



# **The Board of Elections in the City of New York**

## **2007 Voting System Cost Evaluation Plan**

October 30, 2007

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## 1.0 Introduction

In addition to the evaluation of the “technical” or Non-cost aspect of the proposed voting systems for potential selection by the Board of Elections in the City of New York (BOE in NYC) as the 2007 Voting System (and beyond), there is the corresponding aspect of the cost of each proposed voting system and the manner in which cost will be taken into consideration in the selection a voting system.

## 2.0 The Cost Aspect

In the Request for Information (RFI) issued by BOE in NYC on September 29, 2006, BOE requested that in addition to providing Non-Cost (technical) information about its offering, that each vendor also provide very detailed information about its proposed cost specific to the City of New York. This cost information was requested in three (3) major categories:

1. *First-time Costs* – These costs include the services (labor), commodities (hardware, software, etc.) accessories and consumables necessary to implement the first election (the Primary in 2007). This includes very significant costs such as the purchase of the hardware and software and the first-time training of BOE staff and pollworkers as well as Election Day on-site support.
2. *Per Election Costs* – These costs include the services (labor), commodities (likely very few not already acquired for the 2007 Primary Election), accessories (likely very few not already acquired for the Primary Election) and consumables (such as paper ballots, ink cartridges, etc.) needed to conduct each election after the Primary Election in 2007. The first such instance would be the General Election in 2007.
3. *Annual Costs* – There are some costs such as software license costs and maintenance costs which are annual costs that are independent of the number of elections which are conducted that year. These costs were also requested in the RFI specific to the City of New York.

It should be noted that the costs requested in the BOE RFI were specific to the City of New York, i.e. vendors were provided with measures of the size and complexity of New York City voting (see Appendix A - Voting Volumes of New York City As Listed in RFI) and asked to propose in their judgment not only enough equipment, but also enough services, accessories and consumables to successfully conduct such elections. As we understand it, NYS OGS has requested that vendors provide unit costs for every service, commodity, accessory or consumable offered. Accordingly, though the prices provided in the vendor response to the State will be used (or negotiated), the combination of prices and quantities requested in the BOE in NYC RFI are the best indicator of the actual total cost to be incurred and therefore, they are the best measure by which to evaluate the relative costs of the vendor offerings.

## 3.0 Cost Evaluation Options

There are three (3) principle options by which cost may be evaluated:

1. *Review Cost Analysis Report* - Review of Gartner Cost Analysis Report
2. *Review Cost Rankings* - Review of Comparison of First-time, Per Election and annual Costs
3. *Review Calculated Combined Non-cost & Cost Ranking* – In this option, vendor costs are given a point value based on how proportionally close they are to the lowest vendor’s cost. The Non-costs are also given a point value for each offering. Finally, based upon the weighting of cost vs non-cost, the points of the cost and non-cost of each offering are combined to give an impartial, mathematical total points and therefore enable the ranking of

the offerings in a single list that reflects their combined cost and on-cost and the relative weighting of cost vs non-cost.

#### **4.0 Option 1 - Review Cost Analysis Report**

In this option, Gartner will prepare a Cost Analysis Report based upon the costs provided by vendors in their responses to the RFI. This cost analysis will show both the One-time and On-going costs of operation of each offering taken out to 10 years. This will provide the Board with expected total expected cost to acquire and operate the various systems. This report will depend upon the State Board's determination of the maximum number of registered voters per voting machine. In this option, the Board would read the Gartner Cost Analysis Report in addition to review of the Non-cost rankings of offered voting systems and make its selection of a system for NYC.

#### **5.0 Option 2 - Review Cost Rankings**

In this option for evaluating the cost aspect of vendor offerings, in addition to the Cost Analysis report in Option 1, Board staff would prepare three (3) lists:

1. List of vendor proposed offering in rank order for First-time Costs
2. List of vendor proposed offerings in rank order for Per Election Costs
3. List of vendor proposed offerings in rank order for Annual Costs

#### **6.0 Option 3 - Review Calculated Combined Non-cost & Cost Rankings**

In this option, the lowest cost offering is given the maximum points possible and the other vendor costs are given a point value based upon how proportionally close they are to the lowest vendor's cost. This takes into account not only the initial acquisition and implementation costs but also the annual cost of operating the proposed system and the costs to conduct an election. The Non-costs responses are also given a point value for each offering.

Based upon the weighting of cost vs non-cost components, the points calculated for the cost and non-cost responses are combined to give a single, impartial, mathematical ranking of the offerings based upon both cost and the judgment-based non-cost aspects and the determined relative weighting of cost vs non-cost.

The four (4) key determinations for this option are:

1. *Number of Machines Purchased* - State BOE will set a minimum number based on registered voters, but this number may be higher once the configuration of NYC pollsites are taken into consideration. No recommendation is made on this factor at this time.
2. *Amount of Consumables Used Per Election* – There are policy questions as to how many consumables such as ballots that should be ordered per election. For example, the history of ballots used in prior elections of the same type is one method, but a percent of registered voters is another method. No recommendation is made on this factor at this time.
3. *Number of Elections Counted* - A determination of the number of elections after the first election that would be included in the cost analysis. 10 year is the customary amount. A recommendation is made on this factor in this report.
4. *Relative Value of Non-cost vs Cost Component* - A determination of the relative value of the non-cost vs the cost components of the evaluation. Cost is generally weighted between

20%-50% in large, public sector computer system acquisitions. A recommendation is made on this factor in this report.

Determinations of factors 3 and 4 above are normally made prior to any review of vendor RFI costs.

## 6.1 Calculating Non-Cost Points

Once all non-cost items for all responses have been reviewed and a team score has been assigned by the Evaluation Team, total non-cost scores for each response will be shown to the Evaluation Team. The highest weighted score represents the best "technical" or non-cost proposal i.e. best proposal without regard to cost (say 800 points). The maximum points available would be the very theoretical score of "5" on every question, (say 1,000 points).

## 6.2 Calculating Cost Points

In the RFI, respondents were asked to provide a detailed set of First-time Costs (costs for the Primary Election in 2007), a separate set of detailed Per Election Costs (costs for the General Election in 2007 and for each election thereafter) and Annual Costs. For the purposes of this cost evaluation, a determination was made as to how many subsequent elections will be included in the cost evaluation. For example, it may be: First-time election Costs plus, say, the Per Election cost of each election in the subsequent ten (10) years, plus the Annual Costs for ten (10) years. If there were 24 elections (excluding special elections) in the ten year period, then the cost evaluated for each offering would be based upon: First-time Election Cost + (24 X Per Election Cost) + (10 X Annual Costs). The resulting cost number would be the cost number used for calculating the point value of each responses cost.

What this option does is apply a very objective method to quantifying how much better one proposed system cost is over another and it also makes it possible to combine both non-cost rankings and cost rankings to provide a single list of proposed systems in overall rank order.

## 7.0 Recommendations

*Number of Elections Counted* – It is likely that the system selected will be operated by BOE in NYC for at least 10 years, especially given the duration under which the current system has operated in NYC. Accordingly, Gartner would recommend that a 10 year horizon be used for the calculation of the cost of the new system. That would include not only the acquisition cost, but the expected operating cost of the system over that period of time. All systems proposed would then be costed on this basis to determine the cost number to be used for subsequent comparison.

*Relative Value of Non-cost vs Cost Component* - The ratio of non-cost to cost factors varies depending upon the cost sensitivity of the agency. In Gartner's experience in the acquisition of large public sector computer systems, the cost typical ranges between 20%-50% of the overall decision (i.e. cost is 20% while non-cost is 80%). A very typical cost ratio is 35% (about 1/3<sup>rd</sup>). Given that initial system acquisition in this case is being paid primarily through federal funds specifically allocated for this purpose and not out of the City General Fund, a ratio of 20% for cost would be appropriate.

*Options* - Gartner recommends that the Board direct Gartner to prepare all three options, namely:

1. Provide a Cost Analysis Report
2. Provide Cost Rankings
3. Provide Calculated Combined Non-cost & Cost Ranking

## Appendix A – Voting Volumes of New York City As Listed in RFI

Volumetric Data Description	New York City Current Typical	New York City High-end
Number of Registered Voters	3,900,000	4,300,000
Number of Board Staff	325	
Number of Voting Machine Technicians	75	
Number of Active Pollsites	1,300	
Number of Voting Machine Facilities	5	
Number of Election Districts	6,111	6,300
Number of Pollworkers Needed for Election	30,000	35,000
Number of Potential Pollworkers Scheduled for Training	67,000	
Number of Pollworkers that Attend Training	30,000	
Current Number of Training Classes per Election	1,500	
Current Length of Each Training Season (in weeks)	6	
Current Length of Training Class (in hours)	3	
Current Number of Training Locations	61	
Class Size (Current Number of Pollworker Per Class - increases as election approaches)	62	150
Ballot Styles (not including rotation or language versions)	934	6,111
Number of Parties (in Primary, parties go across columns)	12	
Number of Candidates Filed	17,000	25,000
Number of Offices	40	59
Number of Contests	2,000	6,111
Number of Proposals per Election	6	
Number of Currently Required Languages in Text	4	
Number of Currently Required Languages in Audio	5	
Voter Turn-out	30%	50%

Ballot Kinds - Machine, Standby (Emergency, Affidavit), Absentee Military /Special, Federal, and Presidential Ballots