In addition to and in conjunction with the services outlined in this RFP and appendices, during the term of the Final Agreement the successful Proposer shall provide the following Ancillary Services.

INSTALLATION, INTEGRATION & ACCEPTANCE TESTING

The successful Proposer shall be responsible for installation, integration, and all acceptance testing, including Initial Acceptance Testing, Final Acceptance Testing and End-to-End Testing of the New System.

During "Initial Acceptance Testing," the successful Proposer shall review and fully test all components of the New System *prior to delivery to DOE* -- to ensure that the entire System and each of its components operate properly and meet or exceed requirements of the Final Agreement -- and provide documentation to DOE of this review and testing. DOE may, at its sole discretion, participate in and/or oversee this process.

During "Final Acceptance Testing," the successful Proposer shall, with DOE oversight, test all hardware, firmware, and software components of the New System, to evaluate the capabilities of each component of the New System to manage a high volume of election data. DOE, in its sole discretion, will determine the volume of election data to be used during Final Acceptance Testing, which shall take place *after the successful Proposer installs the entire New System in San Francisco.*

During "End-to-End Testing," the successful Proposer shall conduct a mock election by preparing and casting paper ballot cards and, if applicable, electronic ballot images that simulate absentee, precinct, provisional, and early voting results, and shall process the mock election data using all aspects of the New System, including results reporting and transmission of precinct data from remote sites to the Central Processing Network. The End-to-End testing must include at least one instant runoff voting ("IRV," also referred to in this RFP as "ranked-choice voting" or "RCV") contest to verify the New System's ability to count and tabulate RCV ballots as specified in this RFP and the referenced appendices. The End-to-End testing must also include absentee, provisional and write-in ballots, and must demonstrate the New System's ability to: quickly and easily consolidate all elections data into a single format; apply the IRV algorithm to the consolidated data; and upload the consolidated data quickly and easily into a database. The End-to-End testing must also include transmission of election results to the Central Processing Network and to the California Secretary of State. The End-to-End testing must incorporate all aspects of DOE's election operations so that DOE can create plans, calendars, and procedures for any elections during the term of the Final Contract based on the experiences gained from this testing.

In addition to and in conjunction with the services described above, the successful Proposer shall:

- Verify and confirm in writing to DOE that all equipment and software for the New System are approved and certified by the federal Independent Testing Authority and the California Secretary of State;

- Install all hardware, software and firmware components of the New System;

- Fully integrate the New System, including but not limited to integration of all network components;

- Ensure that all hardware, software and firmware of the New System are operating according to the Proposer's specifications;

- Verify and confirm in writing to DOE that the New System performs in accordance with the Federal Voting Systems Standards, applicable operating procedures issued by the California Secretary of State, the City and County of San Francisco Charter and relevant local ordinances, and the specifications set forth in the Final Agreement and this RFP and referenced appendices;

- Prepare for DOE approval written End-to-End Testing plans and procedures for a mock election;

- Prepare all testing material and devices, including test ballots, if applicable;

- Conduct the End-to-End Testing mock election, including initialization of all equipment (including but not limited to initialization that simulates opening of the polls) and shutting down of all equipment (including but not limited to shutting down DRE devices and ancillary devices to simulate closing of the polls)**;**

- Record precinct, absentee and provisional vote totals and transmit the results to the Central Processing Network**;**

- Produce audit data reports as required by this RFP and referenced appendices**;**

- Convert data if necessary into a single format and apply the IRV algorithm;

- Report the results in the format required by the California Elections Code, including production of an Official Statement of Votes; and

- Transmit results to the California Secretary of State.

The successful Proposer shall install, integrate and test the New System at a date, time and location designated by DOE. The successful Proposer shall provide a project manager and adequate personnel to complete these tasks.

LOGIC AND ACCURACY TESTING

During the term of the Final Agreement, the successful Proposer shall be responsible for " Logic and Accuracy" ("L&A") testing of the New System prior to each election. L&A testing shall verify the proper functioning and accuracy of all hardware, firmware and software used for each specific election, including hardware, firmware and software used for precinct voting, absentee voting, transmission and reporting of results, and vote counting and tabulation, including but not limited to counting and tabulation of ranked-choice ballots.

The successful Proposer shall provide a project manager and all personnel, materials, equipment and programming necessary to accomplish all aspects of the L&A testing. The successful Proposer shall, with DOE oversight and approval, design the L&A Test scripts in accordance with applicable laws and Secretary of State guidelines. DOE may, at its sole discretion, review and approve all L&A scripts, practices and procedures. DOE staff will oversee but not conduct the testing. The successful Proposer shall complete the testing no later than 10 days prior to the election for which it is conducted.

L&A testing shall include the marking of test ballots (optical scan technology) or other testing devices (DRE technology) with predetermined totals for each contest, including IRV contests, for each ballot type. The test shall include ballots marked with as many different error conditions as reasonably possible, including but not limited to undervoted and overvoted ballots. The test results shall be transmitted to the Central Processing Network and stored by precinct. Application of the IRV algorithm shall be used to determine a winner in any IRV contest. A final report of the test shall be compared to the predetermined totals.

L&A testing shall include testing of all optical scan ballot counters, all DRE vote recorders if applicable, and all remote transmission equipment that will be used in the election for which the testing is conducted. The transmission equipment must be tested to verify data gathering methodologies, Central Processing Network software, results display, transmission of reports to the Secretary of State and preparation and distribution of cumulative reports.

In addition to and in conjunction with the L&A testing services described above, L&A testing shall include:

- initialization of all polling place equipment to simulate opening the polls;

- initialization of the optical scan equipment used to count absentee ballots;

- counting test ballots, if applicable, including precinct and absentee ballots;

- printing precinct vote totals and simulating closing of the polls;

- transmitting polling place data to the Central Processing Network;

- conforming precinct and absentee voting data to produce citywide vote totals;

- application of the IRV algorithm if the election includes an IRV contest;

- production of audit data reports as required by law and by this RFP;

- procedures for inclusion of absentee ballots returned at the precinct, provisional ballots, machine unreadable ballots, if applicable, and write-in vote totals in the precinct and Citywide vote totals; and

- procedures for generating reports of the results, including printing the Official Statement of Votes.

TRAINING OF DOE STAFF

The successful Proposer must provide DOE staff comprehensive training in all hardware, software, firmware, testing, operation and maintenance elements of the New System. Training of DOE staff shall include, but not be limited to: New System implementation; New System operation; precinct worker training ("training the trainers"); election production, including but not limited to ballot layout; election coding; L&A test design and procedures; production of the Official Statement of Votes; and warehouse staff training. DOE shall, in its sole discretion, identify its staff for this training. The successful Proposer shall provide this training during the first year of the Final Agreement, prior to the first election following the effective date of the Final Agreement, and shall provide upon DOE's request training support throughout the term of the Final Agreement.

New System Implementation

The successful Proposer shall:

- design and document a community-based, voter education and outreach campaign;
- design and document a media outreach campaign;
- develop and document absentee and early voting procedures and logistics;
- develop and document provisional voting procedures;
- develop and document write-in voting procedures;
- develop and document Election Day troubleshooting procedures;
- develop and document equipment delivery and retrieval procedures and logistics;

- develop and document the Central Processing Network operations and procedures;

- document each repair and all maintenance of New System equipment;

- develop and document storage, repair and maintenance requirements of New System equipment; and

- develop and document post Election Day procedures necessary to complete the official canvass of votes and report election results as required by law.

New System Operation

The successful Proposer, under the supervision of DOE, shall plan and provide training on all aspects of operation of the New System. This training shall include, but not be limited to, operation of:

- equipment used to record, count and tabulate ballots, including precinct, provisional, write-in and absentee ballots;

- ancillary equipment that is part of the New System;

- election production and preparation systems;

- the Central Processing Network;

- elections data consolidation and transmission systems; and

- systems for production and reporting of election results.

Election Production

The successful Proposer shall train DOE staff in election production including, but not limited to, the following:

- ballot and ballot image design, layout and production;

- election-specific database preparation;

- election coding and L&A testing;

- transmission of election results; and

- production and reporting of election results.

Poll Worker Training

The successful Proposer shall provide DOE staff and poll worker training and support, including but not limited to the following:

- development of a poll worker training outline and training material. The outline and material must include, but not be limited to, information about IRV;

- development and documentation of polling place operations and procedures;

- teaching poll worker trainer classes ("training the trainers");

- assisting DOE staff to conduct poll worker training classes

- providing demonstrations of the New System in poll worker training classes, and providing instruction on how to resolve basic problems that might arise at the polling places on election day; and,

- Development of materials related to error or omission messages to be posted on or near the machines.

Warehouse Staff Training

The successful Proposer shall train DOE's warehouse staff in New System equipment storage, set-up and testing, including but not limited to the following:

- equipment set-up and testing;

- equipment diagnostics;

- preparation and staging of equipment for polling place delivery;

- election day troubleshooting procedures;

- equipment safety issues;

- equipment repair and general maintenance; and

- equipment break-down, transportation and storage.

TROUBLESHOOTING AND RESPONDING TO PROBLEMS

The successful Proposer shall provide prompt and thorough responses to all problems that arise concerning the New System. The successful Proposer shall immediately respond to and resolve problems that arise on or close in time to Election Day within one (1) hour of notification by a DOE staff member. The successful Proposer shall provide a project manager *on-site* for troubleshooting during the most critical periods of elections preparation and during Election Day and election night. The successful Proposer shall promptly acknowledge each problem, propose a solution, and document both the problem, proposed solution and actual solution in writing to DOE in a format specified by DOE within a time frame specified by DOE. In addition, the successful Proposer shall

track and maintain a written history of which components of the system experienced problems and the action taken to resolve the problems.

The Proposer will work with DOE in a responsive, timely and comprehensive manner to continue to improve the usability and accessibility of the New System to the satisfaction of the City and County for voters, pollworkers and staff during the term of the Final Contract, including but not limited to, clear user instructions, improved effective screen presentation, improved specification of choice by voter, improvements of any ballot editing features, improved visual cues for users, improved auditory interaction, improved physical accessibility and manipulability. DOE will provide Proposer with written requests for proposed system improvements.

The Final Agreement will specify the response time for troubleshooting and problem resolution.

VOTER EDUCATION AND OUTREACH

The successful Proposer shall produce, subject to DOE approval, material for voter outreach and education concerning the New System. This material must include sample ballots and instructions on how to complete a ranked-choice ballot.

The successful Proposer shall train DOE outreach staff to conduct a voter education campaign that includes neighborhood-based demonstrations of the New System. These demonstrations must include instructions on how to complete a ranked-choice ballot. The successful Proposer shall assist DOE in conducting these demonstrations. DOE anticipates that it will conduct at least two demonstrations in each of the eleven supervisorial districts in San Francisco, at dates, times and locations specified by DOE.

ELECTIONS PREPARATIONS AND OPERATIONS

- **Project Management**

Throughout the term of the Final Agreement, the successful Proposer will assign a Project Manager and a project support team to implement all Services required by this RFP and referenced appendices. Project Manager will be available five (5) days a week during normal business hours for eight (8) weeks prior to the week before the election. One week prior to and until the election is certified, Project Manager will be available 24 hours a day, 7 days a week.

- **Ballot Design, Printing, Production and Delivery**

The successful Proposer shall design all ballots and ballot images, and produce camera-ready materials necessary for the printing of ballot cards. The design shall be based on information provided by DOE. The design shall comply with all applicable laws, and shall be subject to DOE approval. No changes may be made to the ballots

without DOE approval. The ballot will be a single trilingual ballot (English, Chinese and Spanish) ballot, or two bi-lingual ballots (English/Chinese and English/Spanish). The ballot may include other languages, including but not limited to Russian and Tagalog, if required by law. The successful Proposer shall also:

- provide all election definition coding for early, absentee and in-precinct ballot styles;

- ensure that ballot cards are printed in accordance with all applicable legal requirements and according to the ballot specifications;

- ensure that the precinct number is printed on all ballot cards;

- ensure that each ballot card stub includes a unique number; and

- verify that all ballot cards will be read accurately by the optical scan equipment;

In addition, the City would prefer that when a ballot consists of two or more ballot cards, the New System's optical scan ballot counters recognize the cards as one ballot.

- **Routine Maintenance, Recalibration of Equipment, and Customization for Each Election**

During the term of the Final Agreement, the successful Proposer shall: Provide routine maintenance and cleaning of all equipment; recalibrate all equipment to the same standards prior to each election, such that each unit is consistent with every other unit and there is no discrepancy in the functionality among the units; provide to DOE written confirmation of such recalibration; and produce and prepare all firmware and software necessary to customize the equipment for each election.

Proposer must also include a maintenance schedule and description of maintenance procedures.

- **Delivery, Installation and Retrieval of Equipment**

The successful Proposer shall assist DOE staff deliver, set up and retrieve from polling sites, including early voting sites, all New System equipment, ancillary devices and supplies according to the DOE's timetables and instructions. These materials may include booths, tables, chairs and other precinct supplies. The successful Proposer shall assist DOE staff to ensure that all New System equipment is fully prepared to be initialized. The successful Proposer shall provide DOE with documentation confirming that the correct equipment was delivered to each precinct.

- **Election Day Support**

In addition to the Project Manager, the successful Proposer shall provide sufficient, experienced technical support personnel on Election Day to troubleshoot and repair individual components of and the entire New System. The election day personnel shall include at least 33 personnel (3 per District for 11 Districts) to troubleshoot and make repairs at the precinct level, a minimum of four (4) personnel at the Central Processing Network center at City Hall or other location designated by DOE, a minimum of two (2) at warehouse for repairs, and a minimum of two (2) high-level technical specialists at DOE.

- **Canvass Support**

The successful Proposer shall provide written, comprehensive, step-by-step canvass procedures for the New System that meet all State and local legal requirements. The successful Proposer shall train DOE staff, and assist DOE staff as requested, in conducting the canvass.

- **Secure Storage and Staging Area**

The successful Proposer shall provide secure storage for all precinct equipment at a facility that includes enough space and infrastructure to conduct the L&A test and stage the equipment for delivery.

- **Reporting and Preservation of Election Results**

The successful Proposer shall develop and document procedures for production of all required audit materials and results reports, including the Official Statement of Votes Cast, and upon request assist DOE staff to produce these materials.

The New System shall preserve: the original ballot data; the ballot data corrected in accordance with the rules and conventions for IRV ballot interpretation specified in this RFP and the referenced appendices, and the ballot data and results from each round of the IRV algorithm.

LOGISTICAL SUPPORT

The successful Proposer shall supply all material and services required to operate and maintain the New System, and any modifications thereto, through the term of the Final Agreement. Logistical support material will include the following documentation:

- a System Hardware specification that includes performance and design standards and compatibility requirements, equipment interface requirements, and a description of the System operating environment;

- a System Software specification that includes specifications for the System operating environment and interface between hardware components, software

components and operator/user functions, and software test and verification specifications;

- a systems operations manual that describes the System's hardware, firmware and application software components, operational features and procedures for invoking them, and the support resources required to sustain System operation; and

- system maintenance procedures that identify all maintenance and repair operations that can be performed by the DOE staff, with the procedures required to trouble-shoot malfunctions for fault detection, fault isolation, equipment alignment or adjustment, and removal and replacement of failed components.

The successful Proposer shall update these procedures when necessary, provide written updates to DOE, and train DOE staff concerning the updated procedures.

MAINTENANCE

The successful Proposer shall provide the personnel and new equipment and material required to perform on-site equipment maintenance of each component of the System during the term of the Final Agreement. Maintenance shall include: the repair of any failed hardware and equipment and/or component repair replacement normally performed at the factory with new equipment. The successful Proposer shall also provide all new spare parts and/or repair parts necessary to support the System's operation. This on-site preventative maintenance shall ensure that the System passes all L&A testing throughout the term of the Final Agreement.

Proposer must also include a maintenance schedule and description of maintenance procedures.

In addition, the successful Proposer shall maintain a quality control system, covering all aspects of the design, fabrication, testing and delivery of the New System, including any modifications made thereto. This quality control system will include documentation of all inspections and tests performed on all components of the New System and any modifications made to the New System. The successful Proposer shall calibrate all voting equipment before each election and provide to DOE prior to the election written confirmation of successful calibration.