does not adopt the EAC 2005 Voluntary Voting System Guidelines for Security, then the BOE in NYC recommends that the State Board complement 2002 FEC directed testing and certification by specifically testing the security of the proposed systems as outlined in BOE in NYC's response to the 1<sup>st</sup> Draft Voting System Standards Section 6209.16 Security, Page 44.
- iii) BOE in NYC recommends that a clarification regarding military standards applicable to software testing be included in the State standard.

8. Functional Scope of State Certification

a) *Comments on the 1<sup>st</sup> Draft* - In addition to security limitations of current EAC directed testing, current EAC testing focuses on tabulating equipment and not the more comprehensive voting system testing.

b) *Recommendation for 1<sup>st</sup> Draft* - BOE in NYC recommended that the State Board complement EAC directed testing (currently using 2002 FEC guidelines) and certification by specifically testing the full scope of the proposed Voting System including its Voting System Supporting Software. *References:*

- i) Section 6209.10 Acceptance Testing. Page 33.
- ii) Section 6209.11 Routine Maintenance Test of Voting Systems. Page 34.
- iii) Section 6209.12 Testing and Operational Procedures for Voting Systems. Page 36.

c) *Comments on 2<sup>nd</sup> Draft* – NYS BOE has not adopted this recommendation in the 2<sup>nd</sup> draft.

d) *Recommendation for 2<sup>nd</sup> Draft:*

- i) BOE in NYC recommends that NYS BOE conduct functional testing as part of the state certification, specifically relating to testing of integration between Election Day Tabulation Equipment and its Voting System Supporting Software.
- ii) BOE in NYC recommends that the State Board ensure that certified systems follow EAC National Certification Guidelines that address functionality, hardware, software and system integration testing. (See EAC 2005 Voluntary Voting System Guidelines: Volume II – National Certification Testing Guidelines.)

9. Performance Testing

a) *Comments on 1<sup>st</sup> Draft* - In addition to security and tabulation equipment limitations of current EAC directed testing, current EAC testing does not focus on the performance (scalability) aspects of a voting system.

b) *Recommendation for 1<sup>st</sup> Draft:*

- i) BOE in NYC recommended that the State Board complement current EAC directed testing and certification by specifically testing the performance capabilities of the proposed Voting System to ensure that systems certified are appropriate to the needs of large jurisdictions. *Reference:* Section 6209.15 Voting System Required Functions & Features. Page 42

c) *Comments on 2<sup>nd</sup> Draft:*

- i) NYS BOE did not adopt this recommendation in the 2<sup>nd</sup> draft and made no reference to it.
- ii) Federal testing does not address performance testing. NYS BOE is not addressing performance testing. This means that each NYS county must address performance testing, an inefficient and incomplete approach to this critical aspect of a selected voting system especially for large counties.

d) *Recommendation for 2<sup>nd</sup> Draft:*

- i) BOE in NYC recommends that NYS BOE mandate performance testing at the state level for all NYS counties.

#### 10. City of New York Volumes

- a) *Comment on 1<sup>st</sup> Draft* - We added a Section on the volumes of the City of New York voting to ensure that all prospective vendors are aware of the sizes of New York City voting for scalability calibration.
- b) *Recommendation for 1<sup>st</sup> Draft* – BOE in NYC recommended that the State Board include a section on City of New York voting volumes to ensure that all prospective vendors are aware of the sizes of New York City voting for scalability calibration. *Reference:* Section 6209.17 New York City Volumes. Page 45.
- c) *Comments on 2<sup>nd</sup> Draft:*
  - i) NYS BOE did not adopt this recommendation in the 2<sup>nd</sup> draft.
  - ii) Volumes are normally contained in a Request for Proposal to vendors, but the entire process by which counties are to select a voting system from among those that have been certified has not been communicated to BOE in NYC. BOE in NYC has recommended a meeting with OGS be established to make these clarifications, but no meeting as been established.
- d) *Recommendation for 2<sup>nd</sup> Draft:*
  - i) BOE in NYC recommends that the State Board require certified systems be capable of meeting the volume requirements of NYC and each of the counties in the State.

#### 11. Interfaces to Election Management Systems (EMS) in Local Boards

- a) *Comments on 1<sup>st</sup> Draft* - The Voting System Supporting Software must be able to send and receive data to, and from, individual local Board systems.
- b) *Recommendation for 1<sup>st</sup> Draft* – BOE in NYC recommended to the State Board that there be a provision in the contract that vendors will cooperate with local board to accomplish these interfaces. *Reference:* Section 6209.6 Examination Criteria. Page 16.
- c) *Comments on 2<sup>nd</sup> Draft:*
  - i) NYS BOE did not adopt this recommendation in the 2<sup>nd</sup> draft.
  - ii) There has been no clarification as to how contracts, requirements, etc. are to be developed. (See Comments regarding Volumes above).
- d) *Recommendation for 2<sup>nd</sup> Draft:*
  - i) BOE in NYC recommends that a requirement that voting system vendors support the development and testing of interfaces in each county be included in the state standard.

#### 12. Voting System Delivery Timeframe

- a) *Comment on 1<sup>st</sup> Draft* – Voting systems involve much more than just the acquisition of hardware and its installation at a polling place and therefore lead time is critical to avoiding a “botched” implementation.
- b) *Recommendation for 1<sup>st</sup> Draft* - In order to correctly implement a new Voting System, BOE in NYC confirmed in its response to the 1<sup>st</sup> draft that it would require at least six (6) months lead time for the receipt of 50% of the Election Day Tabulation Equipment and all of the software of a new voting system.
- c) *Comments on 2<sup>nd</sup> Draft:*
  - i) NYS BOE did not adopt this recommendation in the 2<sup>nd</sup> draft.
  - ii) The required timeframe in the 2<sup>nd</sup> draft remains three (3) months.
- d) *Recommendation for 2<sup>nd</sup> Draft:*
  - i) BOE in NYC recommends that a six (6) months delivery timeframe of all software and 50% of Election Day Tabulation Equipment be adopted as a state standard as previously recommended.

### 13. On-Site Vendor Support

#### a) *Recommendation for 1<sup>st</sup> Draft*

- i) In our response to the 1<sup>st</sup> draft, we recommended that on-site vendor support be required as follows:

Service and Support Provisions - (a) Onsite Vendor Assistance at Election Time - The vendor shall assist all elections personnel as necessary for both the entire voting system and its interoperability with other county Boards of Elections systems during the first four years after each piece of equipment is first placed in service. The detail of requirements of such assistance including the number of people and the hours of assistance shall be identified in the executed contract. Election Time is the period of ten (10) weeks prior to an Election Day until the election is certified.

- b) *Comments on 2<sup>nd</sup> Draft* - Section 6209.9 of the 2<sup>nd</sup> draft does not include our recommendation in our response to the 1<sup>st</sup> Draft that on-site vendor support be required.
- c) *Recommendation for 2<sup>nd</sup> Draft* - BOE in NYC recommends that Onsite service support as detailed above be made a state certification requirement.

### 14. Maintenance and Supplies

- a) *Recommendation for 1<sup>st</sup> Draft* - NYC BOE recommended a number of items relating to maintenance and supplies [Section 6209.6 Subdivisions (3) (4) (5)].
- b) *Comments on 2<sup>nd</sup> Draft* - Section 6209.6 of the 2<sup>nd</sup> draft does not include our recommendations in our response to the 1<sup>st</sup> Draft relating to maintenance and supplies. (See also EAC 2005 Voluntary Voting System Guidelines: Volume I, Section 2.5 – Maintenance, Transportation, and Storage.)
- c) *Recommendation for 2<sup>nd</sup> Draft* - BOE in NYC recommends that our recommended Section 6209.6 (3) (4) (5) in our response to the 1<sup>st</sup> draft be included in the state standard.

### 15. BOE Maintenance & Repair

- a) *Recommendation in 1<sup>st</sup> Draft* - BOE in NYC agreed with the proposed state standard regarding factory maintenance and repair (retaining current standards which minimize vendor repair tasks).
- b) *Comments on 2<sup>nd</sup> Draft* - In the 2<sup>nd</sup> draft of the proposed standards these requirements were dropped.
- c) *Recommendation for 2<sup>nd</sup> Draft* - BOE in NYC recommends that a requirement set forth in current and 1<sup>st</sup> draft standards on this subject be retained in the final standards.

### 16. Protected & Public Counters

- a) *Recommendation on 1st Draft* - BOE in NYC recommended inclusion of a requirement for protective and public counters in certified systems (See Section 6209.15).
- b) *Comments on 2<sup>nd</sup> Draft* - A requirement for counters was not included in the 2<sup>nd</sup> draft.
- c) *Recommendation for 2<sup>nd</sup> Draft* - BOE in NYC again recommends that protective and public counters be required in certified systems. This must include separate public counters for each political party conducting a primary election.

### 17. Alternative Language

- a) *Recommendation on 1st Draft* - In our response to the 1<sup>st</sup> draft, BOE in NYC recommended a requirement for multiple languages (See Section 6209.15 Features & Functions).
- b) *Comments on 2<sup>nd</sup> Draft* - There is no mention of the multiple language requirement for ballots in the 2<sup>nd</sup> draft. (See also EAC 2005 Voluntary Voting System Guidelines: Volume I, Section 3.1.3 – Alternative Languages.)
- c) *Recommendation for 2<sup>nd</sup> Draft* - BOE in NYC recommends that the multiple language requirements of the state be stipulated in the final state standards.

### 18. Battery Life

- a) *Recommendation on 1st Draft* - In our response to the 1<sup>st</sup> draft, BOE in NYC recommended a requirement for a battery life of 17 hours be included in the state standards.
- b) *Comments on 2<sup>nd</sup> Draft* - The 2<sup>nd</sup> draft maintains the battery life at two (2) hours.
- c) *Recommendation for 2<sup>nd</sup> Draft*- BOE in NYC recommends that the battery life requirement be established at 17 hours.

#### 19. Ballot Visibility

- a) *Recommendation on 1st Draft* - Our response to the 1<sup>st</sup> draft recommended that there be a requirement that the ballot must be easily visible in typical indoor light.
- b) *Comments on 2<sup>nd</sup> Draft* - This recommendation was not included in the 2<sup>nd</sup> draft.
- c) *Recommendation for 2<sup>nd</sup> Draft* - BOE in NYC recommends that a requirement that ballots be easily visible in typical indoor light be included in the final state standards.

#### 20. Polling System Requirements (Section 6209.2)

- a) *Recommendation on 1st Draft*: Language was expanded to refer to a broader scope of environmental conditions that cover the use, storage and transportation of the system.
- b) *Comments on 2<sup>nd</sup> Draft*:
  - i) Part A. (6) has been rewritten to a different requirement altogether, and the original environmental requirement was moved to Part E. However, Part E does not include broader environmental language beyond dust and moisture as recommended by the BOE in NYC in the response to the 1<sup>st</sup> Draft.
  - ii) Part E reads “dust and moisture during storage and transportation”.
- c) *Recommendation for 2<sup>nd</sup> Draft* - BOE in NYC recommends that Part E include broader environmental protection standards during “use” as well as during storage and transportation.

#### 21. Accessibility

- a) *Recommendation for 1<sup>st</sup> Draft* - BOE in NYC recommended in our review of the 1<sup>st</sup> draft that requirements be included in the state standard regarding positioning of the equipment for voters with accessibility requirements. (See Section 6209.2 (B) (4)).
- b) *Comments on 2<sup>nd</sup> Draft* - Enhanced requirements for accessibility such as we recommended, were not included in the 2<sup>nd</sup> draft. (See also EAC 2005 Voluntary Voting System Guidelines: Volume I, Section 3.2 – Accessibility Requirements.)
- c) *Recommendation for 2<sup>nd</sup> Draft* - BOE in NYC recommends that requirements for accessibility such as those included in our review of the 1<sup>st</sup> draft should be included in the final state standards.

#### 22. Tamper-evident Protection

- a) *Recommendation for 1<sup>st</sup> Draft* - BOE in NYC recommended requirements for tamper-evident protection of the voting systems (See Section 6209.2 (A) (7)).
- b) *Comments on 2<sup>nd</sup> Draft* - In the 2<sup>nd</sup> draft, there is no clearly stated requirement that tamper-evident protection be provided wherever necessary in the voting system. (See also EAC 2005 Voluntary Voting System Guidelines: Volume I, Sections 2.1.1, 7.3.1 and 7.4.6 – Security Requirements)
- c) *Recommendation for 2<sup>nd</sup> Draft* - BOE in NYC recommends that a strong requirement be included in the final state standards stipulating that tamper-evident protection be provided wherever necessary in the voting system.

#### 23. Acceptance & Maintenance Testing

- a) *Comments on 2<sup>nd</sup> Draft* - Section 6209.10 & .11 of the 2<sup>nd</sup> Draft specifies that acceptance testing will be accomplished by comparison of installed software to certified software via SHS validation program contained in FIPS Publication 180-2 (NIST). No detail is provided as to how this is to be accomplished.

- b) *Recommendation for 2<sup>nd</sup> Draft* - BOE in NYC recommends that additional details be provided as to how acceptance and maintenance testing is to be accomplished.

#### 24. Voter Verifiable Paper Ballot (VVPAT)

- a) *Comments on 2<sup>nd</sup> Draft:*
  - i) Alternate Language - Requirements for the voter-verifiable printout are not clear regarding alternate languages. They seem to imply that each voter will be choosing an alternate language ballot, but that assumption can only be made for machines that have an electronically displayed ballot – not for scanners and not for machines with a paper face. In addition, it's not clear if the voter's selections will appear in an alternate language and in English on the printout. (See *EAC 2005 Voluntary Voting System Guidelines: Volume I, Section 7.9 – Voter Verifiable Paper Audit Trail Requirements – Section 7.9.6 (c) VVPAT Usability* which specifically mentions alternative languages.)
  - ii) Font Size - The State draft seems to allow voters to select a font size for the printing of the verifiable printout. It's not clear how this will affect the sequence of events regarding the acceptance or rejection of the printout by the voter. Also, voter choice of font size at the point of the printout (if that is what the State standards mean) introduces a complication into the process. (See *EAC 2005 Voluntary Voting System Guidelines: Volume I, Section 7.9.6 (b) VVPAT Usability* which specifically mentions VVPAT font sizes)
  - iii) Application to Optical Scan - There is not a clear statement that the State's standards for the voter-verifiable printout do not apply to scanners. (Or perhaps the standards are meant to imply that there is a requirement for a voter- verifiable printout for scanners to confirm the scanner's correct recognition of the voter's marks.) Note that in *Section 7.9 of EAC 2005 Voluntary Voting System Guidelines VVPAT requirements only apply to DRE systems with VVPAT components.* (See *EAC 2005 Voting System Guidelines: Volume I, Section 7.9 – Voter Verifiable Paper Audit Trail Requirements.*)

- b) *Recommendation for 2<sup>nd</sup> Draft:*

- i) Alternate Language
  - (1) BOE in NYC recommends that when an alternate language is used, all of the ballot information including candidate names are shown in the alternate language and the contest titles and candidate names are also shown in English.
  - (2) BOE in NYC recommends that for full-face DRE with paper overlay should require that the voter stipulate the language being used to vote and therefore cause the VVPAT printout to appear in the selected language.
- ii) Font Size - BOE in NYC recommends that the voting system print the VVPAT printout in one standard large font.
- iii) Application to Optical Scan - BOE in NYC recommends that final state standards stipulate whether VVPAT requirements apply to scanners.

#### 25. Linkage Requirements

- a) *Comments on 2<sup>nd</sup> Draft* - There is no requirement that the paper record in a scanning system be linkable to the electronic record. There is a requirement for a link between the paper record and the electronic record in a DRE system. Is that correct? Clarity is needed on this point. See *EAC 2005 Voluntary Voting System Guidelines: Volume I, Section 7.9.3 (c) – Electronic and Paper Record Structure. Note that these requirements only refer to DRE systems.*
- b) *Recommendation for 2<sup>nd</sup> Draft* - BOE in NYC recommends clarification of the linkage requirements for optical scan systems.