



HOUSE OF COMMONS  
CHAMBRE DES COMMUNES  
CANADA

# REMOTE AND ELECTRONIC VOTING

## Technical and Procedural Considerations

July 2020



# Background and introduction

On May 15, 2020, the Standing Committee on Procedure and House Affairs presented its fifth report to the House of Commons. In its report, the committee recommended that the House establish a secure electronic voting system:

**That the House of Commons set up a secure electronic voting system for conducting votes in virtual sittings as soon as possible in order to guarantee the right of members to vote safely in the event of a pandemic or any other exceptional circumstances threatening their safety and/or that of their families and communities.**

This report sets out the technical and procedural considerations for implementing a solution for remote or electronic voting and makes recommendations to the committee.

## Electronic voting system

### Technical considerations

#### Proposed solution

The delivery of a solution that enables electronic voting can be realized quickly by leveraging the House of Commons' existing portfolio of technologies. Indeed, the Administration has architected a potential solution and is working with national partners to validate its inherent security controls and conduct a thorough security and technological viability assessment. The House will provide the committee with a schedule of key milestones and a target date for which a solution could, at the will of members, be implemented.

The electronic voting system would be developed according to the following guiding principles:

#### 1. Motions

At present, motions are available electronically to the House of Commons Administration through an internally accessible application, and procedural experts are then able to group those motions in the most logical and efficient way possible. Any electronic voting solution adopted must integrate seamlessly with this existing system to maintain the same level of service to members.

#### 2. Vote notification

A vote notification system of bells and lights is installed in buildings across the parliamentary precinct to ensure that members on the Hill are aware of a vote generally 30 minutes before it takes place. Any electronic voting solution must be integrated into this existing system, as well as broaden it to include

notifications on members' mobile devices, to ensure that all members have the same awareness of imminent votes and have time to prepare to exercise this function. Robust security measures will need to be enforced to guarantee delivery of any electronic notifications to members.

### **3. Transport of information exchange**

Among the threat vectors for any electronic voting solution are the interception of data (including a vote) between the device a member uses to participate and the House of Commons technology infrastructure, and denial-of-service attacks designed to overwhelm the parliamentary network and make the electronic voting system temporarily inaccessible. Any solution must incorporate end-to-end encryption and enhance the House's already powerful monitoring technologies to identify and prevent the fulfillment of non-legitimate network requests early. All activity in the system would also need to be recorded in immutable logs.

### **4. Authentication of the member**

When members vote in the Chamber, their identities are confirmed visually by the Speaker of the House of Commons and table officers. To ensure the authenticity and integrity of votes cast electronically, the House of Commons must similarly authenticate that each person who casts a vote is indeed the member in whose name that vote is cast. The electronic voting solution could integrate various methods of authentication simultaneously, including the validation of a member's assigned parliamentary account, the use of a House of Commons–managed (and protected) device, and biometrics.

### **5. Casting and confirmation of the vote**

Should members adopt an electronic voting system, they could use a dedicated, secure application on their House of Commons–managed mobile device to read the motion and cast a vote.

Members would receive confirmation of their respective votes and of the results through a secure (and highly encrypted) messaging platform and by email to their personal parliamentary accounts.

### **6. Recording and archival of results**

At present, when votes in the Chamber are recorded in House of Commons databases, controls are in place to ensure that records, once entered and verified, are unchangeable unless otherwise ordered by the House. Any interactions with those records are logged (and investigated and reported, as warranted, according to stringent security policies). Any votes cast using an electronic voting system would be recorded in the same manner and with the same high level of security protection.

### **7. Publication of the results**

Any votes cast electronically will be published in the official records of the House (*Hansard* and *Journals*) and on the votes website. Records are stored and made viewable to employees who prepare these publications.

As is currently the case, when the Speaker announces the results to the House, they could be shown on screen as part of the broadcast of proceedings.

## 8. Auditability of and changes to the system

Every interaction with the mobile electronic voting application or the wider House of Commons voting system would be logged and traceable. These records would need to be created automatically (rather than manually) and be immutable, meaning that they cannot be changed at any time. The records could then be used to retrace, step by step, any user actions or system processes and, together, recreate an exact picture of what transpired during a given period of time.

## 9. Availability of the system

The continuity of parliamentary business cannot be at risk of interruption due to the unavailability of technology. For this reason, any electronic voting system must incorporate multiple redundancies that enable it to recover from the various potential failures (and even a combination thereof). At the same time, the House of Commons must consider the possibility of extreme scenarios that could render the system unusable by some or all members, and establish alternate ways of voting in the event that the principal system cannot fulfill its function.

## 10. Supply chain

The House of Commons must use technologies that have the appropriate security certifications and permit the House Administration and its security partners to perform the appropriate audits in order to mitigate any malware being embedded at the point of source, during a change or at any stage in the supply chain.

**The secure remote voting system will respect the 10 technology and security guiding principles.**

# Procedural considerations

## General procedures

If the committee determines that an electronic voting system should be implemented, the following outlines how the procedures of the House could be adapted to align with electronic voting, subject to feedback from or changes requested by the committee.

In general, the voting process will resemble the one with which members are already familiar, with some small adjustments required in order to accommodate the time needed for electronic votes to be

cast and announced by the Speaker, particularly when there is a series of votes or when the results of one vote must be announced prior to the taking of a subsequent division.

To ensure the integrity of the process and to ensure that all members are treated equally in the conduct of a recorded division, all members should be required to vote using the same system, regardless of whether they are physically present in the Chamber or connected to proceedings remotely. If more than one method were used in combination, it would increase the risk that a vote could be cast twice (once in person, once through the application); this would be very difficult to verify before announcing the result.

**For any recorded divisions requested in a virtual or hybrid sitting, all members are required to vote using the secure electronic voting system.**

**All recorded divisions requested in a virtual or hybrid sitting should be conducted electronically.**

Once debate concludes on a motion, the initial process for the House to make a decision will remain similar to the one currently in place, though with some adjustments to account for the virtual participation of members. To ensure the will of the House is understood in both a hybrid or fully virtual sitting, the Speaker would proceed to a voice vote immediately after reading the question. He or she would ask that all members in favour of the motion raise their hand in person or using the functionality in the virtual meeting software. After observing the response, a table officer would reset the hands raised in the videoconferencing tool before the Speaker calls for those opposed to indicate their vote in the same manner.

In general, the Chair judges the result not only on the number or proportion of members expressing their voice vote, but also on the probability of a certain outcome. This principle would continue to guide the Chair as required in announcing a result.

**The decision-making process would begin with a modified “voice” vote with all members indicating their vote to the Chair by a raised hand, whether in person or through the functionality available in videoconferencing software.**

If members wish to proceed to a recorded division, five members must rise in the House or signal their request to the Chair if they are participating remotely. If a recorded division is requested, the Speaker will then call for the members to vote electronically.

Whips may continue to defer votes as per current practice. However, in order to ensure that members who vote electronically are not interrupted during the process, votes must be deferred within a couple of minutes of the Speaker’s announcement, and electronic voting will not begin until the time for deferral has elapsed.

The bells will then begin to ring throughout the parliamentary precinct for 30 minutes. At the same time, an electronic alert will be sent to all members, who will immediately have access to the electronic voting system. The text of the motion to be voted on will appear on the screen, and the Speaker will therefore

not repeat the text of the motion before the House. Members will be given three options: “yea,” “nay” and “abstain.” If a member selects “abstain,” their vote will not be recorded in the official publications or on the House of Commons website; it is simply a formal way for the member to indicate that they are aware of the vote taking place but choose not to cast a vote.

Once members choose an option, they will have to validate their choice. Members and one of their assistants will then receive a voting confirmation. A second alert will be sent a few minutes before the bells stop ringing.

Once the bells stop ringing, the Speaker calls the House to order and announces the results of the vote with the help of the table officers, who will have access to the compiled results. Only members who have voted “yea” or “nay” and paired members will have their names appear in the *Journals*.

**Members will have access to the voting system as soon as the Speaker announces that an electronic vote has begun. Members must vote during the determinate voting period. The bells will ring for 30 minutes for all electronic votes.**

**Whips may continue to defer votes but must do so within two minutes of the Speaker announcing the electronic vote will take place.**

**Members will not need to be in the House (virtually or in person) for the reading of the motion immediately preceding a recorded division. The text of the motion will be available through the electronic voting system.**

In situations where two or more electronic votes must be held successively, with no intervening debate, the bells will sound only once, as is the current practice. The notification will also be sent only once. Members will vote on all these questions successively. In such cases, the Speaker will announce the results of each vote after the time allotted for members to cast their votes in the system has expired.

**If the House must vote on more than 10 motions, an additional period of three minutes per motion in excess of 10 will be added to the voting period. The Speaker will announce the time allotted for the vote before the bells start ringing.**

This rule would not apply to questions that depend on the result of another vote and that must be put to a vote successively without further debate or amendment (following time allocation, for example). In such cases, the results of the vote on the amendment or subamendment must be announced before the vote on the main motion can proceed. See the section on votes with dependencies for further information.

As in the current process, once completed, the results of a recorded division stand as a decision of the House. If members wish to change their vote, they must seek the unanimous consent of the House. To avoid errors and corrections to a recorded division, the electronic voting system asks members to validate their votes before they are submitted and tallied. To ensure accuracy, the vote and validation must occur before the end of the voting period.

## Deferred divisions

If one or more divisions are deferred pursuant to various Standing Orders or an order of the House, the bells ring for 30 minutes at the scheduled time, and the same rules described above would apply.

## Votes with dependencies

On occasion, the House must vote successively on an amendment to a substantive motion, then on the main motion itself. Yet before members can vote on the main motion, they need to know whether they are voting on the original motion or the motion as amended. There are also cases during the study of bills at report stage where the result of one vote may require additional questions to be put. For any vote that depends on the results of another vote, the Speaker must announce the results of that vote, then inform the House that the question will immediately be put on the next motion. If a recorded division is requested, the Speaker announces the duration of the votes, a notification will be issued, and the bells again sound for this period. Members will then immediately have access to the electronic voting system.

**When members need to vote electronically on motions that depend on the result of a previous vote, they will have ten minutes after the Speaker announces the results to enter their subsequent vote.**

**To minimize the number of interruptions to the electronic voting process, votes will be grouped. As soon as the results are announced, members will vote on the motions that depend on the results of a previous vote.**

## Application of results to votes held successively

By unanimous consent, the results of a previous recorded division that have been announced can be applied to a future recorded division. Under the new process and because members can vote on multiple motions in succession, results can be applied only to certain votes, such as votes that cannot be held until the results of a previous vote are announced.

As in the current process, to apply the results of a previous decision, a representative of each party and the independent members must give their consent to the application of the results and state how they will vote. A simple request by unanimous consent from one member to apply the results of a previous division would also suffice. The division will appear in the *Journals* as if it had taken place according to the normal process.

**With an electronic system, the procedure for applying results to votes held successively will remain in effect.**

## Pairing of members

House of Commons practice allows members who are unable to be present for a recorded division to be paired. The current process remains in effect, including for electronic voting. The Register of Paired Members, available in the Chamber or by email, must be updated with the relevant information before a vote begins for the pairing to be recorded.

## Votes in committee of the whole

Votes in committee of the whole may also be conducted electronically at a member's request. The vote must be held immediately, and only members participating in the meeting would be permitted to vote, as is currently the case with votes in committee of the whole. Given that they are already present in the meeting, members will have five minutes to cast their vote. Neither members' names nor the results will be published in the *Journals*.

## Secret ballots

The Standing Orders set out several situations in which the House must conduct secret votes, including the election of the Speaker and an appeal of a designation of an item of private members' business. These procedures are used only once or twice per Parliament. While the electronic voting system will meet the security standards required to protect the integrity of the democratic process, secret ballots will require a more complex system to marry the need for authentication and auditability with the need for anonymity.

**Votes conducted by secret ballot should not be integrated into the electronic vote system in the initial phase of the project. If required, other arrangements can be made that respect the best practices for health and safety of members and staff and to recognize that some members may need to participate remotely.**

## Changes to the Standing Orders

Since very little about the voting process is codified in the Standing Orders, there would be no requirement to make extensive modifications to implement a system of electronic voting. A general amendment to the Standing Orders could give the Chair the power to adjust the practices and rules of the House to allow for electronic voting in emergency situations, in consultation with House leaders of recognized parties. This amendment could include text that outlines, in general, the procedures in relation to electronic voting:

Recorded divisions are conducted electronically in the following manner:

- (i) When the question is put, the Speaker asks members to express themselves by a show of hands.
- (ii) Upon a division, the "yeas" and "nays" shall not be entered in the *Journals*, unless demanded by five members.

(iii) No further debate is to be permitted when the Speaker asks members to cast their vote.

(iv) Within two minutes after a recorded division is requested, the whip of a recognized party may ask the Speaker to defer the division in a manner similar to that provided for in Standing Order 45.

(v) Before a recorded division is held, the Speaker announces the period of time allotted for members to cast their vote electronically. If two or more votes are to be held successively without intervening debate, members may vote on more than one question during the time allotted provided that these questions are not dependent on another motion or proceeding. Thirty minutes are allotted for a maximum of 10 votes. When necessary, three minutes for each additional vote are added. The result of each vote is announced at the end of the time provided for voting.

(vi) When the question is dependent on another motion or proceeding, the Speaker announces each result and ten minutes are allotted to vote on subsequent questions necessary to dispose of the item.

# Roll-call voting by videoconferencing system

## Technical considerations

### Proposed solution

In a hybrid or virtual sitting, the delivery of a solution that enables roll-call voting by use of videoconferencing software can be realized as members are already familiar with the technology and its uses. Members would, however, need to make important adjustments to how they use the videoconferencing system and to how the roll call takes place to ensure the integrity and accuracy of the process.

In general, members should be aware of the following technical requirements:

- **Validation of vote:** All members participating remotely would be required to have their video turned on when they announce their vote to enable table officers to validate their identity. Members will have to clearly and slowly state their voting preference so it can be accurately recorded (see section on procedural considerations).
- **Connection to meeting:** Members of Parliament would be required to be connected to the meeting at the time the roll-call vote begins; this is similar to the current in-person voting requirements.

- **Notifications:** With a physical or remote presence required, members will be alerted when a vote is to take place by the ringing of bells. Notifications could also be sent to members' mobile devices to inform them of an upcoming vote.

## Procedural considerations

If the committee determines that roll-call voting by videoconferencing system should be implemented, the following outlines how the procedures of the House could be adapted to align with this process, subject to feedback from or changes requested by the committee.

Once debate concludes on a motion, the initial process for the House to make a decision will remain as described above for electronic voting (including the use of the raised hand feature for the voice vote). Once a recorded division is requested, the bells would ring throughout the precinct, and notifications would be sent to members' mobile devices to call them to vote. Members participating in person would attend in the Chamber, and those participating by videoconference would need to connect to the meeting before the bells stop ringing. The Speaker will then read the motion to the House and voting will begin.

To be as efficient as possible with the time of the House, any members participating in person will vote first, and their names will be called in the usual fashion as they stand in their places. After the yeas and nays have been called for all those voting in person, the Speaker will direct the vote caller to begin the roll call for those participating by videoconference.

**For most votes, which are conducted by party, members in the Chamber will be called in the usual fashion, followed by those participating by videoconference, who will be called in alphabetical order by party.**

**For votes on private members' business, the vote will begin as usual with the sponsor, regardless of their location, and then proceed in the Chamber row by row and then alphabetically by videoconference, without being broken down by party.**

When the table officer calls the name of a member participating by videoconference, they must provide their vote in the form of a sentence: "Mr./Madam Speaker, I vote yea/nay" or "Mr./Madam Speaker, I will not be voting." This is required so that the table officer monitoring remote participants has enough time to validate the identity of the member voting by videoconference and to ensure that a member has not forgotten to unmute their microphone. If the video is not turned on, the vote will not be accepted. When a large number of members are participating by videoconference, it is not possible to generate a report of who is online in such a short period of time. For this reason, the names of all members who have not voted in person will be called. If there is no response after an acceptable period of time, the table officer will move to the next member on the list.

Once this process is completed, table officers will tally the results and the Clerk will report them to the Speaker. The Speaker will then declare the motion carried or defeated, and the results will be reported in the *Journals* in the usual fashion.

## Issues

With respect to roll-call voting via the videoconferencing system, members should consider the following factors:

- **Visibility:** Members voting in person in the Chamber would have more visibility than those voting via the videoconferencing system.
- **Absences:** Since all members are called alphabetically regardless of whether they are present via the videoconferencing system, the absence of members would be highlighted to the public, to the media and to other members of the House, contrary to current practice.
- **Integrity of process:** To ensure the identity of members voting remotely, video would need to be turned on and a table officer would need to have sufficient time to verify the identity of the participant before counting the vote. Since the videoconference software does not provide the ability to search only those with video active, members would need to announce their vote slowly and clearly to allow time to validate their identity. If the table officer cannot validate their identity in time, members may be required to repeat their vote.
- **Efficiency:** Members of Parliament voting remotely would be required to be connected to the meeting at the time the roll-call vote takes place, similar to the current in-person voting requirements. It is expected that a roll-call vote done by videoconferencing system would take significantly longer than the current process in the House and would need to proceed slowly and deliberately to ensure votes are recorded accurately.
- **Technology:** While the technology is generally highly reliable, given that members must be present and vote in alphabetical order, the consequences of a dropped connection or of leaving the videoconference are more important than with other voting options that might be more flexible. Members would need to consider how to manage this process. Furthermore, if a member were to join the meeting once the vote has begun, it would be difficult to track, especially if it is the result of a dropped connection.