

# Agenda and General Information

IEEE P802.3cg 10 Mbps Single Pair Ethernet  
Task Force

George Zimmerman (Chair)

CME Consulting, Inc.

October 14, 2019

# Agenda

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- Welcome and Introductions
- Approve Agenda
- Ground Rules
- IEEE Policies and Procedures
  - Structure, Bylaws and Rules
  - Call for Patents
  - IEEE 802 Participation policy
  - IEEE Standards Process
- Chief Editor's Report
- Comment Resolution
- Motions and Closing Business

# Goals for the meeting

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- Respond to comments on 4th SA Ballot Recirculation
  - 3 comments on d3p4
- Decide whether to recirculate the draft or proceed to Revcom

# Reflector and Web

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- To subscribe to the 10 Mbps Single-Pair Ethernet Task Force reflector, send an email to:

[ListServ@ieee.org](mailto:ListServ@ieee.org)

with the following in the body of the message (do not include “<>”):

*subscribe* STDS-802-3-10SPE-*<yourfirstname>* *<yourlastname>*

*end*

- Send 10 Mbps Single-Pair Ethernet Task Force reflector messages to:

**STDS-802-3-10SPE** [@listserv.ieee.org](mailto:STDS-802-3-10SPE@listserv.ieee.org)

- Task Force web page URL:

[www.ieee802.org/3/cg](http://www.ieee802.org/3/cg)

# Task Force Private Area

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- URL: <http://www.ieee802.org/3/cg/private>
  - Username: <>
  - Password: <>
- Write it down...
- Note - The draft, and any other content, is posted for your review only, and neither the content nor access information should be copied or redistributed to others in violation of document copyrights.

# Ground Rules

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- Based upon IEEE 802.3 Rules
  - Foundation based upon Robert's Rules of Order
  - Anyone on the call may speak
  - ***Only 802.3 Working Group voters on the call may vote***
- **RESPECT**... give it, get it
- NO product pitches
- NO corporate pitches
- NO prices!!!
  - This includes costs, ASPs, etc. no matter what the currency
- NO restrictive notices

# Contingent interim call comment resolution

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- The comment resolution process for this call is the same as that for face-to-face meetings.
- As per 3.4.2 of the IEEE 802.3 Ethernet Working Group Operations Manual: “Electronic meetings shall only consider motions to progress a draft and only when balloting is substantially complete. Electronic meetings that will consider motions shall be approved by the WG Chair prior to the meeting announcement. In such meetings only IEEE 802.3 Working Group members may make and vote on motions. If a motion is not approved by unanimous consent it shall be taken as a roll call vote.”

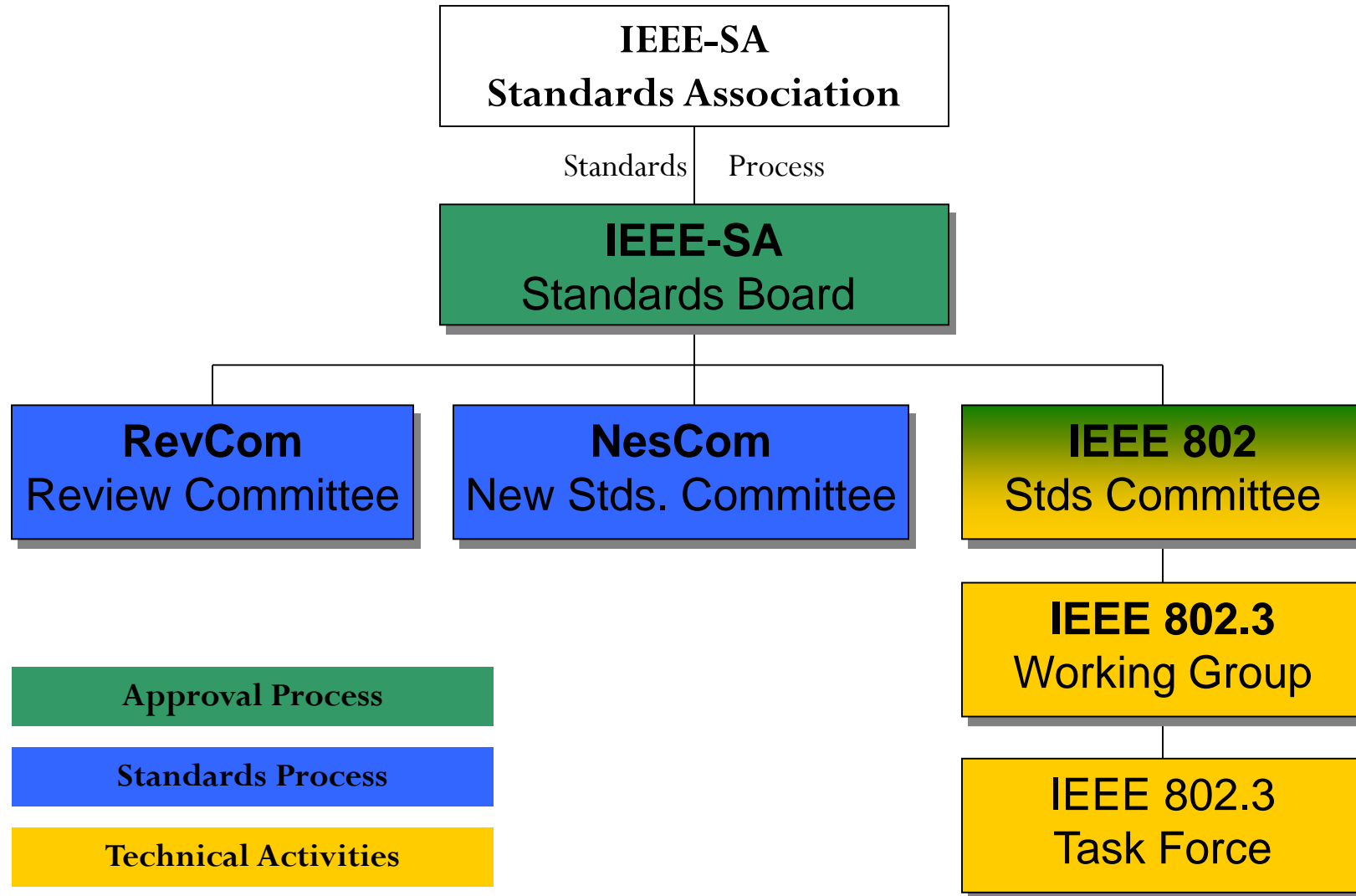
# Attendance

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- Please send email to chair with name, employer, affiliation for record of Interim Teleconference Meeting attendance



# IEEE Structure



# Important Bylaws and Rules

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- **IEEE-SA Operations Manual**  
[http://standards.ieee.org/develop/policies/sa\\_opman/](http://standards.ieee.org/develop/policies/sa_opman/)
- **IEEE-SA Standards Board Bylaws**  
<http://standards.ieee.org/develop/policies/bylaws/>
- **IEEE-SA Standards Board Operations Manual**  
<http://standards.ieee.org/develop/policies/opman/>
- **IEEE 802 LAN/MAN Standards Committee (LMSC) Policies and Procedures**  
<https://ieee.app.box.com/v/PandP-LMSC>
- **IEEE 802 LAN/MAN Standards Committee (LMSC) Operations Manual**  
<http://www.ieee802.org/devdocs.shtml>
- **IEEE 802 LAN/MAN Standards Committee (LMSC) Working Group (WG) Policies and Procedures**  
<http://www.ieee802.org/devdocs.shtml>
- **IEEE 802.3 Working Group Operating Rules**  
[http://ieee802.org/3/rules/P802\\_3\\_rules.pdf](http://ieee802.org/3/rules/P802_3_rules.pdf)

# Instructions for the WG Chair

The IEEE-SA strongly recommends that at each WG meeting the chair or a designee:

- **Show slides #1 through #4 of this presentation**
- **Advise the WG attendees that:**
  - IEEE's patent policy is described in Clause 6 of the *IEEE-SA Standards Board Bylaws*;
  - Early identification of patent claims which may be essential for the use of standards under development is strongly encouraged;
  - There may be Essential Patent Claims of which IEEE is not aware. Additionally, neither IEEE, the WG, nor the WG Chair can ensure the accuracy or completeness of any assurance or whether any such assurance is, in fact, of a Patent Claim that is essential for the use of the standard under development.
- **Instruct the WG Secretary to record in the minutes of the relevant WG meeting:**
  - That the foregoing information was provided and that slides 1 through 4 (and this slide 0, if applicable) were shown;
  - That the chair or designee provided an opportunity for participants to identify patent claim(s)/patent application claim(s) and/or the holder of patent claim(s)/patent application claim(s) of which the participant is personally aware and that may be essential for the use of that standard
  - Any responses that were given, specifically the patent claim(s)/patent application claim(s) and/or the holder of the patent claim(s)/patent application claim(s) that were identified (if any) and by whom.
- The WG Chair shall ensure that a request is made to any identified holders of potential essential patent claim(s) to complete and submit a Letter of Assurance.
- It is recommended that the WG Chair review the guidance in *IEEE-SA Standards Board Operations Manual* 6.3.5 and in FAQs 14 and 15 on inclusion of potential Essential Patent Claims by incorporation or by reference.

Note: **WG** includes Working Groups, Task Groups, and other standards-developing committees with a PAR approved by the IEEE-SA Standards Board.

**(Optional to be shown)**

## Participants have a duty to inform the IEEE

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- Participants shall inform the IEEE (or cause the IEEE to be informed) of the identity of each holder of any potential Essential Patent Claims of which they are personally aware if the claims are owned or controlled by the participant or the entity the participant is from, employed by, or otherwise represents
- Participants should inform the IEEE (or cause the IEEE to be informed) of the identity of any other holders of potential Essential Patent Claims

**Early identification of holders of potential Essential Patent Claims is encouraged**

Slide #1

## Ways to inform IEEE

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- **Cause an LOA to be submitted to the IEEE-SA (patcom@ieee.org); or**
- **Provide the chair of this group with the identity of the holder(s) of any and all such claims as soon as possible; or**
- **Speak up now and respond to this Call for Potentially Essential Patents**

If anyone in this meeting is personally aware of the holder of any patent claims that are potentially essential to implementation of the proposed standard(s) under consideration by this group and that are not already the subject of an Accepted Letter of Assurance, please respond at this time by providing relevant information to the WG Chair

**Slide #2**

# Other guidelines for IEEE WG meetings

- **All IEEE-SA standards meetings shall be conducted in compliance with all applicable laws, including antitrust and competition laws.**
  - **Don't discuss the interpretation, validity, or essentiality of patents/patent claims.**
  - **Don't discuss specific license rates, terms, or conditions.**
    - Relative costs of different technical approaches that include relative costs of patent licensing terms may be discussed in standards development meetings.
      - **Technical considerations remain the primary focus**
  - **Don't discuss or engage in the fixing of product prices, allocation of customers, or division of sales markets.**
  - **Don't discuss the status or substance of ongoing or threatened litigation.**
  - **Don't be silent if inappropriate topics are discussed ... do formally object.**

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For more details, see *IEEE-SA Standards Board Operations Manual*, clause 5.3.10 and *Antitrust and Competition Policy: What You Need to Know* at <http://standards.ieee.org/develop/policies/antitrust.pdf>

**Slide #3**

# Patent-related information

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The patent policy and the procedures used to execute that policy are documented in the:

- ***IEEE-SA Standards Board Bylaws***  
(<http://standards.ieee.org/develop/policies/bylaws/sect6-7.html#6>)
- ***IEEE-SA Standards Board Operations Manual***  
(<http://standards.ieee.org/develop/policies/opman/sect6.html#6.3>)

Material about the patent policy is available at  
<http://standards.ieee.org/about/sasb/patcom/materials.html>

**If you have questions, contact the IEEE-SA  
Standards Board Patent Committee Administrator  
at [patcom@ieee.org](mailto:patcom@ieee.org)**

Slide #4

# Participation in IEEE 802 Meetings

**Participation in any IEEE 802 meeting (Sponsor, Sponsor subgroup, Working Group, Working Group subgroup, etc.) is on an individual basis**

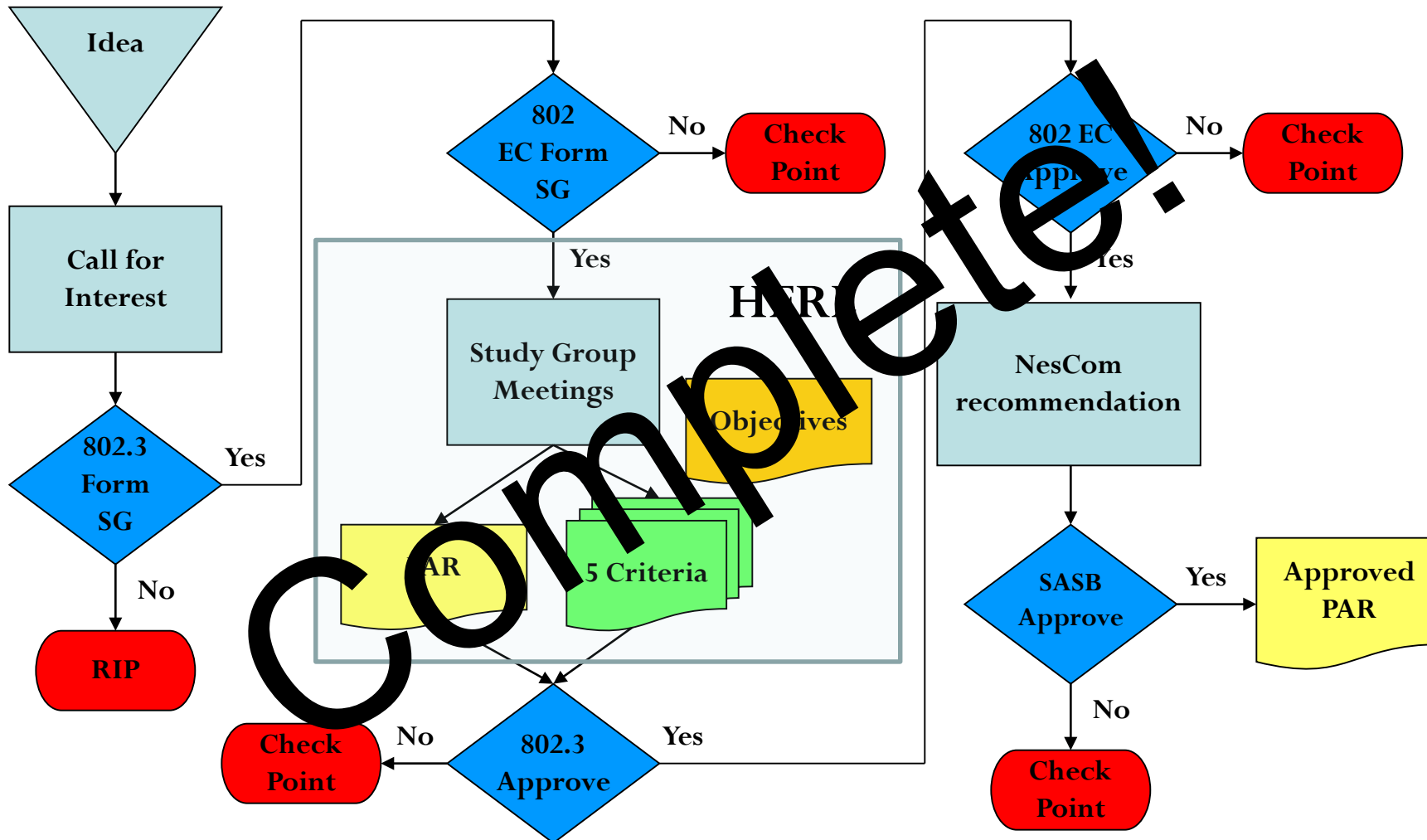
- **Participants in the IEEE standards development individual process shall act based on their qualifications and experience. ([https://standards.ieee.org/develop/policies/bylaws/sb\\_bylaws.pdf](https://standards.ieee.org/develop/policies/bylaws/sb_bylaws.pdf) section 5.2.1)**
- **IEEE 802 Working Group membership is by individual; “Working Group members shall participate in the consensus process in a manner consistent with their professional expert opinion as individuals, and not as organizational representatives”. (subclause 4.2.1 “Establishment”, of the IEEE 802 LMSC Working Group Policies and Procedures)**
- **Participants have an obligation to act and vote as an individual and not under the direction of any other individual or group. A Participant’s obligation to act and vote as an individual applies in all cases, regardless of any external commitments, agreements, contracts, or orders.**
- **Participants shall not direct the actions or votes of any other member of an IEEE 802 Working Group or retaliate against any other member for their actions or votes within IEEE 802 Working Group meetings, see [https://standards.ieee.org/develop/policies/bylaws/sb\\_bylaws.pdf](https://standards.ieee.org/develop/policies/bylaws/sb_bylaws.pdf) section 5.2.1.3 and the IEEE 802 LMSC Working Group Policies and Procedures, subclause 3.4.1 “Chair”, list item x.**

**By participating in IEEE 802 meetings, you accept these requirements. If you do not agree to these policies then you shall not participate.**

(Latest revision of IEEE 802 LMSC Working Group Policies and Procedures: <http://www.ieee802.org/devdocs.shtml>)

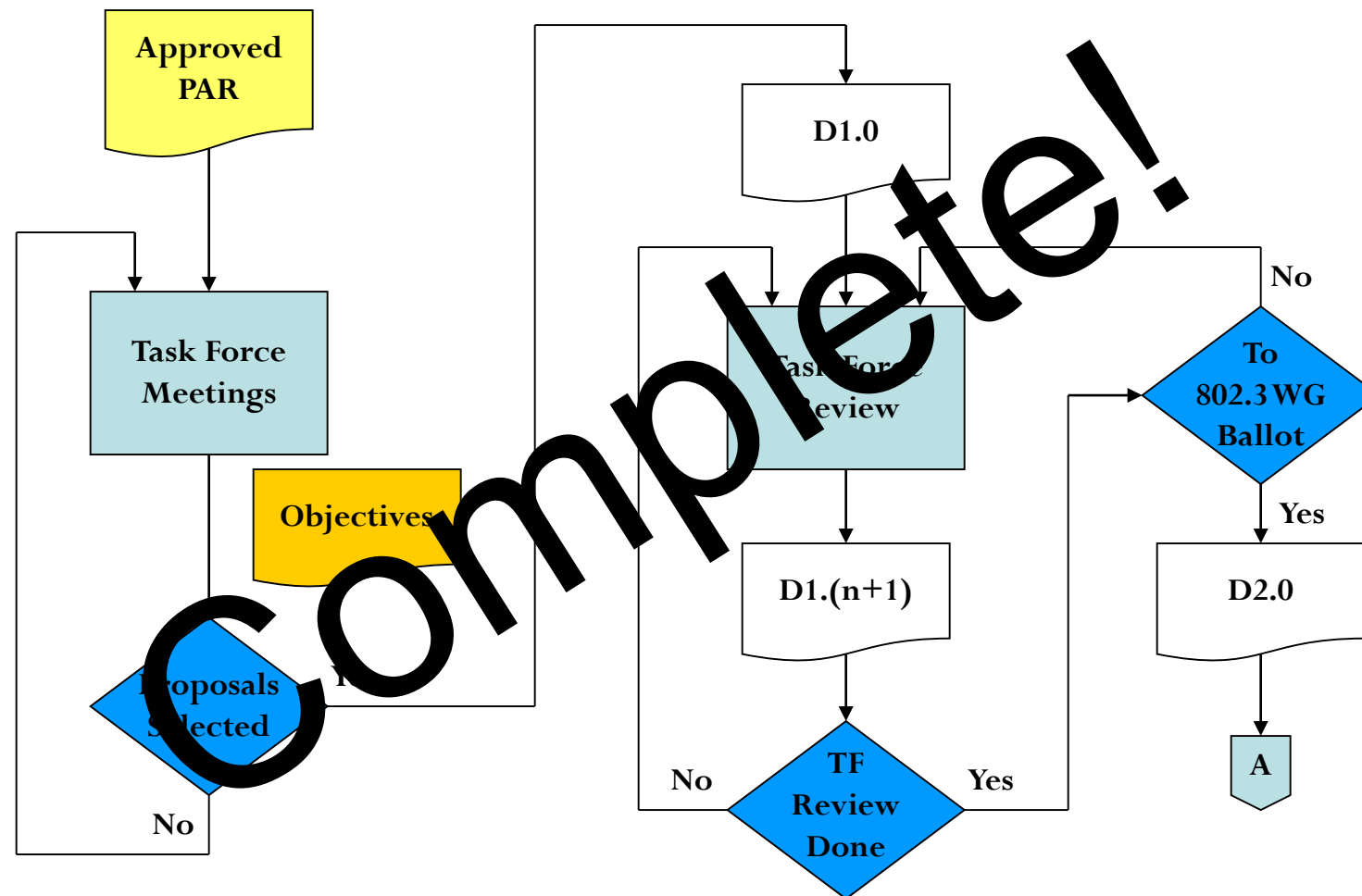


# Overview of IEEE 802.3 Standards Process (1/5)- Study Group Phase



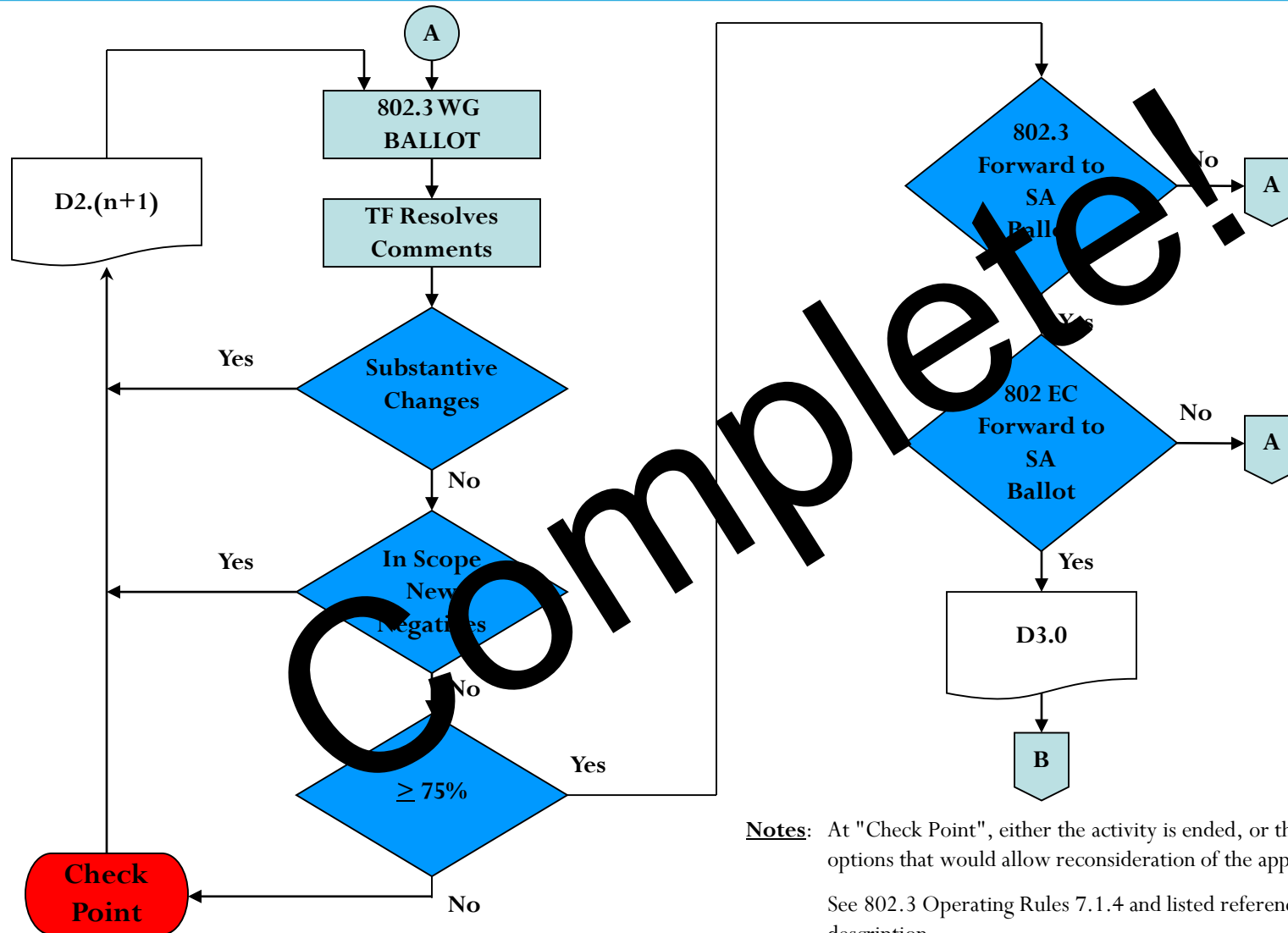
Note: At "Check Point", either the activity is ended, or there may be various options that would allow reconsideration of the approval.

# Overview of IEEE 802.3 Standards Process (2/5) – Task Force Comment Phase



**Complete!**

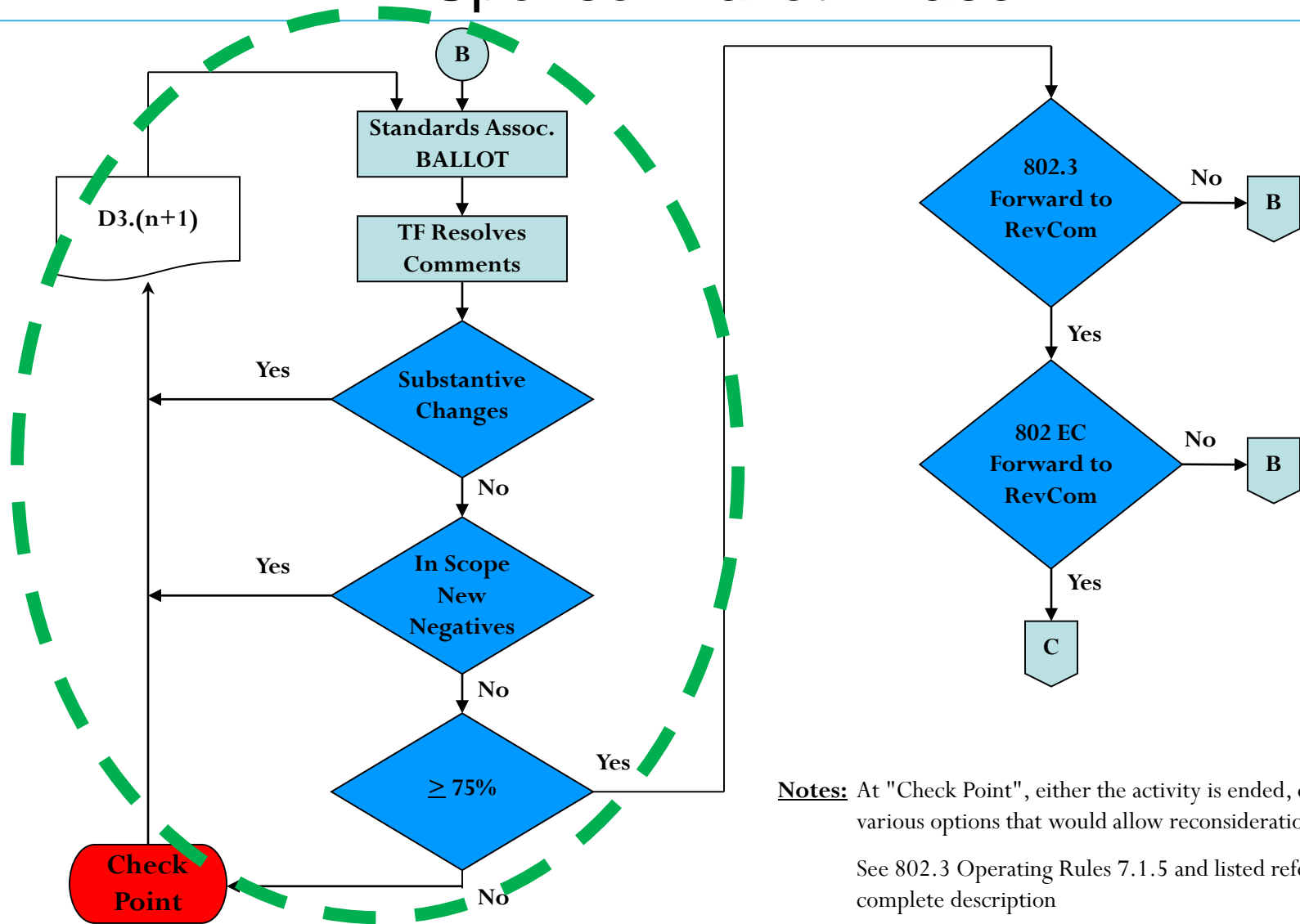
# Overview of IEEE 802.3 Standards Process (3/5) – Working Group Ballot Phase



**Notes:** At "Check Point", either the activity is ended, or there may be various options that would allow reconsideration of the approval.

See 802.3 Operating Rules 7.1.4 and listed references for complete description

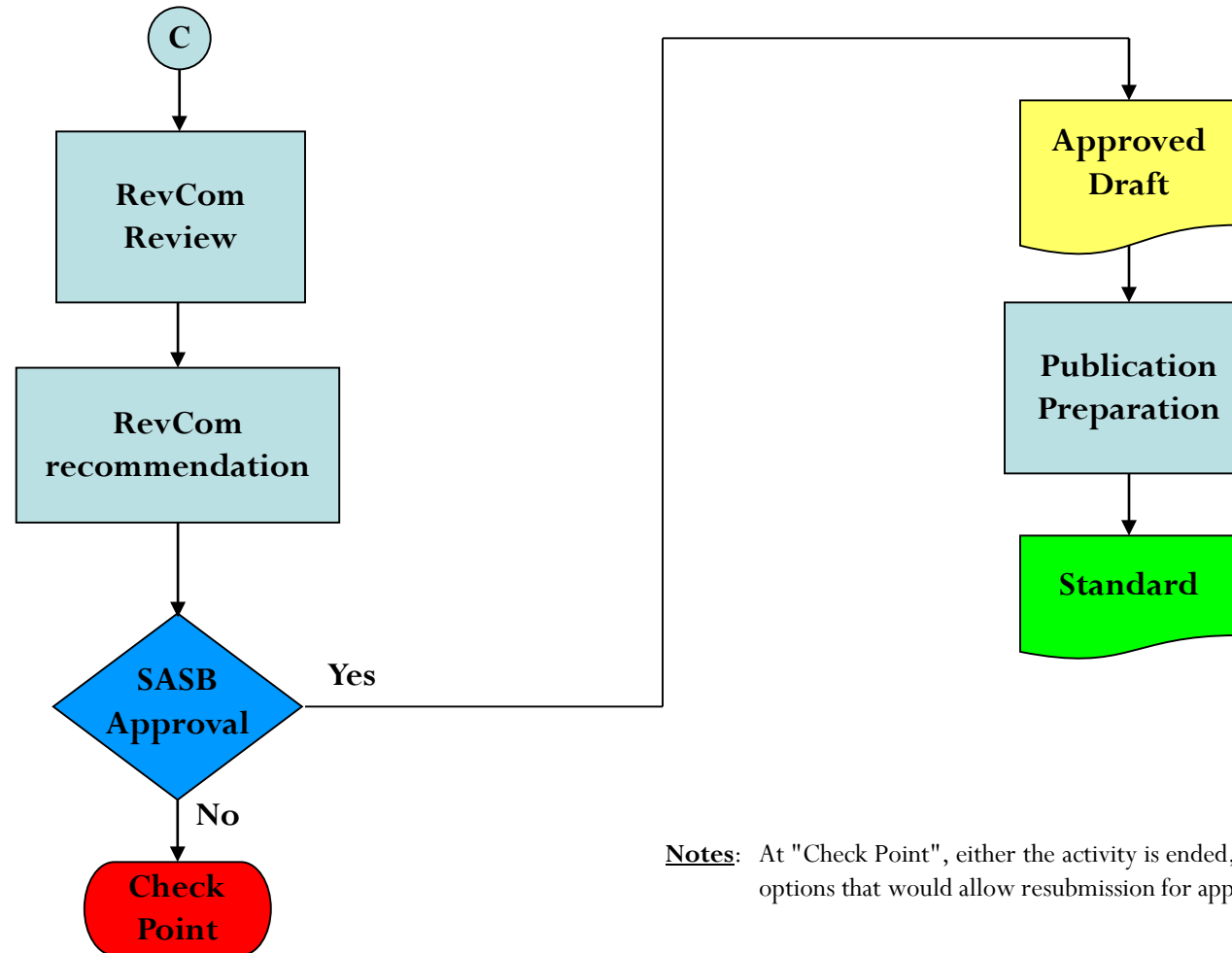
# Overview of IEEE 802.3 Standards Process (4/5)- Sponsor Ballot Phase



**Notes:** At "Check Point", either the activity is ended, or there may be various options that would allow reconsideration of the approval.

See 802.3 Operating Rules 7.1.5 and listed references for complete description

# Overview of IEEE 802.3 Standards Process (5/5) – Final Approvals / Standard Release



**Notes:** At "Check Point", either the activity is ended, or there may be various options that would allow resubmission for approval.

# IEEE P802.3cg 10Mbps Single-Pair Ethernet Approved Project Documents

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- PAR

- [http://www.ieee802.org/3/cg/P802\\_3cg\\_PAR\\_140518.pdf](http://www.ieee802.org/3/cg/P802_3cg_PAR_140518.pdf)

- 5 Criteria

- <https://mentor.ieee.org/802-ec/dcn/18/ec-18-0014-02-00EC-ieee-p802-3cg-draft-csd-modifications.pdf>

- Objectives

- [http://www.ieee802.org/3/cg/objectives\\_3cg\\_0318.pdf](http://www.ieee802.org/3/cg/objectives_3cg_0318.pdf)

# Objectives (1 of 3) – approved by 802.3 on 3/8/18

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1. Preserve the IEEE 802.3/Ethernet frame format at the MAC client service interface.
2. Preserve minimum and maximum frame size of the current IEEE 802.3 standard.
3. Support a speed of 10 Mb/s at the MAC/PLS service interface.
4. Do not preclude meeting FCC and CISPR EMC requirements
5. Support for optional single-pair Auto-Negotiation
6. Support optional Energy Efficient Ethernet
7. Support 10 Mb/s single-pair Ethernet operation in automotive environments (e.g. EMC, temperature).
8. Support 10 Mb/s single-pair Ethernet operation in industrial environments (e.g. EMC, temperature ).
9. Do not preclude the ability to survive automotive and industrial fault conditions (e.g. shorts, over voltage, EMC, ISO16750)
10. Do not preclude working within an Intrinsically Safe device and system as defined in IEC 60079

# Objectives (2 of 3) – approved by 802.3 on 3/8/18

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11. Define performance characteristics of the following:

- a. A link segment with a single balanced pair of conductors supporting up to 4 inline connectors for up to at least 15 m reach
- b. A mixing segment with a single balanced pair of conductors supporting up to at least 8 nodes, for up to at least 25 m reach
- c. A link segment with a single balanced pair of conductors supporting up to 10 inline connectors for up to at least 1 km reach

12. Define a PHY:

- a. Supporting point-to-point half-duplex operation over the 15 m link segment
- b. Optionally supporting full-duplex operation over the 15 m link segment
- c. Optionally supporting half-duplex multi-drop operation over the 25 m mixing segment

13. Define a PHY:

- a. Supporting point-to-point full-duplex operation over the 1 km link segment



# Objectives (3 of 3) – approved by 802.3 on 3/8/18

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14. Support fast-startup operation using predetermined configurations which enables the time from power\_on\*\*=FALSE to a state capable of transmitting and receiving valid data to be less than 100ms
15. Maintain a bit error ratio (BER) at the MAC/PLS service interface of less than or equal to:
  - a.  $10^{-10}$  on link segments up to at least 15m
  - b.  $10^{-10}$  on mixing segments up to at least 25m
  - c.  $10^{-9}$  on link segments up to at least 1000m
16. Specify one or more optional power distribution techniques for use in conjunction with 10 Mb/s single-pair Ethernet PHYs over one or more of the single-pair segments

# RevCom Submittal & completion of the SA Ballot Process

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From: <https://standards.ieee.org/about/sasb/revcom/revguide.html> (Revcom guidelines):

- NOTE: Conditional submittals — RevCom will consider reviewing a submittal if a recirculation ballot is in progress at the specified submittal deadline, provided the recirculated draft and all submittal documentation except required materials related to the in-progress recirculation are submitted by the submittal deadline. There shall be no negative votes on new issues, but additional negatives on prior issues are allowed provided the 75% approval rate required is achieved. See RevCom Conventions for more details.

# Conditions to remain on the RevCom agenda

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<https://standards.ieee.org/about/sasb/revcom/conv.html>

## 5. Recirculation Ballots in Progress at the Submittal Deadline (10 Day Practice):

Required conditions for the active recirculation ballot:

- No additional valid negative votes were received prior to the close of the active recirculation ballot. Additional negatives on prior issues are allowed, provided the 75% approval rate is achieved. A valid negative vote is one that meets the requirements of the IEEE SA Standards Board Operations Manual 5.4.3.2, 5.4.3.3, and 5.4.3.4.
- Comment resolutions (if any) for the active recirculation ballot are submitted at least 10 days before the RevCom meeting.

# Is another Recirculation Required?

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<https://standards.ieee.org/about/sasb/revcom/revguide.html>

## **Notification Why Comments Associated with a Negative Vote were not Recirculated**

Comments associated with a negative vote that have not been shown to the balloting group via a recirculation ballot, a notification should be sent to each commenter explaining on a comment-by-comment basis why they do not require recirculation. These notices shall be submitted to RevCom.

Reasons why a comment associated with a negative vote does not require recirculation include the following:

- Comment is not related to the project/standard being balloted
- Comment is on material that is not open to comment during a particular round of balloting
- Comment is a restatement of a previous comment that has already been recirculated

# Presentation & Comment Resolution

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- Chief Editor's Report
- Comment Resolution

# Closing Business: Motions

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# Thank You!