1-Pair Power over Datalines (PoDL) Study Group

Overview of the Process
York, UK
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Vice Chair, IEEE 802.3 (Ethernet)

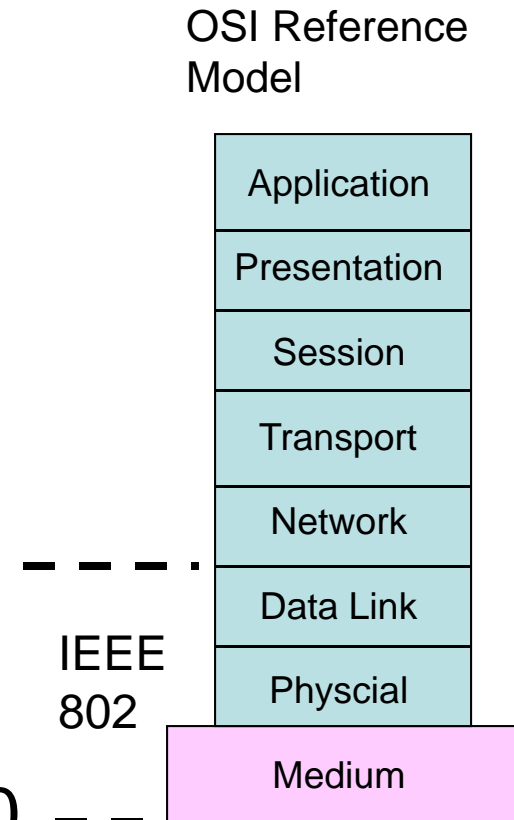**Sr. Technical Director, Broadcom**

Before I Share <u>My</u> Views…

"At lectures, symposia, seminars, or educational courses, an individual presenting information on IEEE standards shall make it clear that his or her views should be considered the personal views of that individual rather than the formal position, explanation, or interpretation of the IEEE."

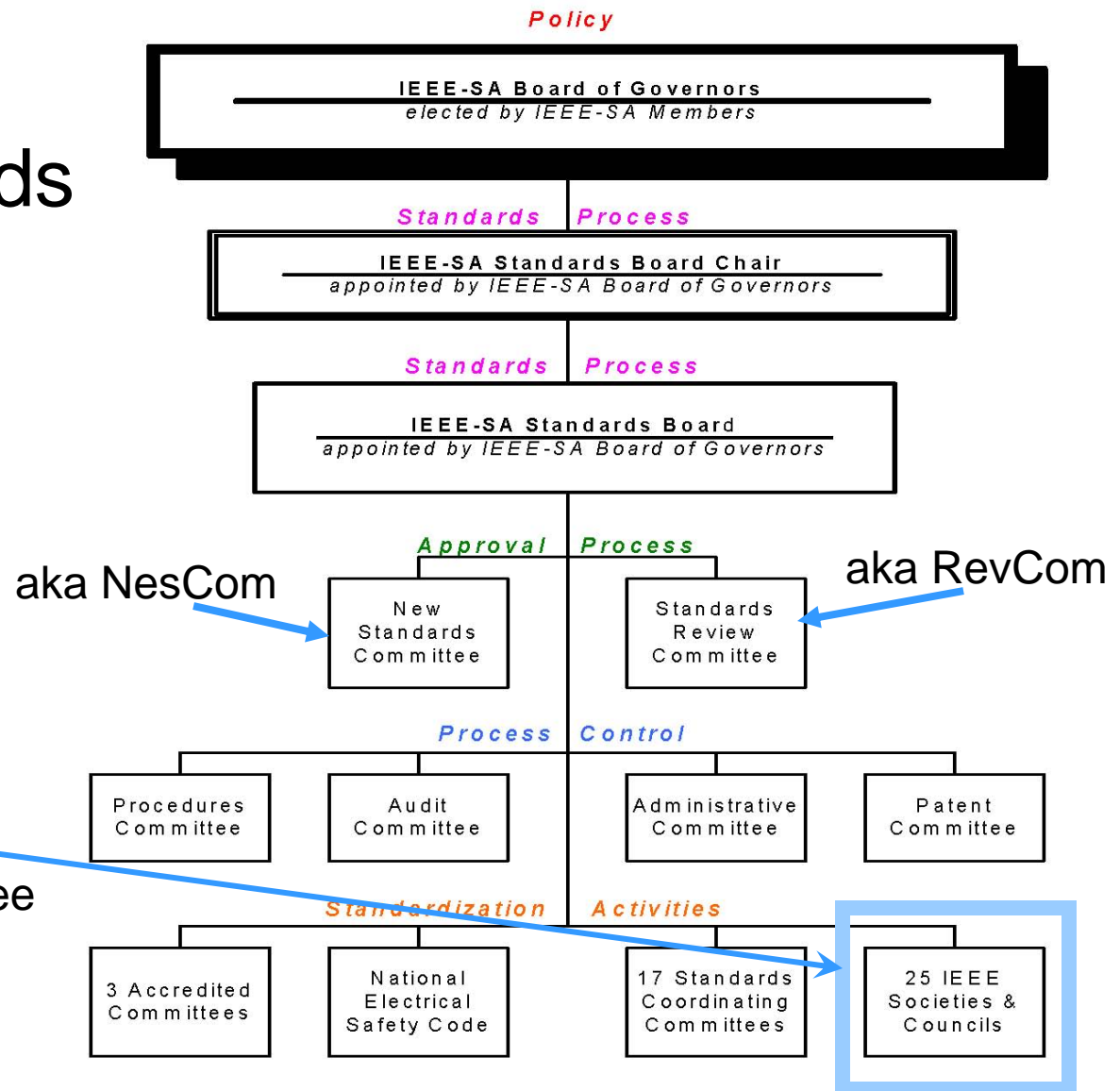**IEEE-SA Standards Board Operation Manual (subclause 5.9.3)**

Introduction to IEEE 802

Who we are

- IEEE Project 802 LAN/MAN Standards Committee (aka IEEE 802 or LMSC)
  - Develop LAN and MAN standards
  - Mainly for link and physical layers of the network stack
  - In operation since March 1980

OSI Reference Model

Application
Presentation
Session
Transport
Network
Data Link
Physcial

IEEE 802

Medium

IEEE Standards Organization

Policy

IEEE-SA Board of Governors
elected by IEEE-SA Members

Standards Process

IEEE-SA Standards Board Chair
appointed by IEEE-SA Board of Governors

Standards Process

IEEE-SA Standards Board
appointed by IEEE-SA Board of Governors

Approval Process

aka NesCom

New Standards Committee

aka RevCom

Standards Review Committee

Process Control

Procedures Committee

Audit Committee

Administrative Committee

Patent Committee

Standardization Activities

IEEE 802 is here: a standards committee formed by the Computer Society

3 Accredited Committees

National Electrical Safety Code

17 Standards Coordinating Committees

25 IEEE Societies & Councils

Some terms

- PAR – project authorization request – the document that authorizes work on a project.

- WG - Working group – responsible for developing standards in an area

- TAG – Technical Advisory Group – experts on a topic area that crosses working groups – may develop a recommended practice.

- Task group or task force – a part of a working group which focuses on a particular project.

All those dots….decoder ring

802.1 Bridging and Architecture – generally the top of the link layer

802.3 CSMA/CD – Carrier sense multiple access/collision detect – wired Ethernet

802.11 WLAN – wireless LAN

802.15 WPAN – wireless personal area network

802.16 BWA – broadband wireless access

802.17 ResPackRing – resilient packet ring

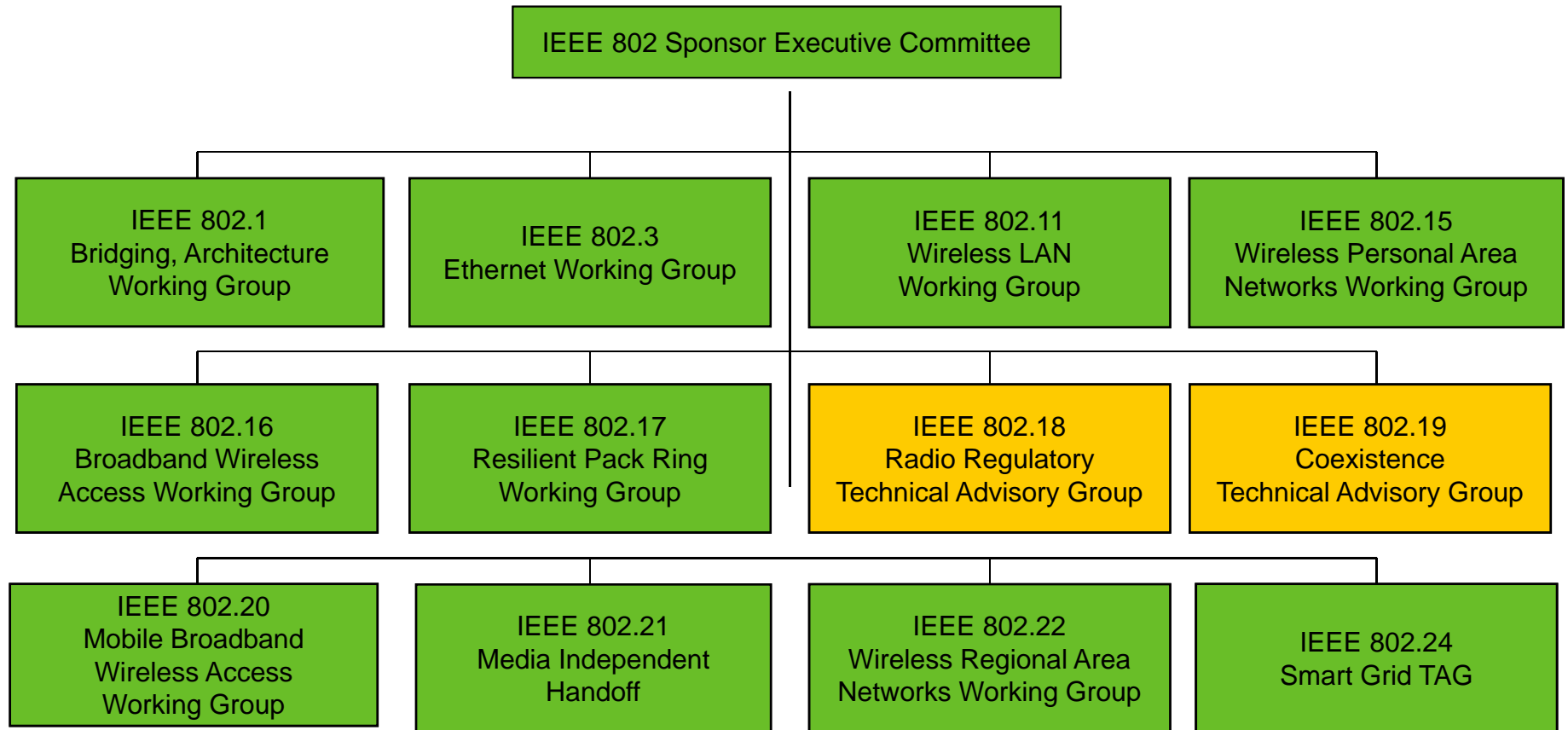802.18 Radio Regulatory TAG

802.19 Coexistance

802.20 MBWA – mobile broadband wireless access

802.21 Media Independent Handoff

802.22 WRAN - wireless regional area networks
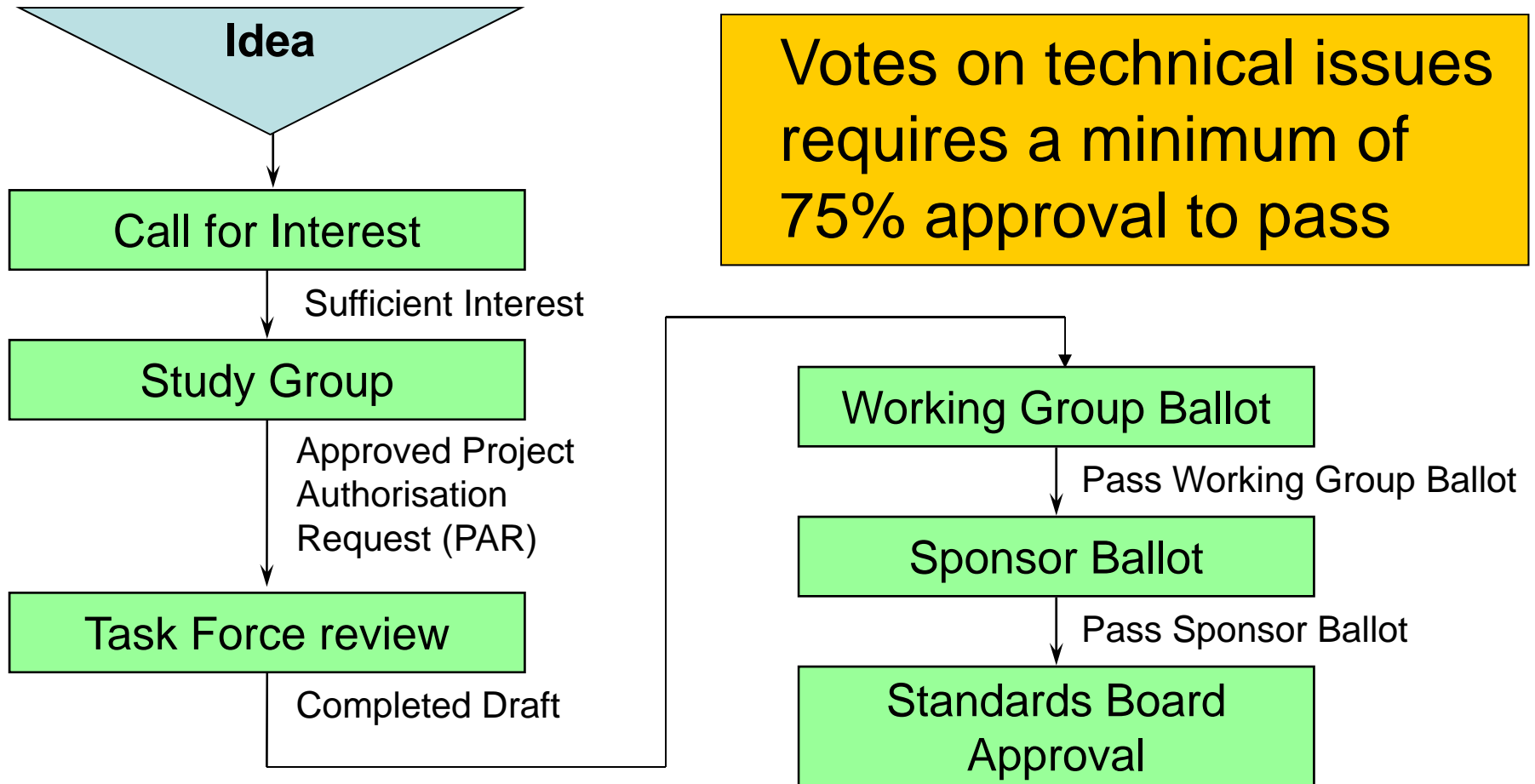
802.23 Emergency Services

IEEE 802 Working Groups

IEEE 802 Sponsor Executive Committee

IEEE 802.1
Bridging, Architecture
Working Group

IEEE 802.3
Ethernet Working Group

IEEE 802.11
Wireless LAN
Working Group

IEEE 802.15
Wireless Personal Area
Networks Working Group

IEEE 802.16
Broadband Wireless
Access Working Group

IEEE 802.17
Resilient Pack Ring
Working Group

IEEE 802.18
Radio Regulatory
Technical Advisory Group

IEEE 802.19
Coexistence
Technical Advisory Group

IEEE 802.20
Mobile Broadband
Wireless Access
Working Group

IEEE 802.21
Media Independent
Handoff

IEEE 802.22
Wireless Regional Area
Networks Working Group

IEEE 802.24
Smart Grid TAG

Introduction to IEEE standards process

IEEE 802.3 Standards Development Overview

Idea

Call for Interest

Sufficient Interest

Study Group

Approved Project
Authorisation
Request (PAR)

Task Force review

Completed Draft

Votes on technical issues requires a minimum of 75% approval to pass

Working Group Ballot

Pass Working Group Ballot

Sponsor Ballot
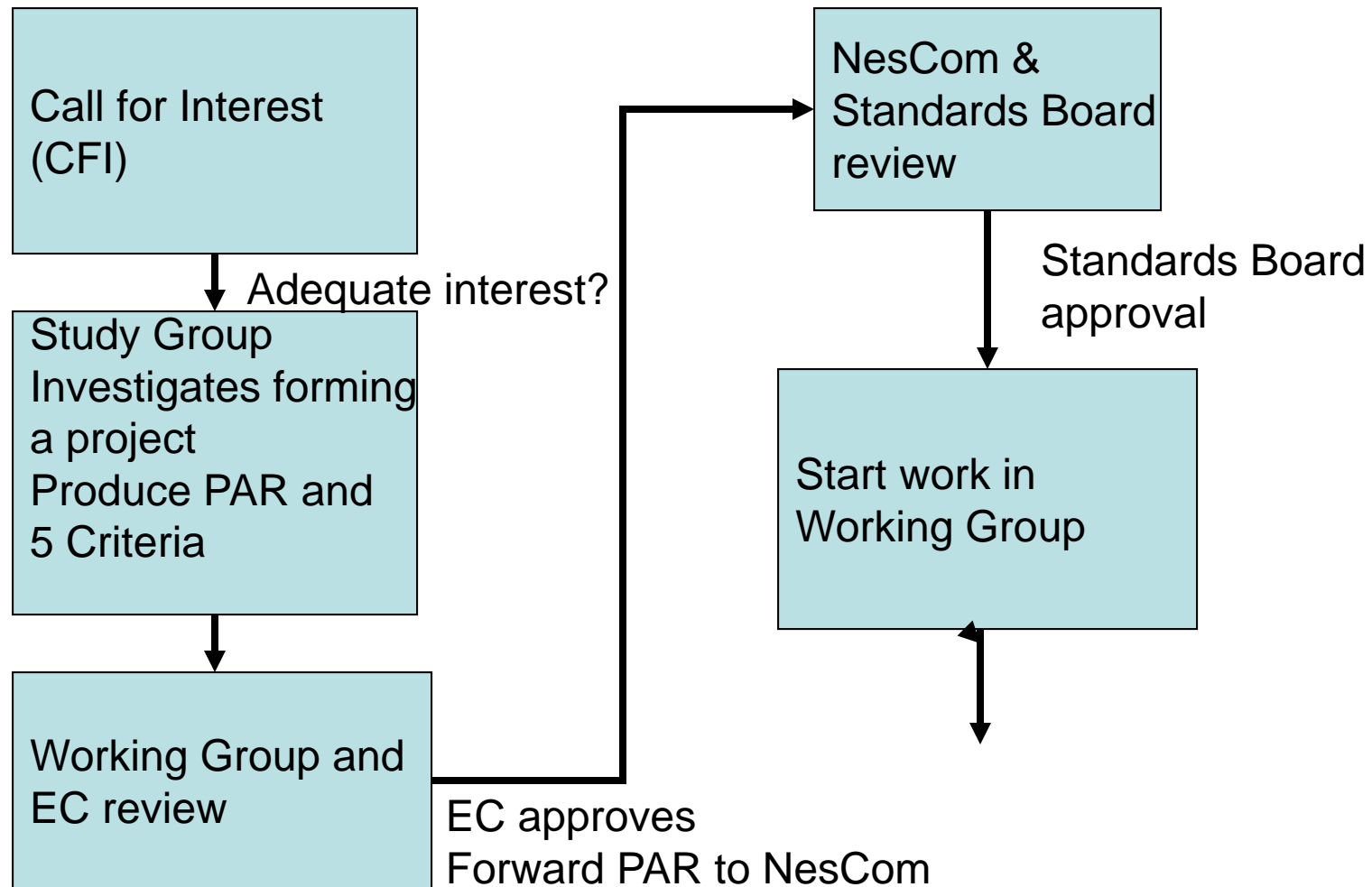
Pass Sponsor Ballot

Standards Board Approval

Principles of the process

- **Due process** – procedures are publicly available and followed consistently

- **Consensus** – requiring agreement of a majority or supermajority – for technical decisions here = 75%

- **Openness** – ensuring materially interested and affected parties can participate

- **Balance** – representation from all interested parties without overwhelming influence from any one party
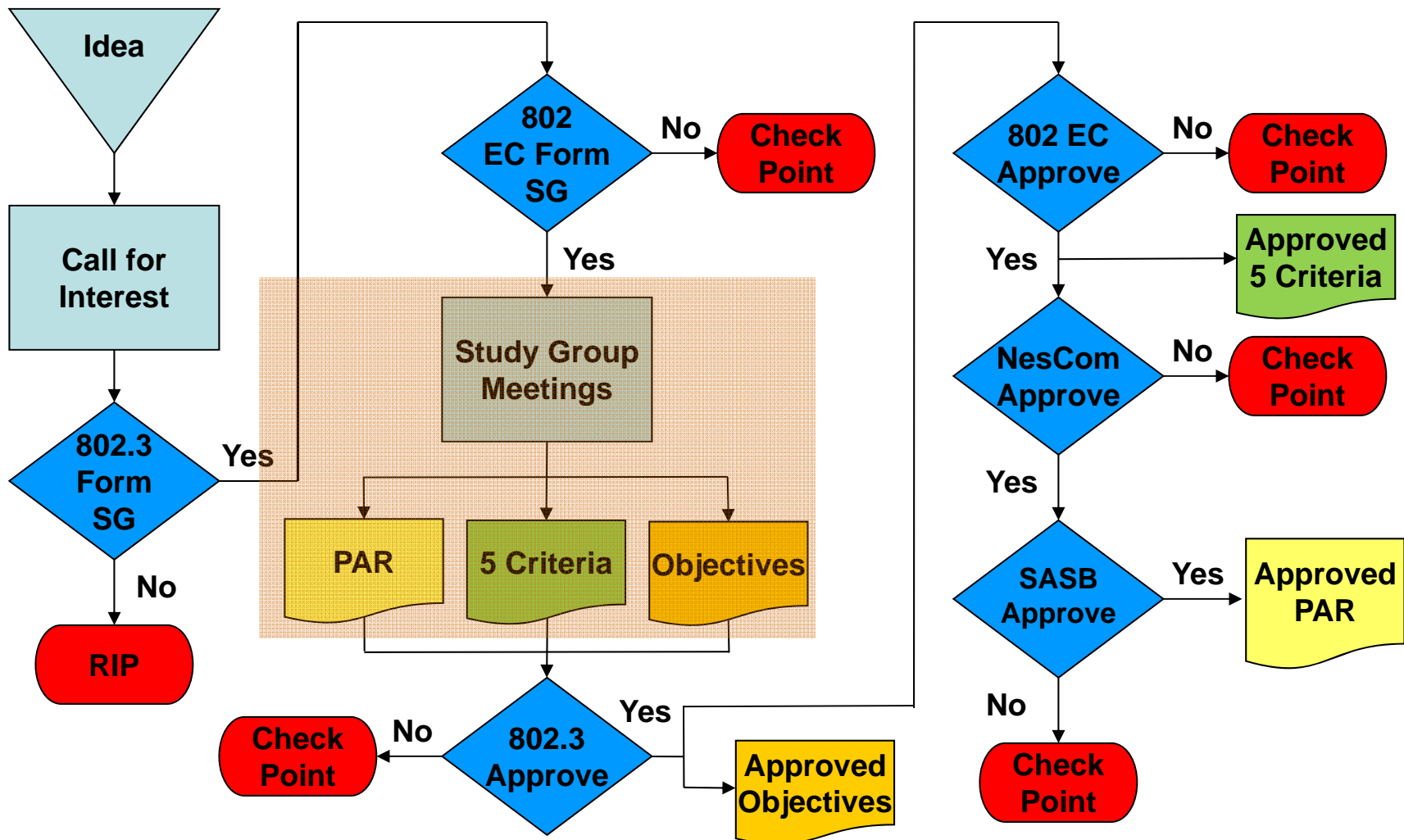
- **Right of appeal** – process to ensure due process

More terms

- PAR – Project Authorization Request – the charter for a standards project
- CFI – Call for interest – a brief meeting to outline a topic and determine if there is interest in investigating possible project
- Study Group – a group formed to investigate a project and produce a PAR
- Five Criteria – In IEEE 802 the basis for determining whether to forward a PAR.

IEEE 802 standards development life cycle – part 1

Call for Interest (CFI)

Adequate interest?

Study Group
Investigates forming a project
Produce PAR and 5 Criteria

Working Group and EC review

EC approves
Forward PAR to NesCom

NesCom & Standards Board review

Standards Board approval

Start work in Working Group

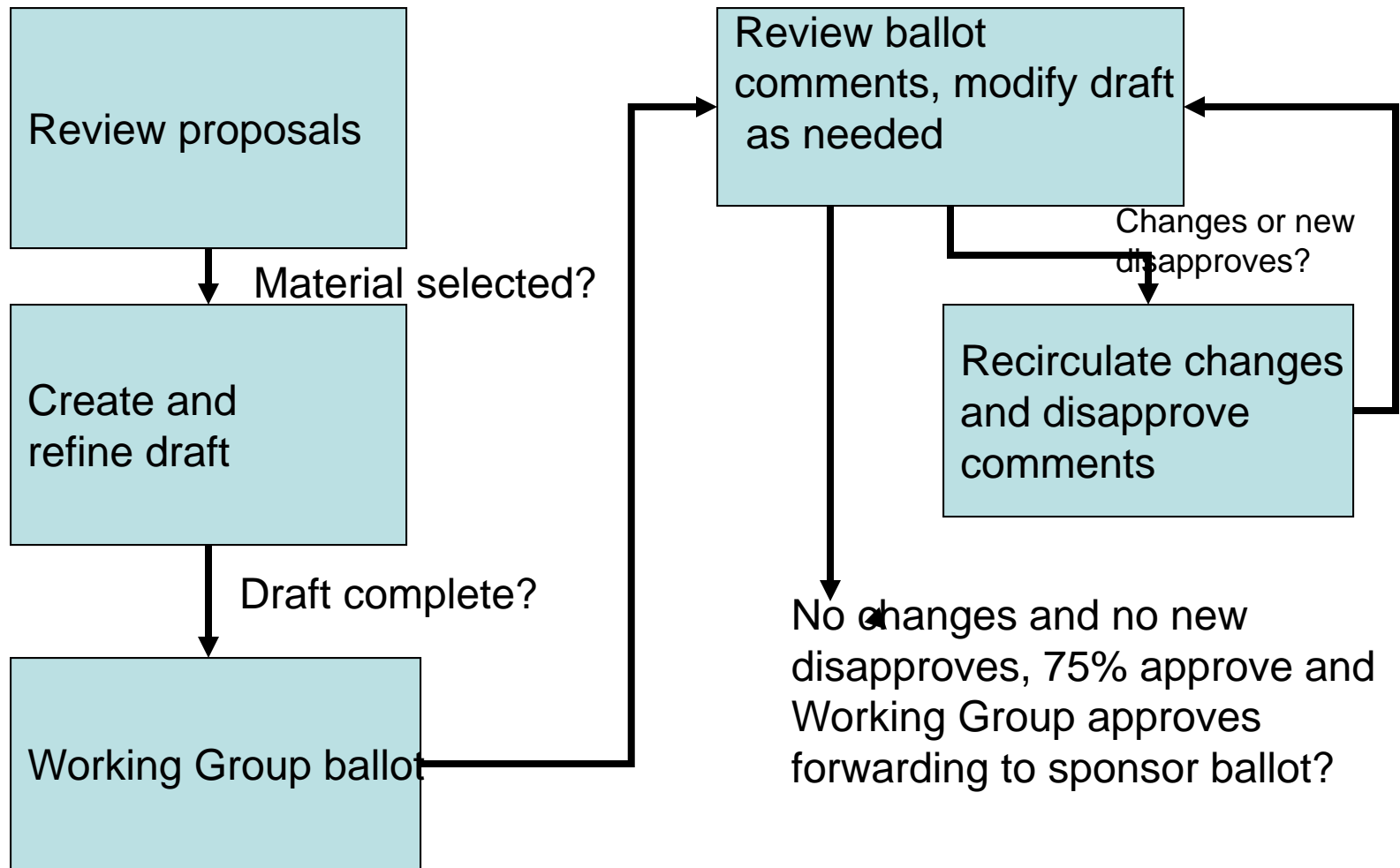# Overview of IEEE 802.3 Standards Process (1/5)- Study Group Phase

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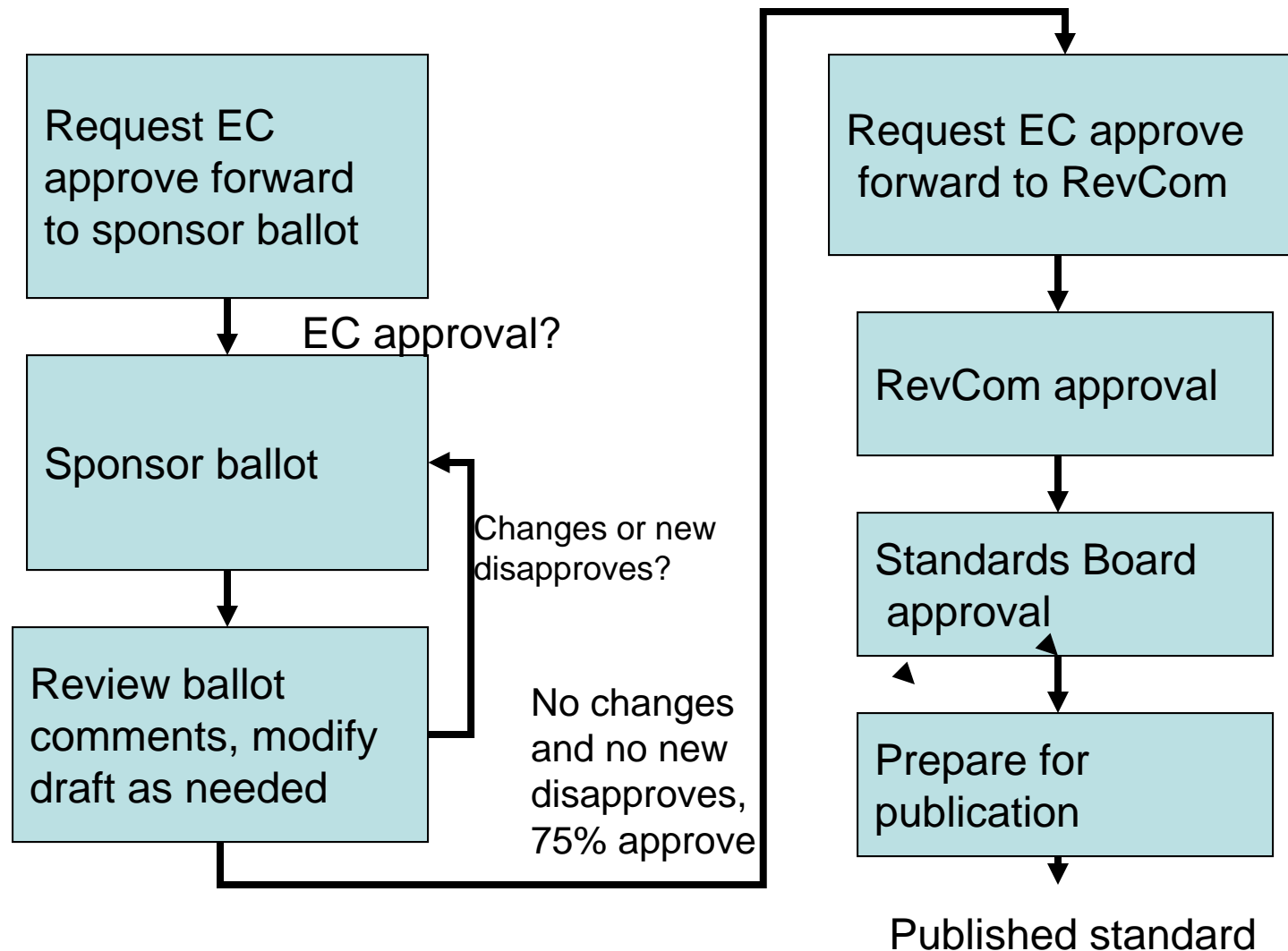
What does the Study Group produce?

- 5 Criteria
  - Broad Market Potential, Compatibility, Distinct Identity, Technical Feasibility, Economic Feasibility

- PAR
  - Your "contract" with the IEEE-SA and "authorization" to develop a standard
  - Broadly focuses on what the standard is that group will work on including scope, purpose, broad timeline (not a project plan)
  - Good idea to look at examples of prior projects

- Objectives
  - Your "contract" with 802.3
  - At a high level it is what the group will work on (and what it will not)
  - Somewhat more specific than the scope in the PAR

IEEE 802 standards development life cycle – part 2

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┌─────────────────────┐                      ┌─────────────────────────┐
│                     │                      │ Review ballot           │◄─────┐
│ Review proposals    │              ┌──────►│ comments, modify draft  │      │
│                     │              │       │ as needed               │      │
└─────────┬───────────┘              │       └────┬────────────┬───────┘      │
          │                          │            │            │   Changes or new
          ▼ Material selected?       │            │            ▼   disapproves?
┌─────────────────────┐              │            │       ┌─────────────────────┐
│                     │              │            │       │ Recirculate changes │
│ Create and          │              │            │       │ and disapprove      │──┘
│ refine draft        │              │            │       │ comments            │
│                     │              │            │       └─────────────────────┘
└─────────┬───────────┘              │            │
          │ Draft complete?          │            ▼
          ▼                          │     No changes and no new
┌─────────────────────┐              │     disapproves, 75% approve and
│                     │              │     Working Group approves
│ Working Group ballot │─────────────┘     forwarding to sponsor ballot?
│                     │
└─────────────────────┘
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IEEE 802 standards development life cycle – part 3

Request EC approve forward to sponsor ballot

EC approval?

Sponsor ballot

Changes or new disapproves?

Review ballot comments, modify draft as needed

No changes and no new disapproves, 75% approve

Request EC approve forward to RevCom

RevCom approval

Standards Board approval

Prepare for publication

Published standard

Standards life cycle – part 4

- And then there is maintaining the standard
  - Respond to request for interpretation
  - Keep the standard current by producing amendments and corrigenda (corrections)
  - Renew the life of the standard with reaffirmation or revision
  - When the standard is out of date, withdraw it.

Voting and membership

- Voters have responsibility to vote on letter ballots
- Three levels of voting occur in IEEE 802 standards development:
  - Sponsor ballot
    - Open to all interested parties
      - Via IEEE SA-membership or paying a per ballot fee
    - Participation requires an IEEE Web Account
  - Working group
    - Requirements on next page
  - Task force or task group
    - Requirements vary – consult Working group.

Acquiring Working Group voting membership

- Participating at a meeting = at least 75% presence.

- For a new Working Group, persons participating in the initial meeting become members.

- For an existing Working Group, after attending 2 of last 4 plenary sessions or 1 plenary and 1 interim, membership starts at the next plenary attended.

  – May require submitting a letter of intent.

  – In 802.3 requires that you ask for it at the beginning of 802.3 WG opening or closing plenary sessions

Retaining Working Group voting membership

- Participate in 2 of the last 4 plenary sessions.

  - An interim may substitute for one of the 2 plenary sessions.

- Return working Group letter ballots

  - Membership may be lost for failing to respond or responding abstain for reason other than "lack of technical expertise" to 2 of the last 3 ballots.

Affiliation

- IEEE-SA Standards Board By-Laws, Section 5.2.1.5
  - (http://standards.ieee.org/guides/bylaws/sect5.html)

- Disclosure of Affiliation
  - "Every member and participant in a working group, Sponsor ballot, or other standards development activity shall disclose his or her affiliation."

- What is "Affiliation"
  - "An individual is deemed "affiliated" with any individual or entity that has been, or will be, financially or materially supporting that individual's participation in a particular IEEE standards activity. This includes, but is not limited to, his or her employer and any individual or entity that has or will have, either directly or indirectly, requested, paid for, or otherwise sponsored his or her participation."

- Affiliation and participation
  - "Failure to disclose every such affiliation may result in complete or partial loss of rights to participate in IEEE-SA activities. An individual is not excused from compliance with this policy by reason of any claim of a conflicting obligation (whether contractual or otherwise) that prohibits disclosure of affiliation."

Ground rules

- Respect … give it, get it
- NO product pitches
- NO corporate pitches
- NO prices
- NO restrictive notices – presentations must be openly available
- Silence your cell phone ringers

Getting more information

Additional Resources

- IEEE 802 home page:
  - http://ieee802.org/index.html
- Links to IEEE and IEEE 802 procedural documents:
  - http://ieee802.org/devdocs.html
- Links to IEEE 802 WG and TAG pages:
  - http://ieee802.org/dots.html
- On-line training:
  - IEEE process course first course rolled out so far
  - http://www.ieee802.org/training.htm
- Ethernet Home Page: www.ieee802.org/3/
  - All past & present Ethernet projects
- Download published Ethernet standards
  - Free after 6 months: http://standards.ieee.org/getieee802/

Final Thoughts…

- Goal is to get to a Task Force

- To do that, focus on…

  – Producing the objectives

  – Producing the PAR

  – Producing the 5 criteria

  – Work on building consensus…

  – Leave the rest of it to the Task Force phase…

    - Plenty of time to work on solutions

    - Plenty of time to debate the text of the solutions

THANK YOU