



Memorandum

To: Honorable London Breed, Mayor
Honorable Members, Board of Supervisors

From: John Arntz, Director of Elections

Date: March 4, 2019

RE: Information on new voting system and four-year lease agreement

This memorandum provides an overview of the voting system for which the Department of Elections (Department) and Dominion Voting Systems (Dominion) have completed a four-year lease agreement with an annual cost of \$2.1 million.

The system will conduct ranked-choice voting (RCV) elections that allow voters to select up to 10 candidates. The system will also significantly increase election transparency since the Department can post on its website the images of all voted ballots for members of the public to review and to verify results for any contest or measure. Posting ballot images would be unique to elections conducted in San Francisco.

Voters, however, will experience few changes when using the new system since all voters will continue to use paper ballots and voters will continue to cast their ballots at polling places or receive ballots in the mail. Also, all polling places and the City Hall Voting Center will continue to provide equipment that supports accessible voting options. Attachments 1 – 3 provide photos of the voting equipment associated with the new system.

Ranked-Choice Voting (RCV)

The new format for RCV contests will appear on ballots in a grid-like table. Candidates' names will be listed in a column and the rankings will be listed above the ovals that voters fill-in when marking their selections. Keeping the voting targets closer together in a grid-like pattern provides voters with a more intuitive method for understanding how to correctly mark their selections. Attachment 4 is an example of how an RCV contest that provides voters with 10 rankings could appear on a ballot.

Having 10 rankings on an intuitive ballot format offers voters with more opportunities to engage in most local elections since a greater number of local candidates can receive votes. The increased number of rankings removes a concern often expressed about the RCV ballot format for the previous system: that allowing no more than three selections limited both voters' and candidates' participation in RCV contests.

Improved Transparency

The new voting system expands the opportunities for election transparency. As noted previously, when the voting equipment scans ballots to tabulate votes, the equipment creates a duplicate image, front and back, of each paper ballot

card that the Department can post on its website. Additionally, the system attaches written explanations to each image on how the equipment interpreted each vote-marking.

Just as important as indicating how the equipment interpreted vote markings when tallying votes, the system also indicates instances, and the reasons, the equipment could not interpret specific vote-markings, and flags such instances for manual review. Once the Department posts images of voted ballots on its website, people can then use a ballot auditing tool that Dominion is developing to sort the images according to votes cast in specific contests, for particular candidates, and for or against any measure. After sorting the images, the ballot auditing tool allows users to tally the votes that appear on the images.

The system also generates transaction and event logs that track and record the equipment's processes. The voting equipment creates these logs in open-standard file formats that meet the City's Open Data initiatives. The Department can post these logs on its website for review by members of the public. The system also records all votes cast in all contests and measures, including RCV contests, in open-standard file formats which the Department can also post on its website.

System Security and Verifiable Results

This system incorporates the most recent standards regarding voting system security that the California Secretary of State (SOS) applies to voting systems for certification. To receive the SOS' approval, no part of the system can use any applications or programs that can broadcast on or connect to the internet and wireless systems.

Access to the system is based on user-defined roles. The specified roles prescribe the level of access and the actions the system will allow any user to perform. The system also encrypts its data and requires the successful completion of a two-step authentication process before someone can access data.

As previously described in this memorandum, the system provides verifiable results when producing digital images of all voted ballots, including explanations on how the system interpreted each vote-marking. Additionally, the public can verify results using the ballot audit tool also posted on the Department's website and sort the images by a contest or measure, and then tally the votes from these sorted images to compare against the official results reports.

To process vote-by-mail ballots, the voting system utilizes commercial off-the-shelf (COTS) scanners that will operate using unmodified software. The COTS scanners will also facilitate the City's adoption of post-election risk-limiting auditing (RLA). RLA will provide an additional method for verifying that the voting system properly recorded and tallied votes and accurately reported outcomes. Few California jurisdictions use RLA, and none apply RLA to RCV elections, which will require the City to establish new elections practices for other counties to follow.

Increased Efficiencies

One significant efficiency offered by this system is its ability to utilize one set of ballot content to prepare multiple voting methods for an election. The new system uses one set of content for preparing paper ballots, ballot marking devices, accessible vote-by-mail ballots (and accessible sample ballots), and audio ballots. Further, the system more readily supports the uploading and editing of audio files than did the previous voting system, which will greatly decrease the time necessary to produce and edit ballot content in several languages.

Another significant operational benefit is the Department will no longer need to batch returned vote-by-mail ballots by their precincts for counting. This will significantly reduce the time required to process vote-by-mail ballots, which previously required several hundred hours for personnel to complete during each election.

Ongoing Attention to Voter Input on Developing Improved Accessibility Features

Under the agreement, Dominion will meet each year with the Department's Voting Accessibility Advisory Committee (VAAC) to obtain the members' input on Dominion developing accessibility-related improvements to the voting system. The contract requires Dominion to provide written notes on the meetings, and to indicate whether it will undertake suggested improvements and the timelines involved, and provide reasons for any suggestions the vendor will not seek. Also, the contract requires Dominion to organize an annual meeting of other Bay Area VAACs to obtain their feedback and to respond to their suggestions.

City to Continue Efforts to Develop an Open Source Voting System

The City will continue to undertake steps to develop a voting system based on open source software during the term of the agreement. The City has already established a position in the Department of Technology (DT) to support a technical lead who will assist in preparing the specifications of a voting system. Further, the City established a project manager position in DT who can focus on community involvement, project planning and scheduling, and communications regarding the project.

The length of the lease is four years, which is a much shorter term than most other agreements regarding voting systems. The short term of the contract contemplates the City moving to a system of its own development, while the contract's two one-year options allow the City to continue to use the new system should the City require additional development time for the open source system.

Benefits of Leasing the System

The City gains several benefits from leasing the voting system rather than purchasing the system. The lease removes the large upfront cost associated with purchasing voting equipment or providing a sizeable initial payment combined with a multi-year payment schedule. Additionally, the lease agreement provides the City flexibility to implement any system- or equipment-related improvements without cost to the City that Dominion develops and has approved by the SOS.

This lease agreement also requires Dominion to provide substantial ongoing services for maintenance and election support. Dominion will be responsible for maintaining and repairing the equipment, providing replacement parts, and replacing equipment as necessary.

Outreach to Inform Voters of the New Ballot Format

The Department is committed to providing San Francisco's residents with information about the new voting system and the new RCV ballot format. The Department will organize its 2019 RCV outreach on the successes of its 2004 RCV educational program, when the Department first implemented RCV elections in the City.

To implement a broad outreach effort regarding the new system and the new RCV ballot format, the Department seeks approval of additional funding to develop a grant program for community organizations to collaborate with the Department to

engage people on an interpersonal basis. The grants will fund outreach mechanisms that deliver information on the system and, especially, RCV educational materials to individuals and directly into their communities.

The Department will partner with organizations that support communities in each Supervisorial District. Communities likely to benefit from focused outreach on RCV include those with limited English proficiency, seniors, persons with disabilities, people who live in areas where voter turnout trends lower than the City average, and young and first-time voters.

Outreach mechanisms to inform San Franciscans of the new system and the RCV ballot format will also include notices in newspapers – especially the City’s neighborhood and non-English publications; posters on Muni and BART vehicles, stations, and shelters; press releases; public service announcements for television and radio broadcasts; multiple mailers to households; social media postings; as well as the Department’s website which will host specially prepared content in multiple languages.

Conclusion

While preparing this contract for the Board of Supervisors’ consideration, the Department has already begun learning about the new system and preparing to implement the system for the upcoming November 2019 election, and the March 2020 primary election that quickly follows. The Department is looking forward to utilizing the new technologies and providing voters with improved election-related services.

I will be glad to answer any questions you may have regarding the voting system or the lease agreement.

Images:

- Attachment 1, Polling Place Ballot Scanner-Tabulator
- Attachment 2, Accessible Polling Place Touch Screen and Printer
- Attachment 3, Vote-By-Mail Ballot Scanning Equipment
- Attachment 4, Example of RCV Ballot Format with 10 Rankings

- cc: Naomi Kelly, City Administrator
Ben Rosenfield, Controller
Sean Elsbernd, Chief of Staff, Mayor’s Office
Dennis Herrera, City Attorney
Kelly Kirkpatrick, Budget Director, Mayor’s Office
Linda Gerrull, Director, Department of Technology
Angela Calvillo, Clerk of the Board of Supervisors
Sheriff Vicki Hennessy
Anna Duning, Budget Analyst, Mayor’s Office
Elections Commission

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Attachment 1
Polling Place Ballot Scanner-Tabulator



The most advanced all-in-one optical scan tabulator & ballot marking device.



ACCESSIBLE

Only one unit to deploy for standard and accessible voting that also uses a single ballot path.



EFFICIENT

Features a single unit for all your precinct voting needs - saving you time, money & storage space.



SIMPLE

Attractive and intuitive 19" touchscreen for easy navigation by poll workers and voters.



SECURE

Meets EAC security standards to preserve integrity and auditability.

Get in touch

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sales@dominionvoting.com
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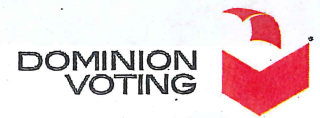
IMAGECAST® X | BMD Accessible Polling Place Touch Screen and Printer



The ImageCast® X can be configured as a Ballot Marking Device (BMD), which is paired with a commercially available, compact laser printer that prints a summary of the voters selections. No votes are stored on the ImageCast® X when in the BMD configuration.

Get in touch

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DOMINION VOTING is a leading provider of secure, accessible, and efficient voting solutions for governments and organizations. Our solutions are designed to ensure the integrity and security of the voting process while providing a user-friendly experience for voters. We offer a wide range of voting systems, including electronic voting machines, secure web-based voting, and mobile voting solutions. Our solutions are used by governments and organizations in over 50 countries, and we are committed to providing the highest quality of service and support to our clients.

IMAGECAST[®] CENTRAL Vote-By-Mail Ballot Scanning Equipment

**Efficient & scalable
central count system.**



EFFICIENT

Uses industry-leading COTS hardware to decrease costs and minimize risk of failure.



SIMPLE

Intuitive software that uses touchscreen navigation and requires minimal training.



FLEXIBLE

Modular and scalable to an election of any size - meeting the needs of all jurisdictions.



SECURE

Meets EAC security standards to preserve integrity and auditability.

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Example of Ranked-Choice Voting Ballot with 10 Rankings

<p align="center">Favorite National Park Parque Nacional Preferido</p> <p align="center">Rank the candidates in order of choice, don't fill more than one oval per row or per column. Elija sus candidatos en orden de preferencia, no use más de un óvalo por fila o columna</p>									
Yosemite California	<input type="radio"/> 1	<input type="radio"/> 2	<input type="radio"/> 3	<input type="radio"/> 4	<input type="radio"/> 5	<input type="radio"/> 6	<input type="radio"/> 7	<input type="radio"/> 8	<input type="radio"/> 9
Acadia Maine	<input type="radio"/> 1	<input type="radio"/> 2	<input type="radio"/> 3	<input type="radio"/> 4	<input type="radio"/> 5	<input type="radio"/> 6	<input type="radio"/> 7	<input type="radio"/> 8	<input type="radio"/> 9
Channel Islands California	<input type="radio"/> 1	<input type="radio"/> 2	<input type="radio"/> 3	<input type="radio"/> 4	<input type="radio"/> 5	<input type="radio"/> 6	<input type="radio"/> 7	<input type="radio"/> 8	<input type="radio"/> 9
Pinnacles California	<input type="radio"/> 1	<input type="radio"/> 2	<input type="radio"/> 3	<input type="radio"/> 4	<input type="radio"/> 5	<input type="radio"/> 6	<input type="radio"/> 7	<input type="radio"/> 8	<input type="radio"/> 9
Grand Canyon Arizona	<input type="radio"/> 1	<input type="radio"/> 2	<input type="radio"/> 3	<input type="radio"/> 4	<input type="radio"/> 5	<input type="radio"/> 6	<input type="radio"/> 7	<input type="radio"/> 8	<input type="radio"/> 9
Denali Alaska	<input type="radio"/> 1	<input type="radio"/> 2	<input type="radio"/> 3	<input type="radio"/> 4	<input type="radio"/> 5	<input type="radio"/> 6	<input type="radio"/> 7	<input type="radio"/> 8	<input type="radio"/> 9
Kenai Fjords Alaska	<input type="radio"/> 1	<input type="radio"/> 2	<input type="radio"/> 3	<input type="radio"/> 4	<input type="radio"/> 5	<input type="radio"/> 6	<input type="radio"/> 7	<input type="radio"/> 8	<input type="radio"/> 9
Volcanoes Hawaii	<input type="radio"/> 1	<input type="radio"/> 2	<input type="radio"/> 3	<input type="radio"/> 4	<input type="radio"/> 5	<input type="radio"/> 6	<input type="radio"/> 7	<input type="radio"/> 8	<input type="radio"/> 9
Olympic Washington	<input type="radio"/> 1	<input type="radio"/> 2	<input type="radio"/> 3	<input type="radio"/> 4	<input type="radio"/> 5	<input type="radio"/> 6	<input type="radio"/> 7	<input type="radio"/> 8	<input type="radio"/> 9
Rocky Mountain Colorado	<input type="radio"/> 1	<input type="radio"/> 2	<input type="radio"/> 3	<input type="radio"/> 4	<input type="radio"/> 5	<input type="radio"/> 6	<input type="radio"/> 7	<input type="radio"/> 8	<input type="radio"/> 9
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