

**IEEE 802<sup>®</sup>**

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**IEEE**

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# IEEE Standards Process Overview

- Imperative Principles
- Roles and Responsibilities of the Program Manager
- Project Approval (PAR)
- Editorial Processes
- Ballot Invitations
- Sponsor Ballot
- Approving the Standard
- Publishing the Standard



## **Imperative Principles of the Standards Process**

# Imperative Principles of the Standards Process

- Developing standards is a quasi-legal process
- Standards can become legal requirements
- It is possible to break the law inadvertently
- If you follow the rules, you will be covered by the IEEE umbrella of indemnification

# Imperative Principles of the Legal Standards Process

- Due Process
- Openness
- Consensus
- Balance
- Right of Appeal

# Due Process

## Operational Definition

- Develop operating procedures
- Publish and make procedures available
- Follow procedures

# Due Process *(continued)*

## *Hierarchy of Documents*

- Not-for-Profit Corporation Law of the State of New York
- IEEE Certificate of Incorporation
- IEEE Constitution
- IEEE Bylaws
- IEEE Policies
- IEEE Board of Directors Resolutions
- IEEE Standards Association Operations Manual
- IEEE-SA Board of Governors Resolutions

# Due Process *(continued)*

## *Hierarchy of Documents (cont.)*

- IEEE-SA Standards Board Bylaws
- IEEE-SA Standards Board Operations Manual
- IEEE Standards Style Manual
- IEEE Sponsor Operating Procedures
- Robert's Rules of Order
- IEEE Standards Companion

# Openness

- Everyone has access to the process
- Make information and actions publicly available for examination
- Include all materially interested and affected parties
- Avoid antitrust situations/appearance of collusion
- Opportunity to participate does not necessarily mean membership or a vote

# Consensus

- Agreement among the majority
- Not unanimity
- Defined in the IEEE Sponsor balloting rules as 75% of 75%

# Consensus (*continued*)

## *The Challenge*

- Approve and publish expeditiously
- Obligation to majority

*versus*

- Obligation to the minority
- Attempt to resolve comments

# Balance

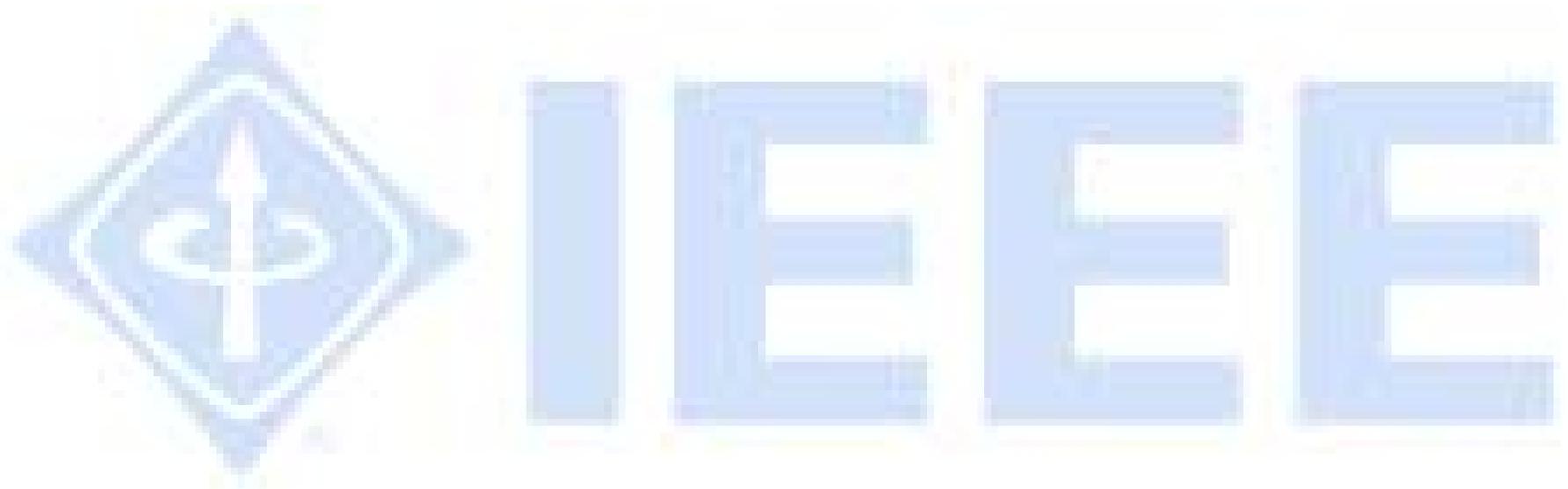
- Representation from all materially interested and affected parties
- Lack of dominance by any one category
- Common categories:  
Producer, user, and general interest
- Ideal to maintain balance throughout development
- Encourage participation
- Mandatory for balloting

# Right of Appeal

- The right to take steps to have a case heard
- Follow policies and procedures
- Bases of appeal can be:
  - Technical (within sponsor)
  - Procedural

# Summary

- Due Process
- Openness
- Consensus
- Balance
- Right of Appeal

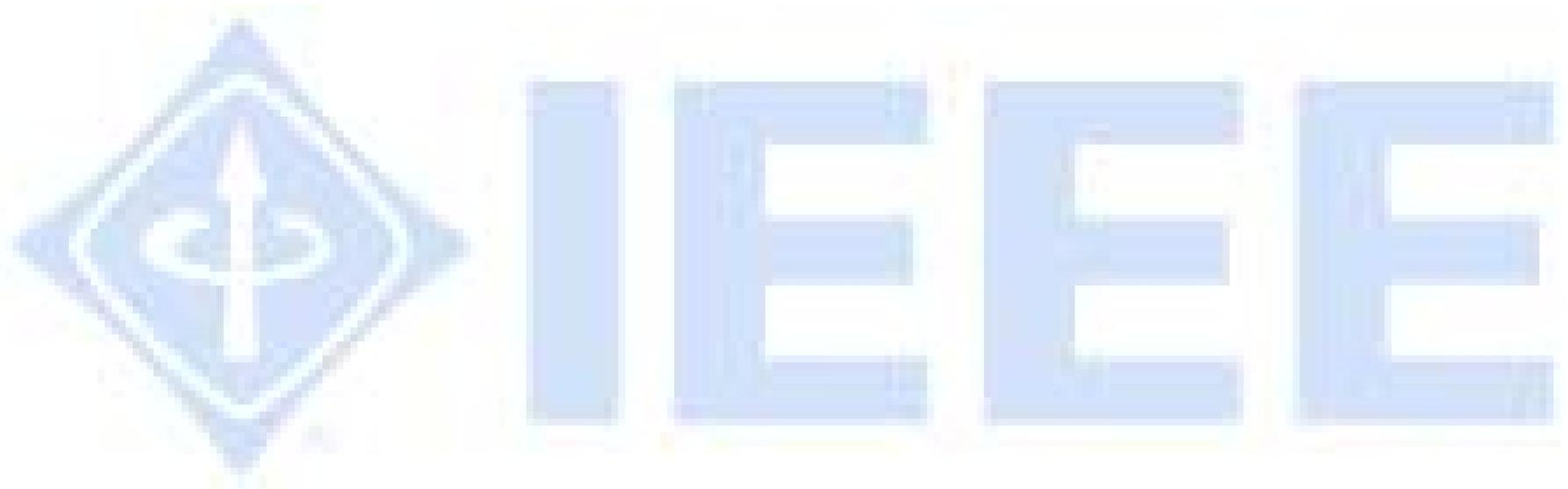


## **Roles and Responsibilities of the Program Manager**

# Roles and Responsibilities

## Program Manager/Staff Liaison

- Answers questions about standards development procedures
  - Along with chair, ensures that procedures are followed
- Keeps you informed
  - New products
  - New services
  - Policy changes
- Brings your ideas and concerns to the IEEE-SA Standards Board and its committees



## Project Approval (PAR)



# Project Approval

## Project Authorization Request (PAR)

- The PAR is a legal document
  - An approved PAR serves as the work authorization by the IEEE-SA Standards Board
  - IEEE extends the umbrella of indemnification to people working on an authorized standards project, if they follow the rules
  - Copyright agreement
- The PAR is referred to when the standard is submitted to the IEEE-SA Standards Board for final approval
- Life of a PAR is four years

# Role of New Standards Committee (NesCom)

- This committee is responsible for
  - Ensuring that proposed standards projects are within the scope and purpose of the IEEE
  - Standards projects are assigned to the proper Society or other organizational body
- Examines PARs and makes recommendations to the IEEE-SA Standards Board regarding their approval
- All major standards-developing Societies are represented on NesCom

# When do you need to submit a PAR?

- Every new project must have a PAR
- When the time has come to revise the standard, a PAR must be submitted for the Revision of the Standard
- Reaffirmations DO NOT need a PAR, they go straight to ballot

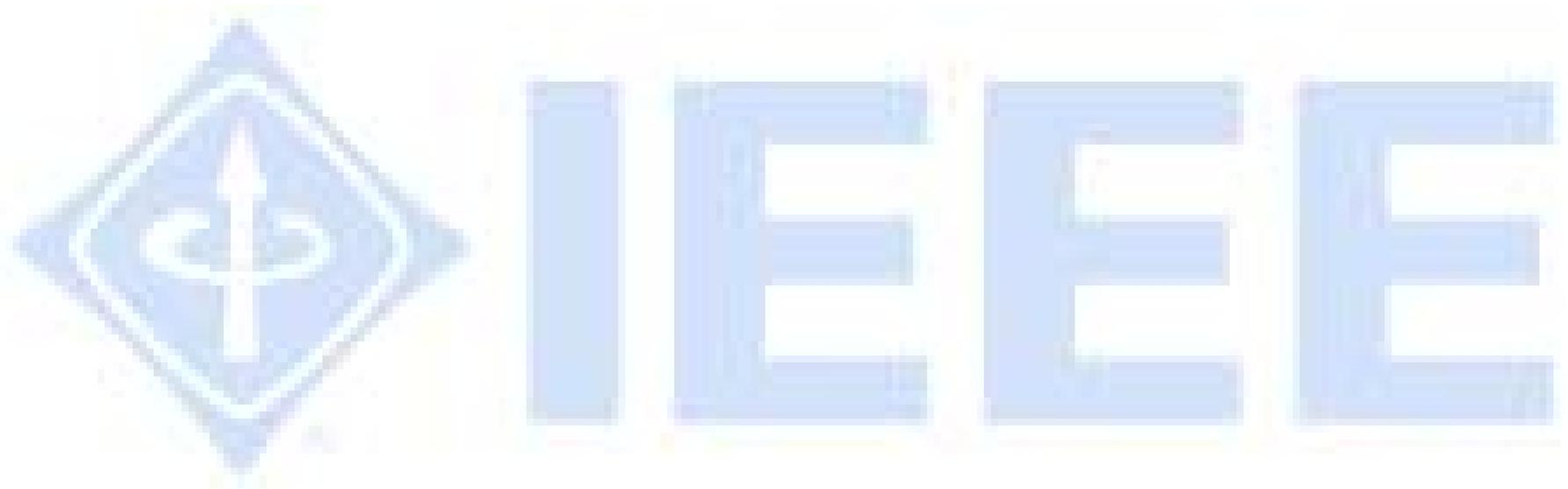
# Submitting the Signature Page

For all PARs submitted (whether a new project, a revised project, or a project to revise a standard), the signature page must be filled out in its entirety, signed by the working group chair and faxed to the NesCom Administrator at

+1 208 460 5300

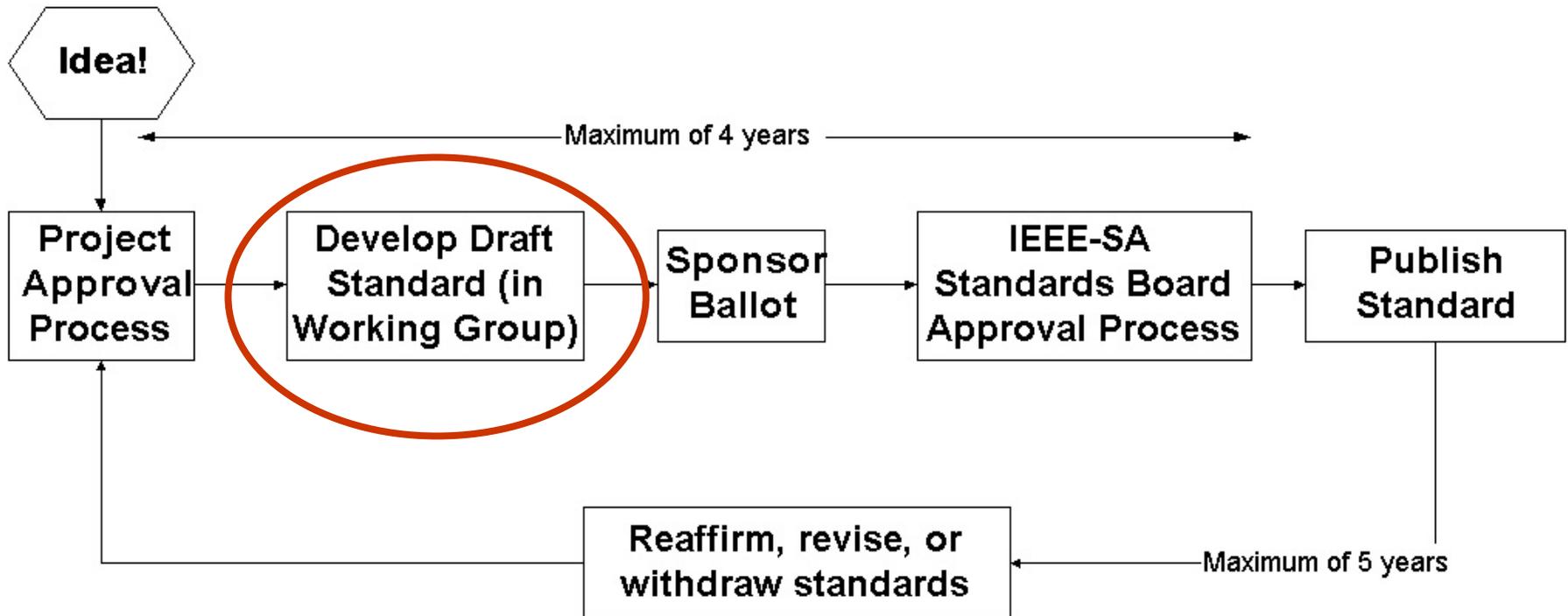
# When do you need to submit a revised PAR?

- When you want to change the title, scope or purpose of an existing PAR
- Changing the Working Group Chair does not require a revised PAR
  - Use the Working Group Chair change form, as shown here and available at <http://standards.ieee.org/guides/par/wgchg99.html>



## Editorial Processes

# Overview of Editorial Process



# Overview

- Role of Project Editor
- Ingredients for successful standards development
- Importance of Editorial Coordination

# Role of the IEEE Standards Project Editor

- Supplies style templates/electronic text and figures for revisions
- Offers editorial coordination and reviews, meeting support and advise
- Enables efficient pre-approval editing and swift post-approval publication

# IEEE Project Editor

- Does the final copy edit of text
- Ensures that technical integrity of the document is maintained
- Formats electronic text into proofs
- Works with Working Group Chair and/or Technical Editor during review of final document
- Incorporates Chair's corrections/comments into the document
- **PUBLISHES NEW STANDARD!**

# Ingredients for successful standards development

- Use templates provided
  - Saves time and effort on both the Working Group and Editorial side
  - Select a Technical Editor
    - Will ensure consistency, gather and incorporate all contributions and comments
    - Will work closely with an IEEE Project Editor to help speed the process to publication
  - Assign writing among Working Group members
    - Divide up each topic or clause according to members' expertise

# Ingredients *(continued)*

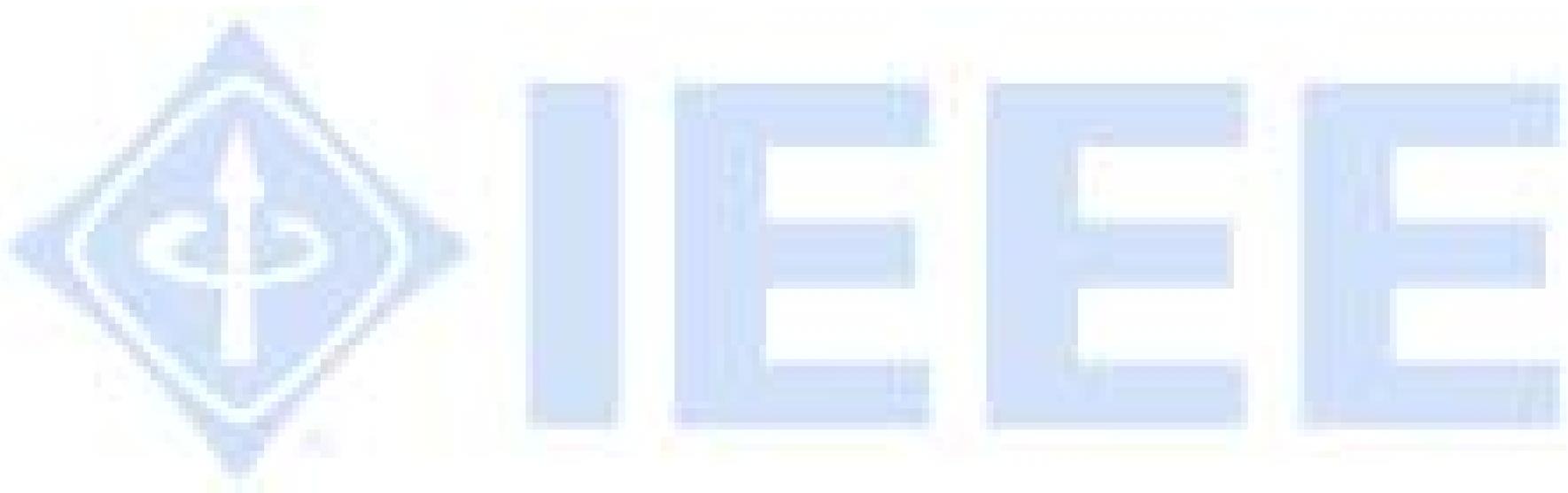
- Avoid writing the draft during meetings
  - Working group meetings should only be used for reviewing important points in the draft and resolving areas of disagreement
- Use the *IEEE Style Manual*
  - Many groups make the mistake of ignoring the style manual, and avoidable errors occur

# Ingredients *(continued)*

- Schedule regular editorial reviews
  - Include in project plan
- IEEE Standards Project Editor will review your drafts and offer comments to the Chair for consideration
  - Copyright statements, title, draft numbering, trademarks, references, definitions, bibliography, figures, tables, introduction, use of metrics, and more...

## **When the first draft is complete, utilize the resources of the IEEE Project Editor**

- Carefully considering the comments of the IEEE Project Editor can save you time and hassle later on
- RevCom considers whether the editorial suggestions have been implemented
- Can help get your standard published quicker
- Waiting for the editorial coordination during Sponsor ballot is not recommended



# **The IEEE Standards Ballot Invitation Process**

## ***Forming a Balloting Group***

# Ballot Invitation

- A process used to form a Ballot Group
  - For a new standard under development
  - For the reaffirmation, revision, or withdrawal of an existing standard
- A single-page form or an email sent to members of an existing *Balloting Pool* asking if they would like to join an upcoming *Ballot Group*
  - Requests information about each person's relationship to the standard (classification)
    - e.g., are they a user, producer, government, general interest

# The Balloting Pool

- A database of persons grouped by an expressed, common interest in a specific area of standards activity as maintained by the IEEE balloting center
- Working group members are not automatically members of the balloting pool or group
- Anyone may request to join a Balloting Pool simply by signing up
  - Available on the IEEE Standards website
    - <http://standards.ieee.org/db/balloting/ballotform.html>

# Signing Up for Balloting Pools

## Request Form To Join an IEEE Balloting Pool

Sponsor Level Balloting Groups are generally formed from individuals in a Balloting Pool. You should use this form to request to become a member of these balloting pools.

As standards projects from within specific disciplines are nearing the Sponsor Ballot stage, individuals who belong to the relevant balloting pool will receive an "Invitation to Ballot". Those who respond positively to these Invitations (and who are IEEE Standards Association members or pay a per-ballot fee) will then form the Balloting Group for that project.

All applicable information on this form must be filled in. You may use the tab key to move between fields. Please click the submit button at the bottom of the page when you are finished.

**Balloting Pools are people who might be interested in balloting any number of standards from a particular IEEE Standards Sponsor**

First Name:  Middle Init.:

Last Name:

Company:

Street Address:

PO Box/Mail Stop:

**Fill in each field with the appropriate information**

Fill in your IEEE/IEEE-SA member number here

# Signing Up for Balloting Pools

Signing up for SA membership should be done early, to avoid complications at the actual ballot time.

IEEE Number:

I understand that before I can actually participate in any IEEE Sponsor Ballot, I must be **an active member of the IEEE Standards Association (IEEE-SA)** or pay a per-ballot fee. *Note:* Membership in the IEEE-SA is in addition to your IEEE membership. Details on joining the IEEE-SA are available [here](#).

For further information on how signing up for balloting pools will assist you with IEEE Standards electronic balloting, go [here](#).

## Balloting Pool Selection

Please sign me up for the following Balloting Pool(s):

### ANTENNAS AND PROPAGATION (choose all that apply)

Antennas

Propagation

You can sign up for as many balloting pools as you would like

# Signing Up for Balloting Pools

You can add any comments you would like concerning the balloting pool signup

Optional Comments:

Please click on the **Submit** button to enroll yourself in the selected balloting pool(s), or click on **Clear Form** to clear the information and start over.

Submit

Clear Form

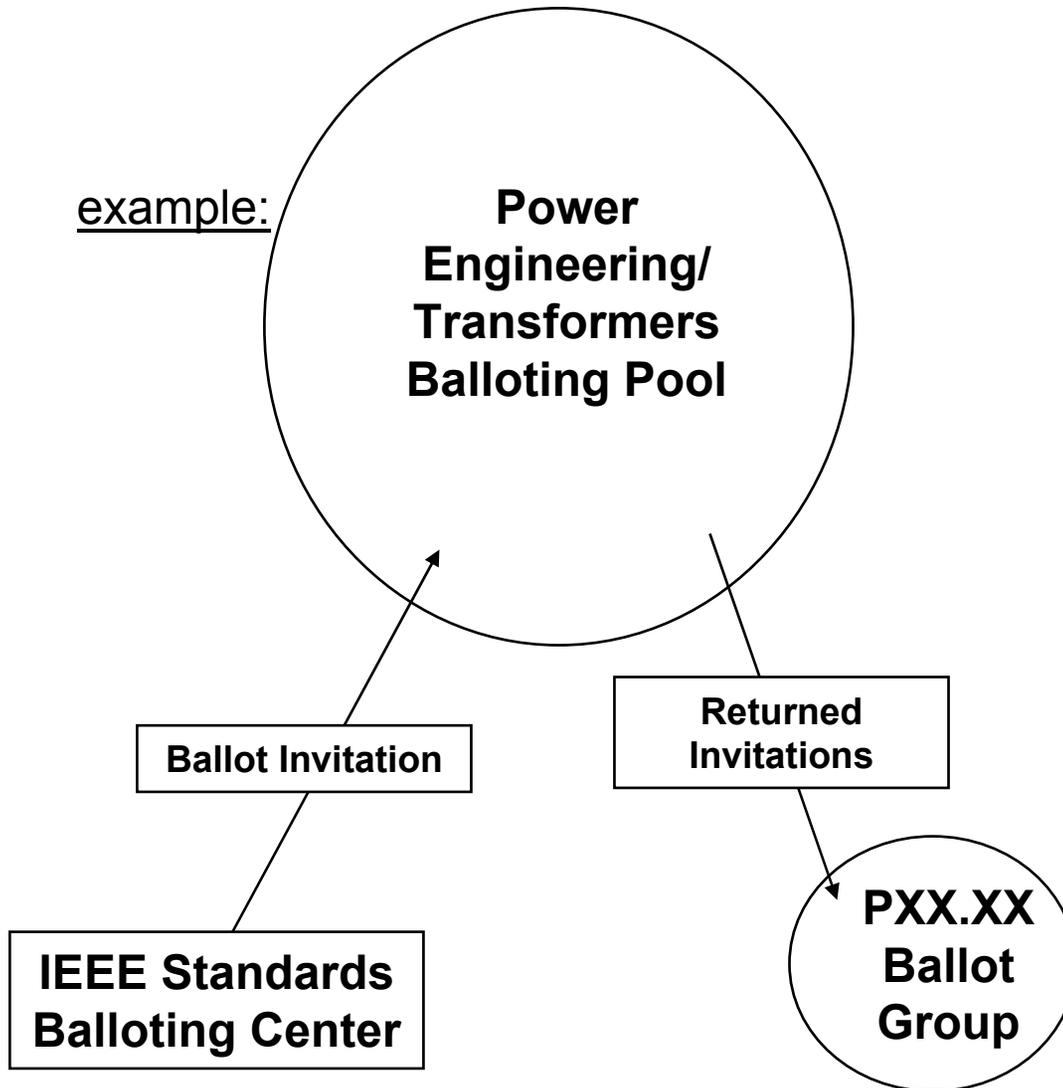
When complete, submit the form or clear it if necessary

# The Ballot Invitation Process

- The IEEE Standards Sponsor issues a call to begin formation of the *Ballot Group* when a specific IEEE standards project nears the Sponsor Ballot stage
- The Ballot Invitation form is sent out to all appropriate persons comprising the Balloting Pool for that discipline
- If a party is interested in participating in the Sponsor Ballot, the person simply fills out and returns the Ballot Invitation form
  - Those responding comprise the Ballot Group
    - Must be members of the IEEE-SA or pay a per-ballot fee
    - Receive a confirmation email (if an electronic ballot)

# The Ballot Invitation Process

(continued)



**Ballot Invitations** are sent out to the appropriate set of persons comprising the *Balloting Pool* for that discipline. Those who respond (and who are either IEEE-SA members or pay a per-ballot fee) comprise the *Ballot Group* for that specific standards project.

# Answering a Ballot Invitation

An internal number for system processing

## IEEE Standards Association Balloting Center

### Balloting Group Signup

You are requesting to be added to the following balloting group:

Group Number: 0000297

Description: 1361/D5

Working Group Chair: jaynpatc@aol.com

Sponsor: Standards Coordinating Committee 21

Title: Guide for the Selection, Test and Evaluation of Lead-Acid Batteries for Stand Alone Photovoltaic (PV) Systems

Scope: This guide is a tutorial on lead-acid battery technology, and how battery operating characteristics and PV systems performance are interrelated. The guide provides the PV system designer with information on applicable lead-acid battery type designs. Electrical, physical, mechanical and environmental characteristics are discussed. PV system parameters and operating conditions are discussed in relation to battery characteristics and expected system performance. Parameters to optimize the system are suggested to help in the selection of a battery selection and system parameters is provided, included discussion on how to interpret test results. This guide is applicable to all stand-alone PV systems where PV is the only charging source. This guide does not include hybrid systems.

Purpose: This guide provides guidance to the PV system designer in understanding lead acid battery performance characteristics in relation to operational parameters that affect overall PV system design and battery performance. This document will aid in battery selection and evaluation based on the system requirements and provide a test plan for evaluating the selected battery and its performance using a predetermined set of PV system parameters. Guidance is also provided as to how these test results may be interpreted.

Invitation Response Deadline:

2002-07-14

The IEEE project number and the number of the draft being balloted

The Sponsor of the standards activity

The deadline for signing up to ballot—you must respond to the invitation by midnight Eastern time of the date shown

Contact information for the Working Group Chair

The title, scope and purpose are taken from the approved PAR

# Answering a Ballot Invitation

Another reminder, at the last possible stage, to join the IEEE-SA or pay a fee

You must be a current IEEE-SA member to ballot, or pay a per-ballot fee. To join the Standards Association, [Click here.](#)

If you wish to proceed, please fill out and submit this form

(All fields are required):

<input type="text"/>	First Name
<input type="text"/>	Last Name
<input type="text"/>	IEEE-SA Number (All eight digits required)
<input type="text"/>	E-Mail Address
<input type="text"/>	Phone Number (for contact if your e-mail address bounces)
<input type="text"/>	Company
<input type="text"/>	Street Address
<input type="text"/>	City
<input type="text"/>	State/Province
<input type="text"/>	ZIP or postal code
<input type="text"/>	Country
<input type="radio"/> User	Interest Category
<input type="radio"/> Producer	
<input type="radio"/> General Interest	
<input type="radio"/> Government	

All of the following fields must be filled in on a ballot invitation

This is the same as your IEEE number

- User
- Producer
- General Interest
- Government

Submit Request

Interest categories are determined by the Sponsor. The four listed here are the default categories used by most Sponsor Working Groups. You need to identify yourself as one of the interest categories given, in relation to the subject of the project

# The Ballot Group

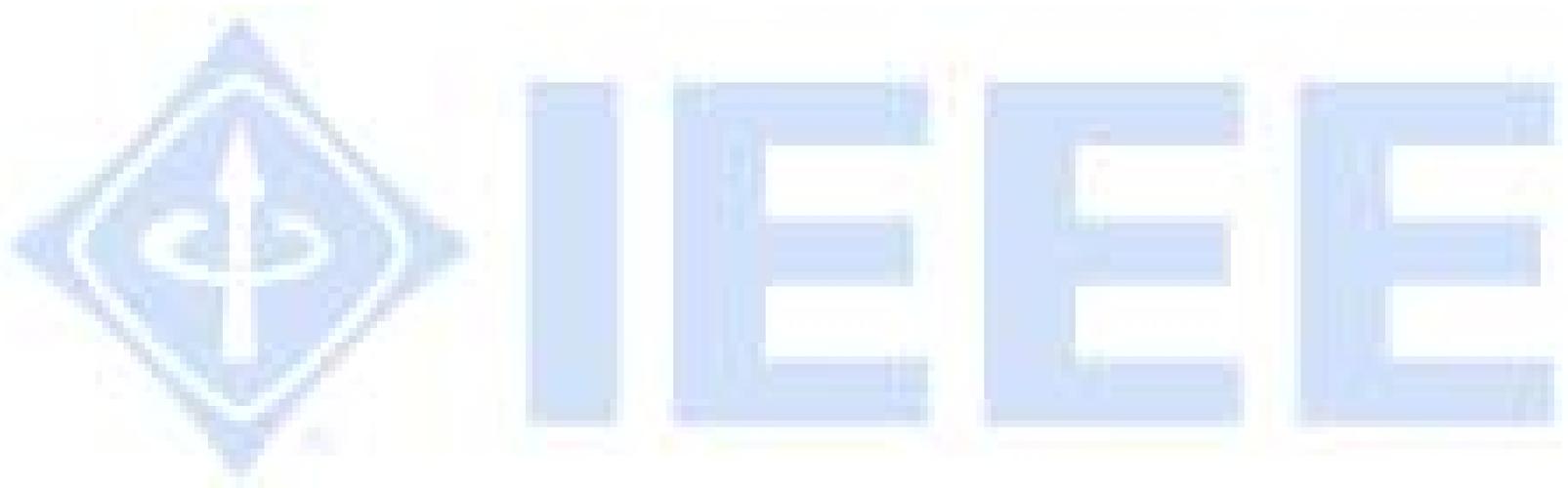
- The set of persons who ultimately vote on the proposed standard
  - Formed from those persons who have returned a Ballot Invitation
- By returning the Ballot Invitation, a person incurs and accepts certain obligations

# Ballot Group Obligations

- First, they agree to pay the appropriate fees associated with balloting privileges
- Secondly, they agree to review the document in question and to return their ballots and comments on the document by the specified deadline
- Third, they agree to remain members of the Ballot Group for the life of the project

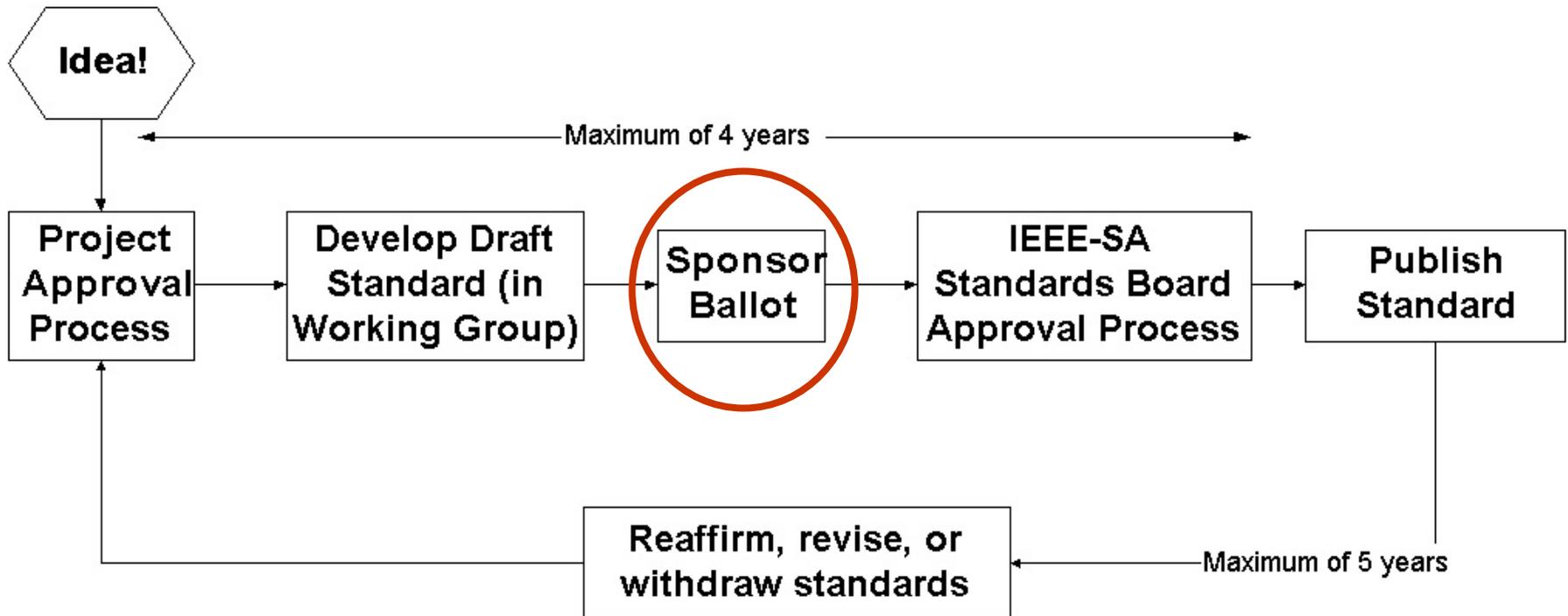
# Advantages of the Ballot Invitation Process

- Helps ensure an open process
- Ensures that only those who have actively expressed an interest in participating in the IEEE Standards Sponsor Ballot are actually involved
- Reduces probability of recirculations or failed ballots resulting from unreturned ballots by “disinterested” parties
- Ensures a balanced Ballot Group by collecting the proper classifications (producer, user, etc.)
- Provides the IEEE Standards Balloting Center with current contact information



# Sponsor Balloting

# Overview of Process



# Balloting

- The process through which consensus on a proposed standard is achieved

# The Ballot Process

- Formation of the Balloting Group
- Issuing Ballots
- Review and Voting Period
- Closing
- Ballot Summary
- Recirculation Ballots
- Additional Resources

# The Balloting Group

- The Balloting Group consists of those persons who review and vote on the document (along with coordination entities)
- The Balloting Group must be “balanced,” i.e., not dominated by any single interest group
- Once formed, a Balloting Group cannot change until the close of the ballot (including any recirculations)

# Issuing Ballots

- Ballots can be either electronic or paper
  - Electronic is preferred
- For an electronic ballot:
  - An email is sent from the IEEE Standards Balloting Center to the Balloting Group
    - Contains instructions on how to ballot
    - Includes URLs for voting, registering comments, and downloading the document and any comment resolution forms

# Review and Voting Period

- A ballot will typically remain open for a 30-day period
- The ballot announcement will indicate a closing date, by which time the ballot must be returned to the IEEE offices for the vote to be recorded
- Because of the 75% return requirement, it is very important that ballots be returned
- Ballots with negative votes should contain comments explaining the negative vote, and a proposed resolution

# Closing

- The ballot is closed at midnight Eastern time on the closing date indicated on the ballot form
  - If a 75% return has not been achieved, the ballot can be extended for up to 60 days
- Ballots received after the closing date will not have their votes recorded

# The Ballot

The comment form and the draft are available on separate pages

## IEEE Standards Ballot for P958/D7

This ballot closes at 2002-07-17, 11:59 PM Eastern Time.

You can also access the [comment form](#) and the [draft being balloted](#) directly from this page.

### Balloter Information

IEEE  
Number:   
Name:   
E-mail:   
Phone:   
FAX:   
Co/Org:

All contact information must be supplied

Vote:

*Do not select type 'Coordination' unless you are fulfilling official Coordination duties.*

This can be approve (comments/no comments), disapprove (comments), abstain (lack of time/lack of expertise/other), or coordination

In accordance with 5.4.3.1 of the IEEE-SA Standards Board Operations Manual, balloters with negative votes are strongly encouraged to submit comments with specific reasons in sufficient detail so that exact wording of the changes that will cause the negative voter to change his or her vote to "approve" can readily be determined. In the absence of comments with a negative vote, the vote shall be counted in the total tally of negative votes, but the Sponsor is not required either to respond to or recirculate these negative votes.

Draft accessed  
by username  
and password

# The Comments Page (part 1)

There are means  
to submit multiple  
comments; further  
tools are being  
developed in  
Excel/Access, etc.

## IEEE Standards Ballot Comment for P958/D7

(This ballot closes at 2002-07-17, 11:59 PM Eastern Time.)

You can also access the [balloting form](#) and the [draft being balloted](#) directly from this page.

If you have a file of comments already prepared to submit in XML, please [skip to the Submit Prepared XML Comments section](#).

If you have a Microsoft Word document or a file of graphics/binary data to submit, please [skip to the Submit Graphics/Binary Data section](#).

### Commenter Information

IEEE Number:	<input type="text"/>
Name:	<input type="text"/>
E-mail:	<input type="text"/>
Phone:	<input type="text"/>
FAX:	<input type="text"/>
Co/Org:	<input type="text"/>

**Balloter supplies contact information. Do NOT fill this out here if you are going to submit multiple comments. Skip to the Submit Graphics/Binary Data section.**

This part of the comments page is used to submit individual comments, one by one!

# The Comments Page (part 1)

## Comment

Page:  (If your comment is not related to a specific page number, enter "general" in this field.)

Line:

Subclause:  (e.g. 40.4.2)

Comment Type:

*Do not select type 'Coordination' unless you are fulfilling official Coordination duties.*

Comment:

Suggested Remedy:

Submit Comment

Clear Comment Form

Fill in if this applies to the draft

This can be either technical, editorial, or coordination. Regardless of type, ALL comments must be responded to by the Sponsor

Enter your individual comment and a suggested remedy to your concern here (multiple comments should be submitted as an Excel or database attachment)

When this is clicked, the individual comment is submitted



# The Comments Page (part 2)

Use this part of the page to submit an XML file that has already been prepared offline and that you're now ready to turn in. You should fill in the contact information on the top of the comments page (as shown previously)

## Submit Prepared XML Comments

**Please note:** Comment files that are not in the [specified XML format](#) will be rejected, if you attempt to submit them via this XML upload interface.

Select an XML comment file to upload from your computer to the IEEE Standards Association Balloting Center:

Use this part of the page to submit comments in an Excel file, in a database format, as a Word file, or as a graphical file.

## The Comments Page (part 3)

### Submit Microsoft Word/Graphics/Binary Data as Comment

**Please note:** Graphics/binary data will not be processed in any meaningful way by IEEE Standards Association Balloting Center staff, but merely passed along to the working group along with any accompanying explanation that you enter here.

1. Select a file to upload from your computer to the IEEE Standards Association Balloting Center:

2. Fill in the form fields below, then click "Upload file now".

#### File Description

File type (examples: Microsoft Word, TIFF, PNG, or MPEG-2)

Accompanying explanation

Choose the file from your computer

You must fill this part in

If you'd like to add a note, perhaps the number of comments included within the file, put it here

# The Comments Page (part 3)

## Commenter Information

IEEE Number:

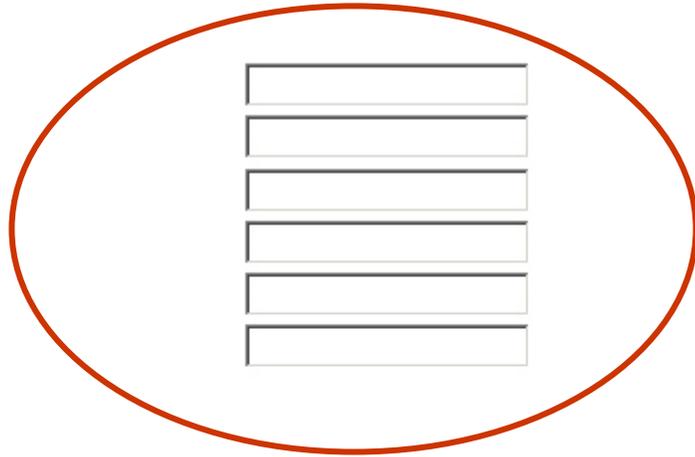
Name:

E-mail:

Phone:

FAX:

Co/Org:



Fill in your information here if you intend to submit an attached file as your comments

## Comment

Page:

(If your comment is not related to a specific page number, enter "general" in this field.)

Line:

Fill in if this applies to the draft

Subclause:

(e.g. 40.4.2)

Comment Type:

—Please select your comment type— 

*Do not select type 'Coordination' unless you are fulfilling official Coordination duties.*

Once you have selected your file and entered your comment and information, click here to upload the file

# The Ballot Summary

- The Ballot Summary contains
  - A tally of the voting, along with a calculation of return rate and abstention rate percentages
  - A roster of all votes, and whether any comments were submitted
  - Copies of all comments that were received
  - Copies of coordination comments

# Recirculation Ballots

- The results of the initial ballot may require a recirculation ballot if
  - Comments from the Balloting Group were received that result in the Working Group making technical changes to the draft
  - Unresolved or rejected negative votes or comments remain

# Recirculation Ballots *(continued)*

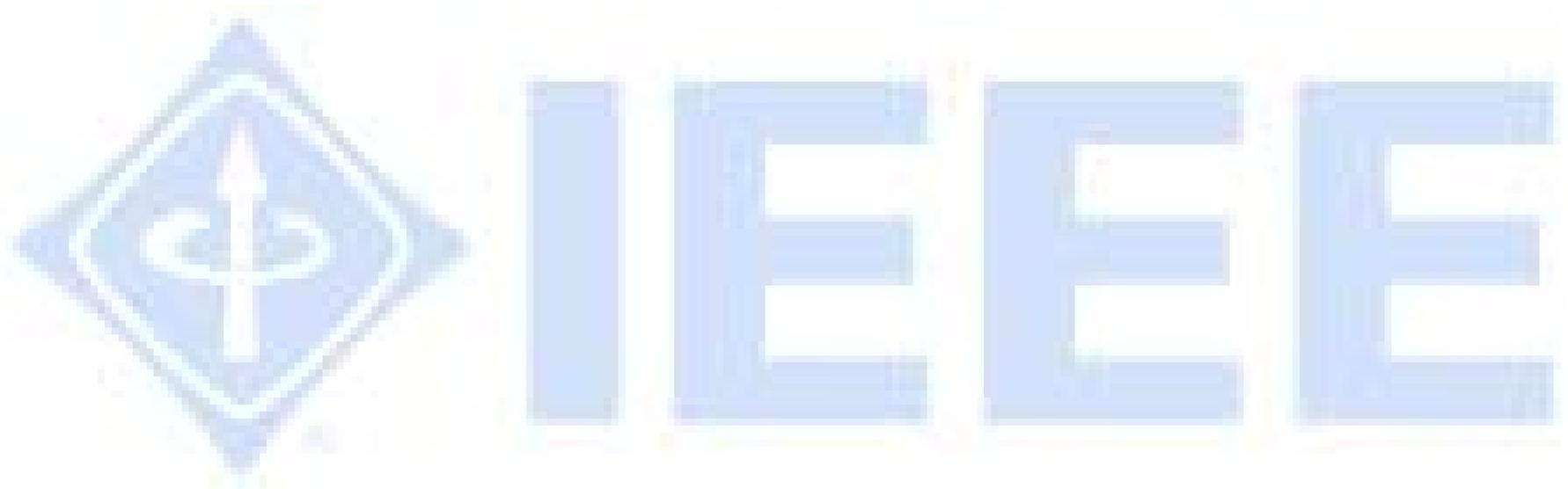
- Recirculation Ballots are conducted like the initial ballot, except
  - Voters may only comment/vote on changed areas of the draft
  - The review period is typically reduced to 10 days (plus any necessary distribution time)
  - There is no obligation to return the ballot unless voters wish to change their original vote
- The results of a Recirculation Ballot may produce additional recirculations for the same reasons as an initial ballot

# Additional Resources

- **Balloting Center Reports**  
(<http://standards.ieee.org/db/balloting>)
- **FAQs -Balloting Service**  
(<http://standards.ieee.org/faqs/ballotserv.html>)
- **FAQs - Ballot Formation**  
(<http://standards.ieee.org/faqs/ballotform.html>)
- **FAQs - Coordination**  
(<http://standards.ieee.org/faqs/coord.html>)
- **FAQs - Balloting**  
(<http://standards.ieee.org/faqs/ballot.html>)

# Additional Resources *(continued)*

- **The IEEE Standards Companion**  
(<http://standards.ieee.org/guides/companion/index.html>)
- **IEEE-SA Standards Board Operations Manual**  
(<http://standards.ieee.org/guides/opman/index.html>)
- **Standards Process-at-a-Glance**  
(<http://standards.ieee.org/resources/glance.html>)



## Approving the Standard



# The Review Committee (RevCom)

- Review Committee (RevCom) recommends approval or disapproval of the project to the Standards Board
- Submittal must match information on PAR
- Standards Board meets in March, June, September, December
- All major standards-developing Societies are represented on RevCom
  - FYI: Howard Frazier is Chair of RevCom
  - FYI: Jim Carlo is Chair of Standards Board

# Before submitting the draft to RevCom, be sure to review the following!

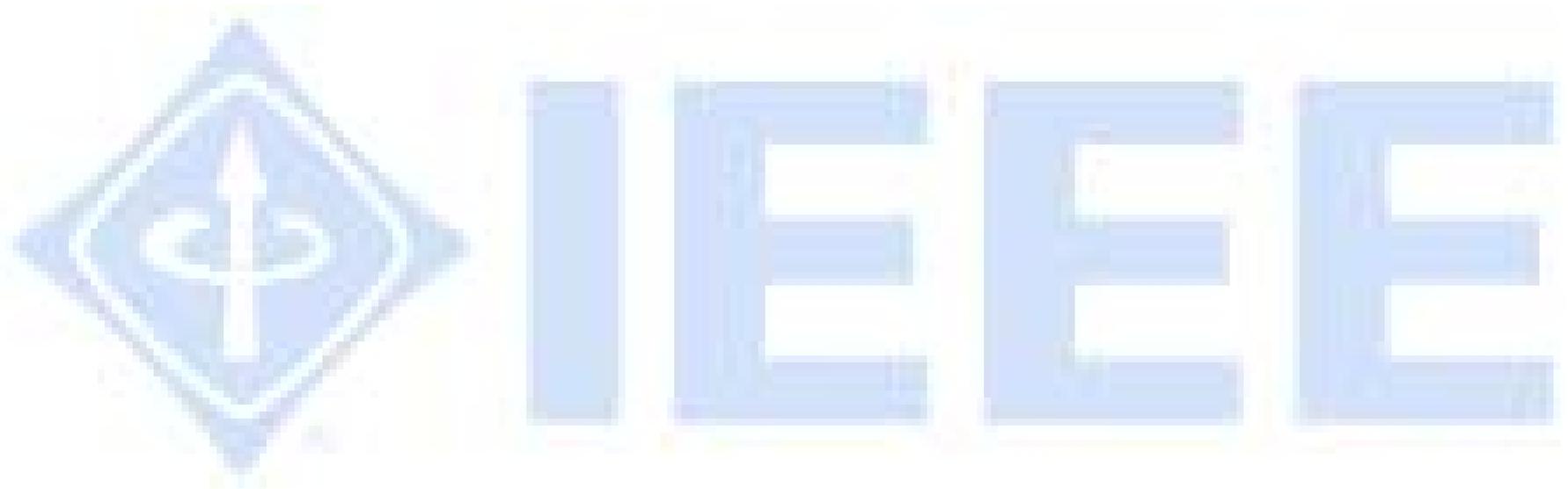
- Copyright notices
- Structure, completeness, and clarity
- References vs. Bibliography
- (Normative vs. Informative)
- Copyright/trademark issues
- Use of *shall*, *should*, *may*, *must*, *can*, *warning*, *caution*, *etc.*
- Use metric units
- Track draft numbering

# Pitfalls

- Inappropriate and/or inadequate negative comment resolution during Sponsor ballot
- Inadequate tracking of comment resolution (seek advice from 802<sup>®</sup> veterans)
- Not addressing all negative comments during Sponsor ballot

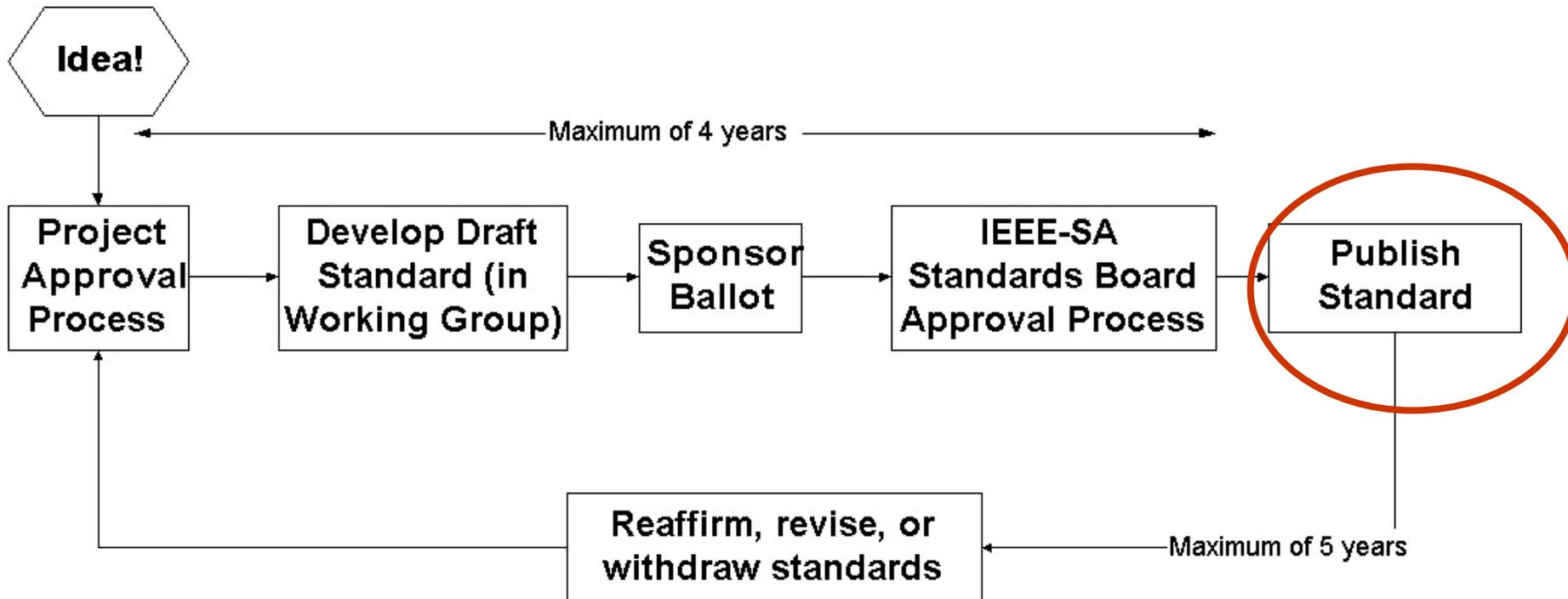
## Pitfalls (*continued*)

- Submitting a draft for approval by RevCom that does not match the Scope and Purpose of the PAR
- Submitting a draft for approval by RevCom without proper title, draft number, draft dates
- Submitting a draft for approval by RevCom without addressing IEEE Staff comments recommended in Editorial Review
- Changing the approved draft after it is approved by RevCom-----DON'T DO IT!



## **Publishing the Standard**

# Overview of Process



# Publication scheduling

- After Standards Board approval, set aside time to review the edited standard before publication
  - Electronic files of document are turned over to IEEE Staff
  - IEEE Project Editor will contact the Working Group Chair to discuss publication schedule

# Publication *(continued)*

- IEEE Project Editor edits the approved standard
  - Document is thoroughly edited for consistency and style, however, no technical changes are made
- All changes are marked and submitted to Chair for review
- 2 to 3 weeks are given for final comments
- Chair's comments are incorporated into the document and the standard is published

# Maintenance and revisions

- Amendments include both editorial and technical changes to a standard
- Corrigendum contain technical changes only
- Both amendments and corrigendum require new PARs
- Development and approval process are the same as for a new standard



IEEE

**Questions?**

# Contacts

Angela Ortiz – *Program Manager*

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Jennifer Longman –  
*Managing Editor, Standards Information  
and Industry Publishing*

[j.longman@ieee.org](mailto:j.longman@ieee.org)/732-562-6355

Thank you for your participation in the  
IEEE Standards Development Process.

