IEEE Standards Association (IEEE-SA)

Driving Global Innovation Through Standards and Consensus Building

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18 January 2016
R9 Webinar

◆IEEE
Advancing Technology for Humanity

Agenda

Introduction to IEEE-SA

How standards development fits within IEEE

The IEEE standards development process

Standards and Regions/Sections

IEEE Today

The world's largest professional association advancing technology for humanity

MEMBERS
Over 400,000

COUNTRIES
Over 160

CONFERENCES
Over 1200 per year

PUBLICATIONS
Over 30% of world's electrotech literature

STANDARDS
Over 900 active standards
Over 500 active projects

Collaboration is our *Foundation*

In Academia

In Industry

In The Field

IEEE brings people and technology together for mutual benefit

IEEE's Role in Standards

IEEE is a leading global developer of standards that underpin many of today's essential technologies

– IEEE is a central source of standardization in both traditional (e.g., power and energy, information technology, telecom, etc.) and emerging fields (e.g., nanotechnology, smart grid, cloud computing, etc.)

– Standards are developed in a unique environment that builds consensus in an open process based on input from all interested parties

– Draws on the expertise of the IEEE's 42 societies and technical councils

IEEE Standards

Span a broad spectrum of technologies

Examples:

- Aerospace Electronics
- Broadband Over Power Lines
- Broadcast Technology
- Clean Technology
- Cognitive Radio
- Design Automation
- Electromagnetic Compatibility
- Green Technology
- Ethernet/Wi-Fi
- Medical Device Communications

- Nanotechnology
- National Electrical Safety Code
- Organic Components
- Portable Battery Technology
- Power Electronics
- Power & Energy
- Radiation/Nuclear
- Reliability
- Transportation Technology
- Test Technology

IEEE-SA Standards Grow Markets

Evolution of traditional country-based models
for standards development to **market-driven models**

Open Process	Consensus-based	eTools	Global Community
• Open membership • Open participation	• Based on WTO core principles • Collaboration	• Facilitate remote participation, lessening travel costs	• Participation from around the world

Standardization is borderless:

Global standards sustain products and services for implementation and use by customers in a globalized world

IEEE-SA Governance and Sponsor Structure
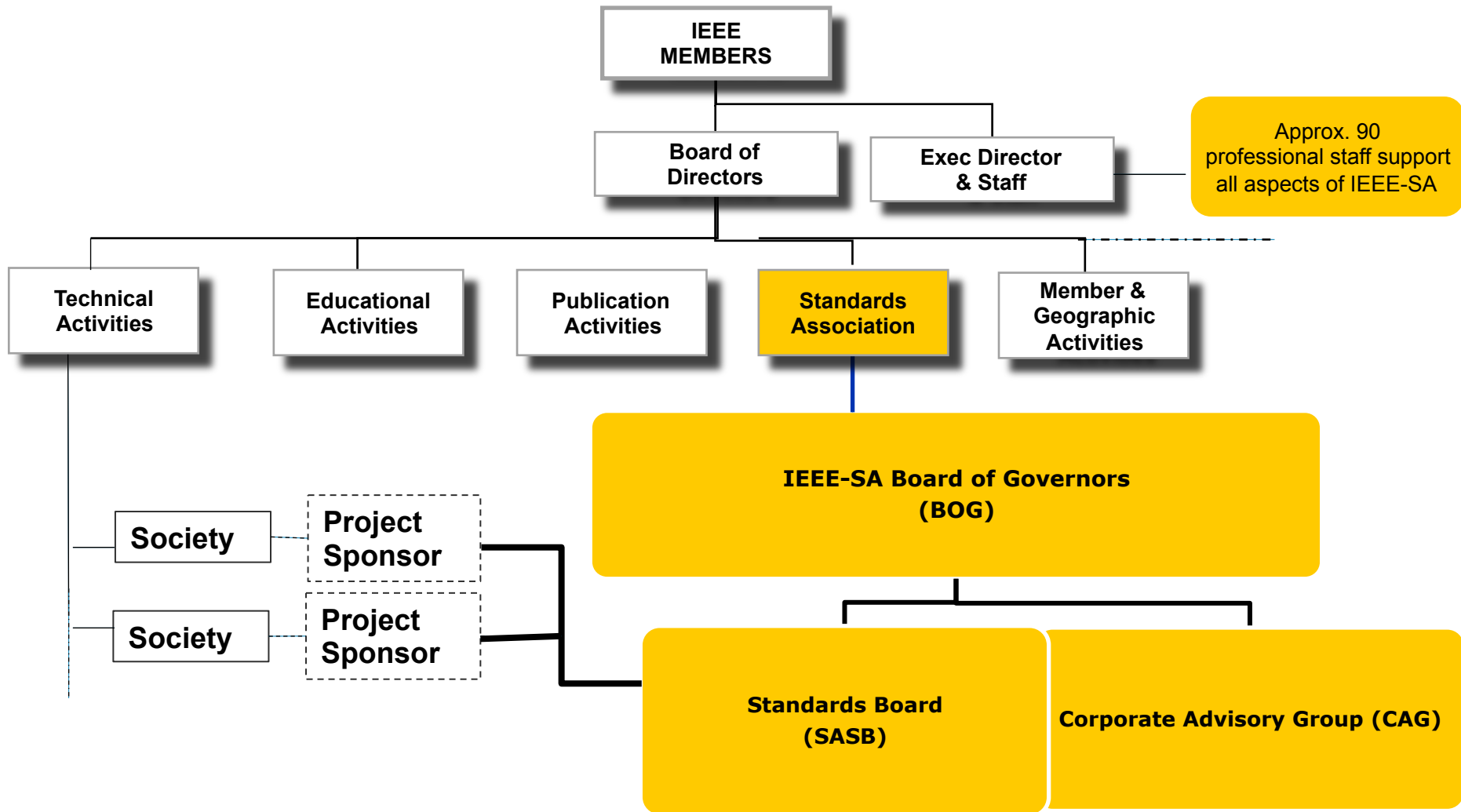
Rigorous Standards Process

Consensus

Due Process

Openness

Right of Appeal

Balance

The widely respected IEEE-SA standards-development process, which adheres to the WTO/TBT Principles, produces results that reflect the collective consensus view of participants and enable industry to achieve specific objectives and solutions

CONSENSUS

BREADTH & DEPTH OF TECHNOLOGY

COLLABORATION

SOLUTIONS
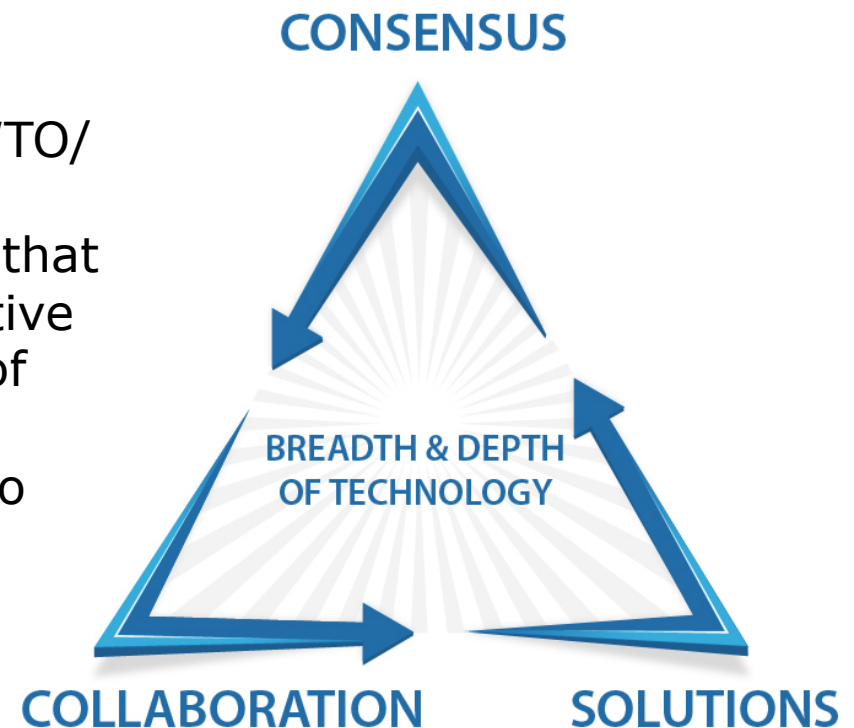
Two Types of Standards Development

Individual method

- Participants are "individuals": i.e., people
- Individuals represent themselves
- Each individual participant has one vote
- Ballot groups are made up of a minimum of 10 individuals
- Ballot group participants must be IEEE-SA individual members

Entity (Corporate) method

- Participants are "entities," i.e., companies, universities, government bodies, etc.
- Designated representative and alternate represent the entity
- Each entity has one vote
- Standards project initiation requires 3 entities to commit to membership and payment of appropriate dues
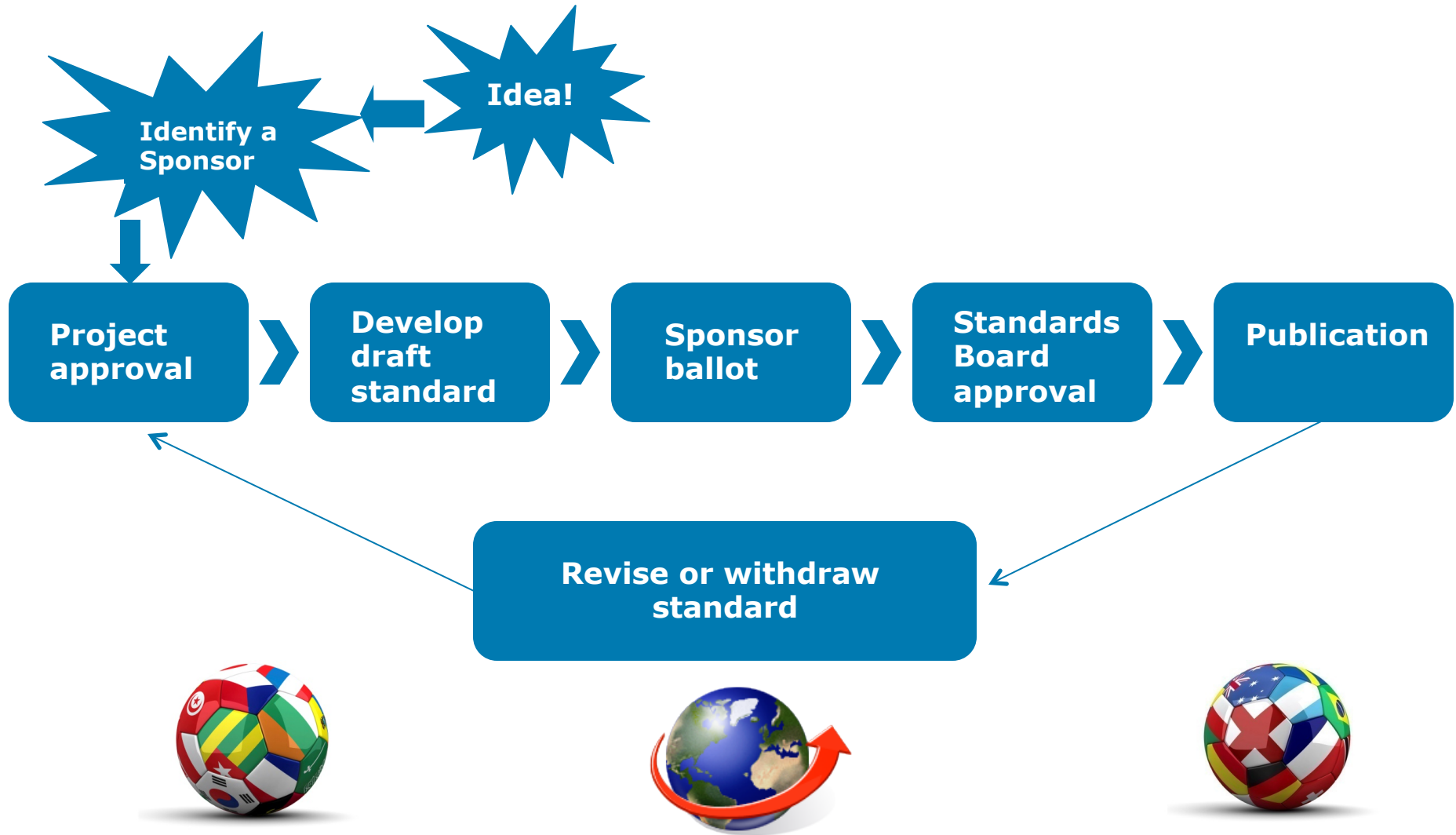- Entity sends representatives to participate in standards development meetings

Who Participates?

- Industry

- Government agencies (regional or national)

- Academia

- Consumers

- Standard Development Organizations

- Civil Society organizations

- Research Organizations

- Consultants

- …and many more!

– *Open membership, participation, and governance*

– *No restrictions*

– *Any individual or organization*

– *Any industry or size of company*

IEEE Standards Development Process

Idea! → Identify a Sponsor →

Project approval > Develop draft standard > Sponsor ballot > Standards Board approval > Publication

Revise or withdraw standard

What Is myProject™?

- A free web-based tool that facilitates the IEEE Standards process

- Database that holds information related to the standards process

- A tool used by IEEE and SA members, staff, and whomever wants to participate in the standards process

- An IEEE Web Account is required for myProject

myProject – a Gateway to IEEE-SA Information

- https://development.standards.ieee.org/my-site
- "Manage Activity Profile" to receive notifications in areas of interest

You do not have to be an IEEE or IEEE-SA member to obtain an IEEE web account!

How myProject™ Is Used in the Standards Development Process

Standards Development Process
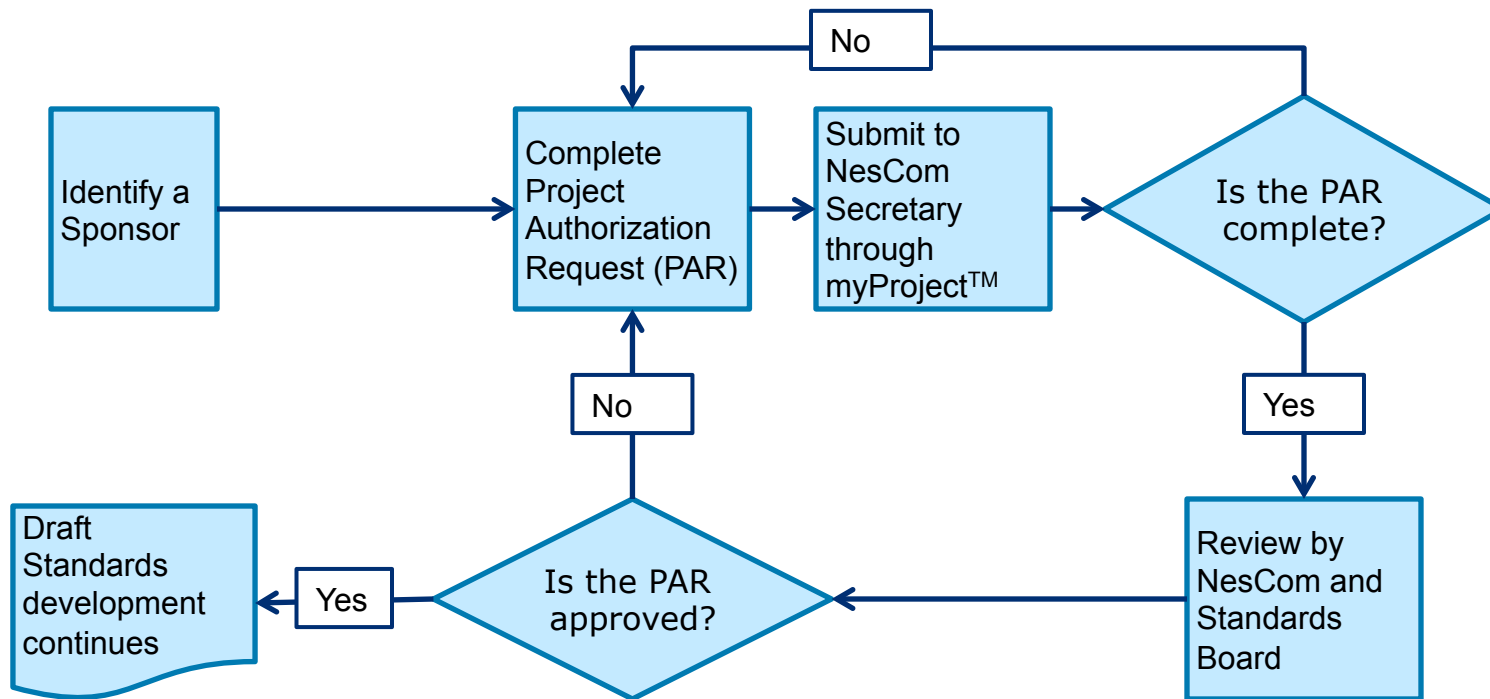
Directly use myProject™

Committee Formation
Standards Developing Committees and Working Groups are formed

Project Authorization
A PAR is submitted and approved

Sponsor Balloting
A ballot group is formed, Sponsor Balloting begins, the draft is modified until consensus is reached

Publishing
The Standard is published

Do not directly use myProject™

Idea Formation
Ideas for standards are proposed

Drafting a Standard
Working Groups create a draft for a standard

Approval*
The Standards board approves the draft and it becomes a standard

* (coming soon to myProject™)

How to Start a Standard

- Any individual or company with a technical idea may come up with the idea for a new standard

Determine need for standard

Find a technical group within IEEE to "sponsor" the project

- Referred to as a "Sponsor"
- Sponsor provides guidance and support from a technical standpoint

- Develop scope and purpose of the project

Submit a Project Authorization Request (PAR) form for approval by New Standards Committee (NesCom)

PAR (Project Authorization Request)

- A detailed document that essentially states who is sponsoring/working on the project, the reason the project exists and the project's intent

- Used to enter information into IEEE databases regarding the proposed standard and to inform others about that project

- An approved PAR is needed before official work is begun on a standard

- An approved PAR is valid for 4 years

- Each PAR is assigned a project number by which the published standard will eventually be known

What Is NesCom?

- New Standards Committee

- Reviews all PARs and provides recommendations to the IEEE-SA Standards Board regarding their approval

- NesCom can only accept PARs from Sponsors with approved P&Ps (Policies & Procedures) on file - a list of sponsor P&P's can be found here: https://development.standards.ieee.org/pub/view-sponsor-pnps

- More information on finding a project sponsor can be found here: http://standards.ieee.org/develop/sponsor.html

Project Approval Process

Identify a Sponsor → Complete Project Authorization Request (PAR) → Submit to NesCom Secretary through myProject™ → Is the PAR complete?

Is the PAR complete? — No → Complete Project Authorization Request (PAR)

Is the PAR complete? — Yes → Review by NesCom and Standards Board → Is the PAR approved?

Is the PAR approved? — No → Complete Project Authorization Request (PAR)

Is the PAR approved? — Yes → Draft Standards development continues

Mobilizing the Working Group

- Working Groups are open groups
  - Comprised of individuals for individual standards projects or representatives from entities for corporate standards projects
  - Participants in WGs have technical expertise, knowledge, and dedicated interest in the technology being standardized
  - Individuals and/or corporations in working groups work collaboratively to reach consensus in order to move the project forward

Development of the Draft Standard
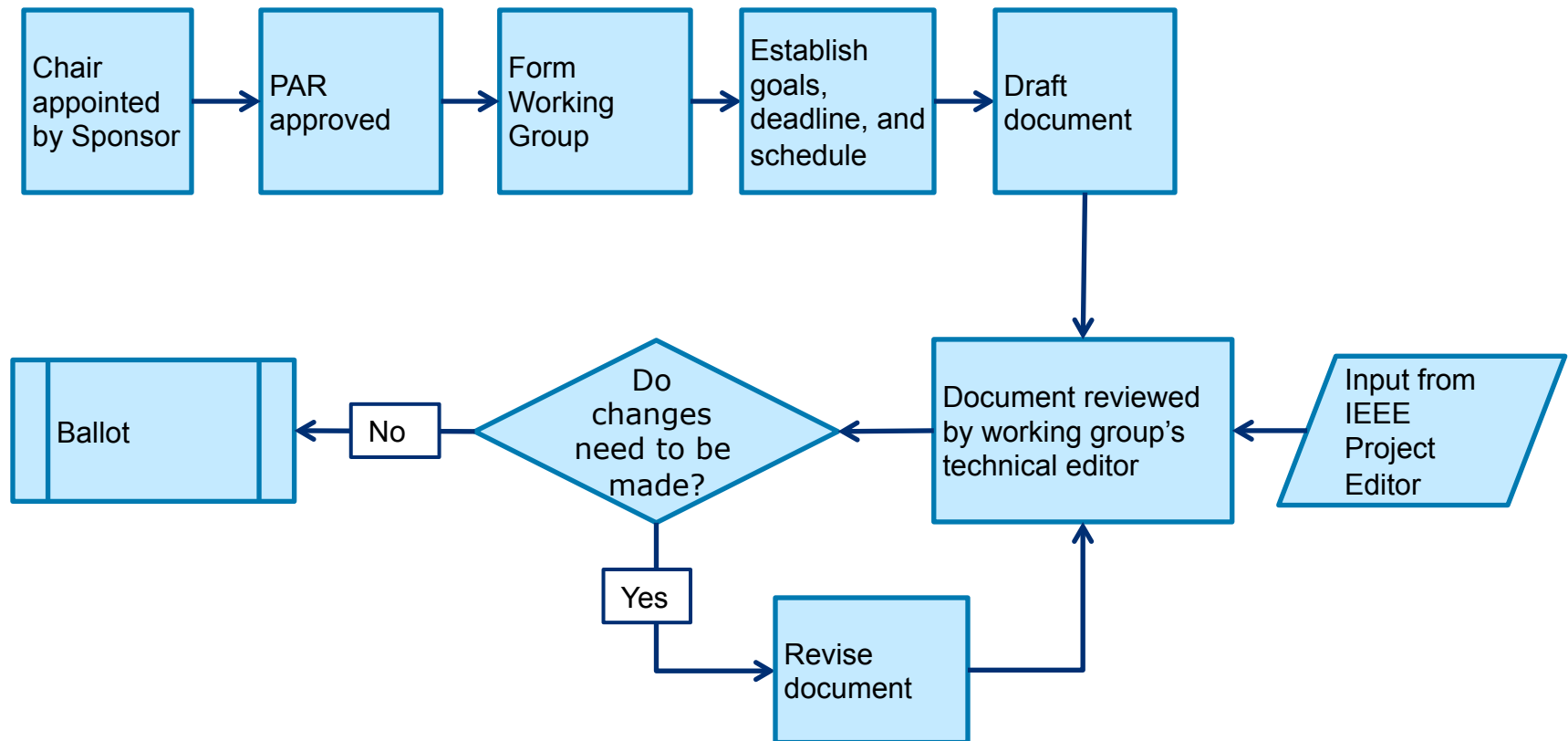
Tips for Draft Development

- Develop an outline

- Assign leads among working group members to developed clauses of the draft

- Avoid writing document in meetings

- Refer to *IEEE Standards Style Manual* often for document structure and utilize draft template

- Utilization of a technical editor, to gather inputs and ensure technical consistency

- Do not make the draft, or contributions to the draft, public

Ballot = Vote
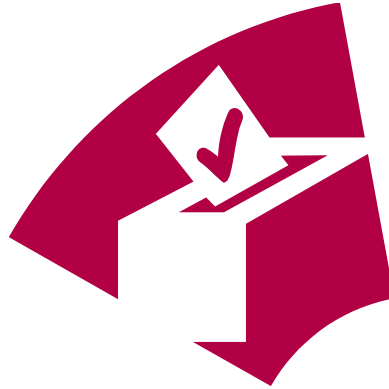
Interested parties are invited to ballot on draft standards

IEEE-SA Members receive document, review it, and vote on it

Sponsor Ballot Invitation & MEC

- **M**andatory **E**ditorial **C**oordination (MEC)
  - Once the working group has an approved draft for ballot (after approval from working group/ Subcommittee/ Sponsor), they submit the draft for MEC through myProject™
  - Typically 30 days

- Ballot Invitation
  - Working Group Chair initiates the Invitation in myProject™
  - Typically 30-day invitation period
  - Must have balance within ballot group

Usually done in parallel

Sponsor Ballot & Membership

- Membership requirements
  - Individual Method
    - IEEE–SA Individual Membership is needed to join an individual ballot
    - Or pay a per-ballot fee
  - Corporate Method
    - At least a Basic Corporate membership is needed to join an entity ballot
    - Or pay a per-ballot fee

Determining the Ballot Group

- All IEEE-SA ballot groups must be balanced

- No one interest category can be more than 33% of the ballot group

- Typical categories include
  - Producer
  - User
  - Academia
  - Utility
  - General Interest

- Working Group chair must address any balance issues prior to close of ballot group formation with assistance of IEEE-SA staff

Balloting the Standard – Sponsor Ballot

- Working Group Chair initiates the Request to Ballot in myProject^{TM}
  - Typically a 30-day ballot
  - Balloters can approve, disapprove, abstain

- Consensus must be reached for the standard to move forward (75%/75%)

- Comment Resolution period begins after ballot closes
  - Resolve comments (accepted, rejected, revised)
    - Often handled by a ballot resolution committee formed by the working group

- Initiate Recirculation(s)
  - 10 days
  - Draft should show (highlight) changes

Sponsor Ballot
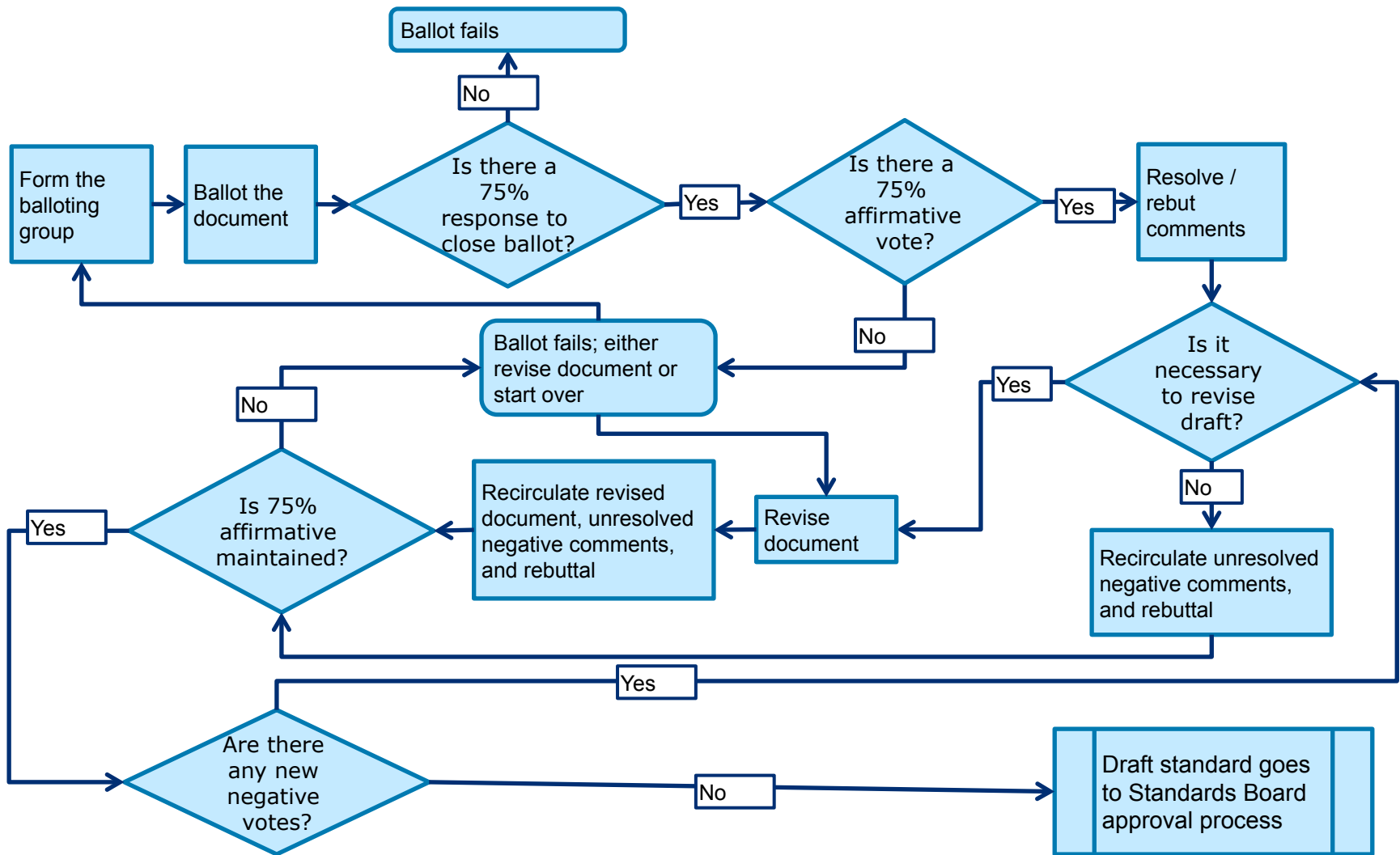
Approval Process → Publication

Submit the final draft standard to Review Committee (RevCom)

RevCom recommends approval to IEEE-SA Standards Board

IEEE-SA Standards Board approves the draft standard

Publish standard
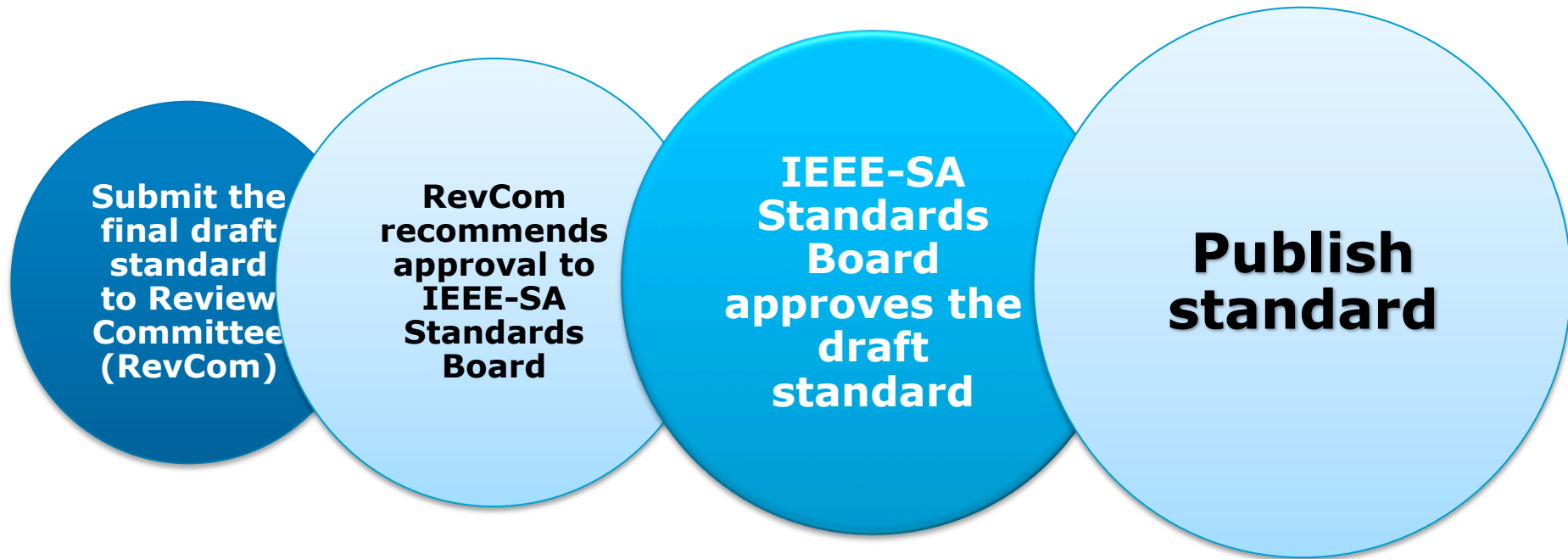
Submitting to RevCom

- RevCom -The Standards Review Committee
  - Once a project has achieved approval within the balloting group, it can be submitted to RevCom for final review
- RevCom makes recommendation to the SASB who makes final approval
- Next step is IEEE Editorial
  - The IEEE-SA staff editor will contact the WG Chair to process the draft for final publication

Approval of the Draft Standard
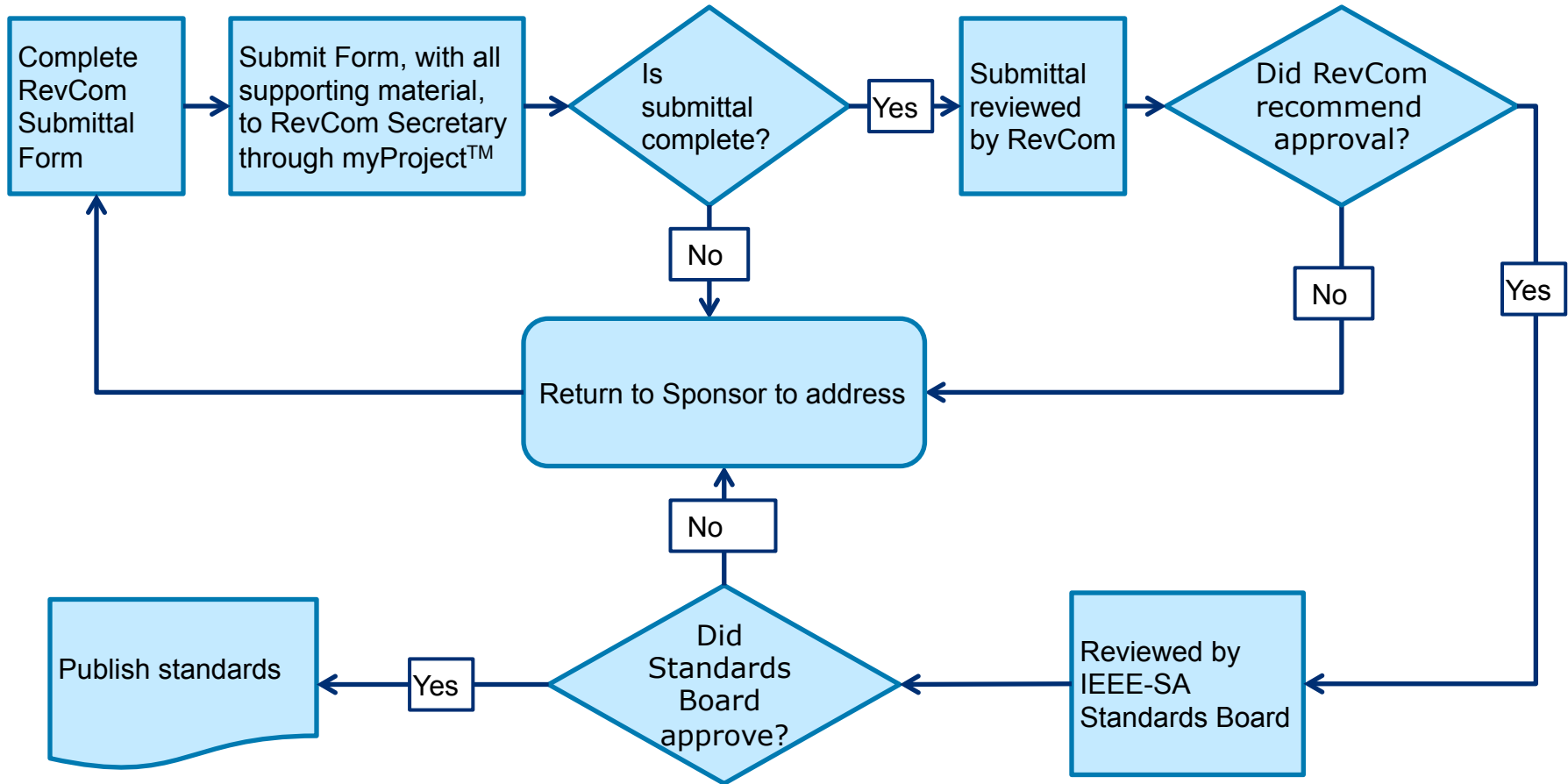
Post-Approval and Publication
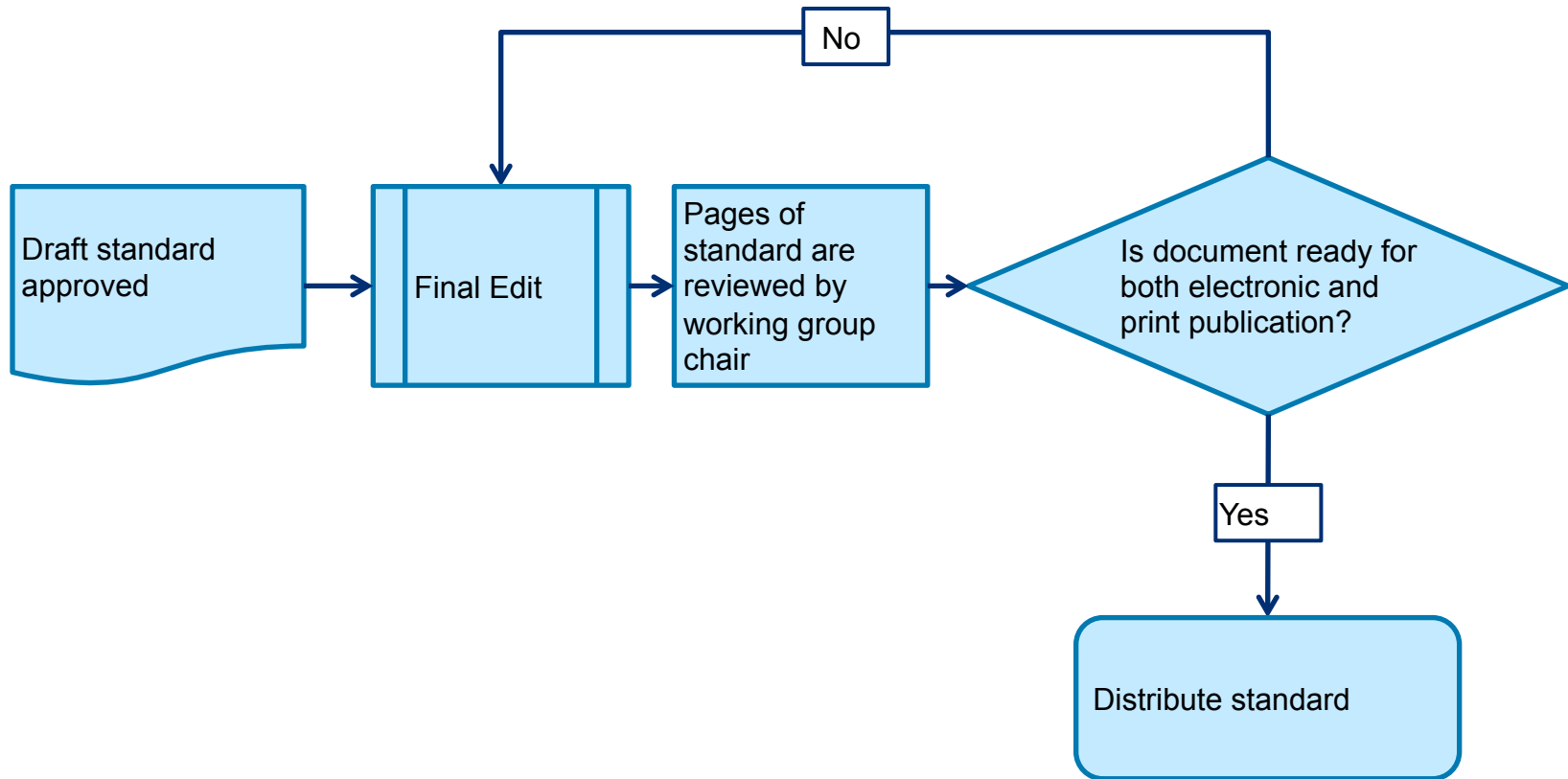
Maintenance

- Standards must have a revision approved by the IEEE-SA Standards Board prior to the close of year 10 in order to remain active
- Any Standard without an approved revision will become inactive after year 10
- A revision action can result in:
  - Changes to the Standard
  - Changes to only the references or bibliography
  - No changes

Project Status?

- You can search for a project at: http://standards.ieee.org/develop/project/

Use the search bar above if you know what you are looking for, or browse by topic under "Develop Standards"

IEEE-SA Presence

- Globally recognized standards

- Clear IPR policy

- Independent global community

- Leverages the breath of 40+ technical areas

- Over 100 Smart Grid standards

- Flagship transport layer standards in communications (IEEE 802)

- 400-500 standards focused on the power and energy sector, etc.

- Open standards process

IEEE-SA Strengths

Standards + Regions/Sections = ACTION

Standards touch your lives and the lives of all of your Region and Section members

Technology is evolving

Standards developers are in your area

New standards projects are always being suggested

Promote standards education to engage with students, faculty, and practitioners (training, funding, publication in eZine)

http://www.standardsuniversity.org/

Check out standards.ieee.org for projects, meetings, and Working Groups

Helpful Information

- How to become an IEEE Standards Association Member
http://standards.ieee.org/membership/

- How to get a MyProject™ Account
https://development.standards.ieee.org/my-site/home

- User guide – walks through myProject™ and has instructions for all the process steps
  - https://mentor.ieee.org/etools_documentation/dcn/11/etools_documentation-11-0014-MYPR-myproject-user-guide.pdf

- Complete myProject™ documentation
  - https://mentor.ieee.org/etools_documentation/bp/myProject

Thank You!

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