

Simulation Interoperability Standards Organization

Balloted Products Development and Support Process

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Prepared by:

Simulation Interoperability Standards Organization
Standards Activity Committee (SAC)

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1 Introduction

The Simulation Interoperability Standards Organization (SISO) promotes the development of products that support simulation interoperability. The SISO Standards Activity Committee (SAC) manages the development of SISO Products according to the SISO General Operating Principles, Technical Acceptance Principles and Standards Principles as stated in the SISO Policies & Procedures (P&P) and mentioned throughout this document. These principles are shown below. General Operating Principles determine the overall conduct of the organization during the development of a product. The focus of the General Operating Principles is on fair representation for all those who might be affected by a formalized standard. Technical Acceptance Principles are applied to all SISO Products to enable the product's promoter to demonstrate the relevance, substance, and timeliness of the product to the represented portion of the M&S community. Standards Principles are applicable to SISO Standards and Guidance Products only.

General Operating Principles

- **Responsiveness and responsibility** - SISO shall be responsive to the communities it serves. SISO shall be responsible for providing products and services that promote interoperability and reuse with the least possible impact on existing applications.
- **Quality** - SISO activities and resulting products shall reflect technical excellence and the highest quality work.
- **Discipline** - SISO shall exercise due process in all activities. Policies and procedures shall be publicly available and shall serve as the basis for governing the organization and its activities. SISO standards development processes shall have a balance of interests and shall not be dominated by any single interest category.
- **Fairness** - SISO activities shall provide the right to appeal at all levels.
- **Openness** - SISO activities shall be carried out in an open forum where any person has access to the process.
- **Consensus** - SISO decisions shall be based on simple majority agreement unless explicitly stated otherwise. Votes and ballots can be conducted in person, by teleconference, or by electronic balloting, as appropriate.

Technical Acceptance Principles

- **Relevant** - SISO Products shall be relevant to the Modeling and Simulation community.
- **Substantive** - SISO Products shall provide meaningful information and/or results.
- **Timely** - SISO Products shall be produced in an efficient manner to ensure that the product is useful to the community.
- **Community Review & Acceptance** - SISO Products shall be reviewed by the technical community to which the product applies. This may be a narrow niche or the community broadly defined.

Standards Principles

- **Generality** – Standards Products shall be as general as possible, while still maintaining usefulness, to support the broadest community of current and future users.
- **Stability** – Standards Products shall be established and changed only as necessary. They shall be prototyped and tested before being proposed for adoption to demonstrate their maturity.
- **Supportability** – Standards Products shall maintain the integrity of the existing product suite and the needs of the user.

SISO Balloted Products Development and Support Process

With these principles in mind, the SAC defined a six (6)-step process for developing and supporting SISO Products. The process is documented in this document and the SISO Policies and Procedures (P&P).

SISO Products can be categorized into two basic product tracks: the balloted products track and the unballoted products track. Products that follow the balloted product track are destined to evolve into either SISO Standards or SISO Guidance Products. Products that fall into the unballoted product track are SISO Reference and Administrative Products.

As their name implies, balloted track products shall be approved by ballot from a group of members drawn from the SISO community and other interested organizations. This balloting is required for final approval by SISO SAC and the SISO Executive Committee (EXCOM). This document describes the process for defining and approving a SISO Balloted Product. This document also describes the process for supporting approved products through their life cycle. SISO Product Development Groups (PDGs) are formed to develop SISO Products. SISO Product Support Groups (PSGs) are formed to support approved SISO Products and SISO sponsored standards from other standards bodies (e.g. IEEE). This document was written to provide PDGs and PSGs with a roadmap for the lifecycle of SISO Balloted Products.

1.2 Scope

This document provides an overview of the six (6) BPDSP steps developed by SISO to support the product development and support process. This document provides direction on the development of SISO balloted products or SISO sponsored balloted products (e.g. IEEE Standards sponsored by SISO) by providing step-by-step support and implementation guidance to the audience tasked with executing this process. Documented implementation procedures and user templates also ensure that the process can be consistently applied without unnecessary multiple interpretations of the P&P guidance.

The SISO BPDSP, shown in Figure 1, depicts the flow of the 6 steps of the process, initiated with a product nomination, as well as the specific expected output for individual step milestones.

Each step of the process has a separate section in this document to walk through the activities conducted and describe the output required. The Product Nomination Form and the SISO Product Approval Package Summary Format are provided separately with the set of SISO Templates available externally on the SISO website. The following section begins the walk through of the process by providing an overview of the roles and responsibilities associated with the activities in each step.

This document complies with the guidance in the SISO P&P. However, if inconsistencies are found, SISO P&P guidance supersedes this document. When such inconsistencies are found, the SAC will make changes to this document as soon as practicable.

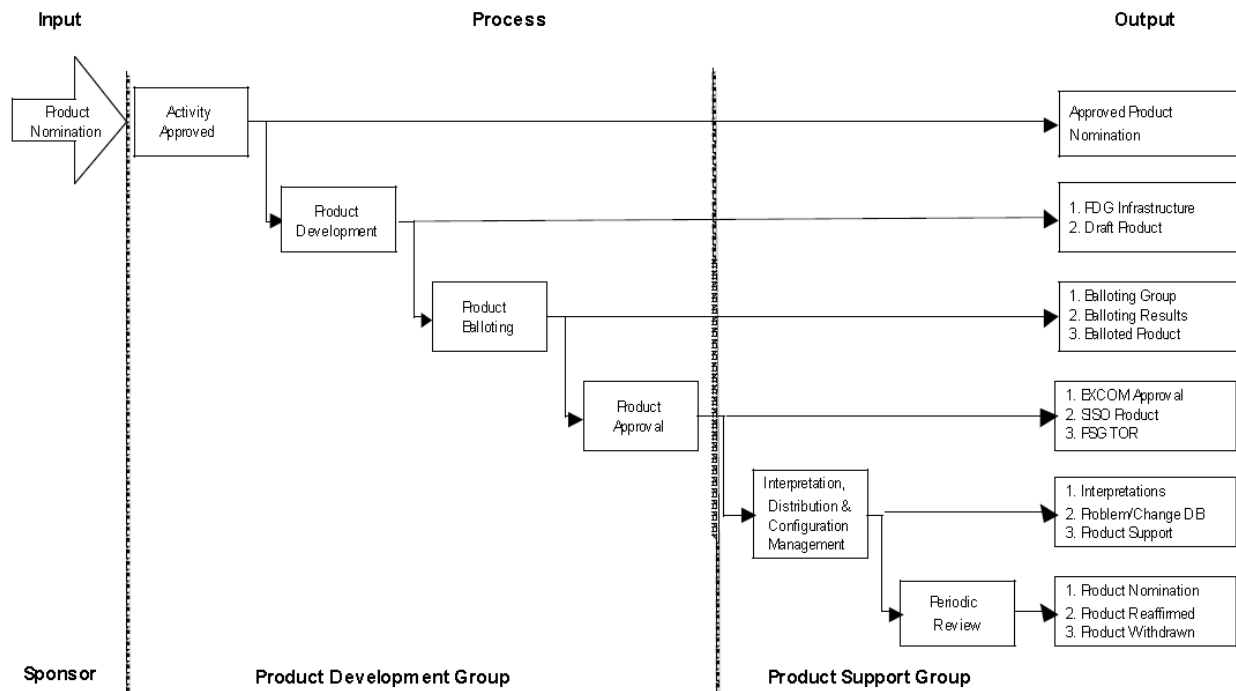


Figure 1 - SISO Balloted Product Development and Support Process (BPDSP)

2 References

2.1 *SISO Documents*

The following versions of SISO documents are referenced herein. If a conflict exists with the identified version of a referenced document, this document shall take precedent. If a newer version of a referenced document is available and conflicts with this document then the reference document shall take precedent.

Document Number	Current	Title
SISO-ADM-001	2001	SISO Product Numbering
SISO-ADM-002	2008	SISO Policies and Procedures
SISO-ADM-005	2008	Style and Format of SISO Documents
SISO-ADM-013	2008	PDG Kickoff Slides
SISO-ADM-014	2008	PSG Kickoff Slides
n/a	always current	[Online Form and Template] Product Nomination Form http://www.sisostds.org/StandardsActivities/DevelopmentGroups/ProductNomination.aspx

2.2 *Other Documents*

Document Number	Title
ISBN-10: 1568492162	Robert's Rules of Order, Newly Revised, Tenth Edition http://www.robertsrules.com/
ISBN-10: 0877798095	Merriam-Webster's Collegiate Dictionary, Eleventh Edition forward

3 Process Overview Description

This section provides a cross reference between the activities in each step in the process and the organizational role and responsibility associated with each activity. The following matrix (Table 1 - Process Steps and Associated Roles) is organized with the six BPDSP steps and their main activities, with the cross reference to each SISO role involved in this six-step standards development process. These roles are defined in the subsequent sections. Items marked with a dash rather than a checkmark indicate optional activities as described later in this document.

Table 1 - Process Steps and Associated Roles

Process Step	Step Activity	Sponsor / Proponent	EXCOM	SAC	PDG	BRG	Drafting Group	Technical Area Director	Ballot Group Member	PSG
Step 1: Activity Approval	Complete SISO Product Nomination (PN)	√						√		√
	Appoint Technical Area Director (TAD)			√						
	Review PN to assess impact on SISO		√	√						
	Approve Product Nomination (appropriate product number is assigned according to the SISO Product Numbering Guide)		√	√						
Step 2: Product Development	Appoint interim PDG Chair			-				√		
	Launch development activity			√				√		
	Select Chair, Vice Chair, Secretary, DGs				-			√		
	Establish development schedule				√					
	Produce the product or product component						√			
	Monitor PDG activities							√		
Step 3: Product Balloting	Submit draft product to SAC for 'Approval to Ballot'				√			√		
	Send initial balloting announcement			√				√		
	Establish balloting group			√				√		
	Send second balloting announcement			√				√		
	Prepare product and balloting package				√			√		
	Conduct ballot				√				√	
	Determine ballot results				√					
	Resolve ballot group member comments				√	√	√			
	Conduct re-circulation ballot (if required)				√				√	
	Close balloting process			√	√					
	Announce ballot results			√				√		

SISO Balloted Products Development and Support Process

Process Step	Step Activity	Sponsor / Proponent	EXCOM	SAC	PDG	BRG	Drafting Group	Technical Area Director	Ballot Group Member	PSG
Step 4: Product Approval	Submit balloted product(s) and supporting material to the SAC for review							√		
	Review balloted product(s) and supporting material for compliance with PDG charter and SISO Product development procedures			√						
	Approve product(s) and recommend product(s) disposition			√						
	Forward package to the EXCOM for approval			√						
	Accept product(s) as a SISO Product		√							
	Notify SAC that product is ready for distribution		√							
	Post announcement to the SISO community via the SISO ADMIN discussion			√						
	Develop or Revise Terms of Reference for Product Support Group			√	√			√		√
Step 5: Interpretation, Distribution and CM	Conduct initial CM on new SISO Product (log product)			√						√
	Store approved SISO Product(s) in the SISO Document Library			√						√
	Distribute new SISO Product			√						√
	Maintain Problem/Change Reports as required									√
	Respond to requests for interpretations			√				√		√
Step 6: Periodic Review	Conduct Periodic Reviews			√				√		√
	Determine course of action for SISO Product(s) (Reaffirm, Revise or Withdraw)			√				√		√
	Reaffirm: Develop recommendation and submit to SAC & EXCOM for approval		√	√				√		√
	Revise: Develop Product Nomination and submit to SAC & EXCOM for approval			√				√		√
	Withdraw: Develop recommendation and submit to SAC			√				√		√
	Withdraw: Conduct notification, balloting, and EXCOM Approval		√	√					√	

4 The Six Steps of the BPDSP

Sections 4.1 through 4.6 provide detail on each of the BPDSP steps. Each section contains an introduction to the BPDSP step, detailed information on the completion of the step and the process for moving from one step to the next.

4.1 Step One: Activity Approval

4.1.1 Introduction

This is the first step of the SISO product development process. A formal or informal group that has come to consensus about an idea for a product nomination initiates the SISO BPDSP. The group proposing the product develops a SISO Product Nomination (PN), which describes the product and its benefit to the community, then presents the PN to the Standards Activity Committee (SAC). The group may request the opportunity to present the PN at one of the regularly scheduled SAC meetings. To complete the Activity Approval step and begin the Product Development step of the process, both the SAC and the EXCOM have to approve the PN.

4.1.2 Scope

This section provides a guideline for the development and submittal of a PN. Completed PNs are submitted to the SAC for review and approval. Upon the recommendation of the SAC, the EXCOM may then charter the new Product Development Group. In particular, this section addresses the following areas:

- A Description of the SISO PN Form
- Submitting a SISO PN
- PN Review and Approval

Per the SISO Policies & Procedures, the Product Nomination shall include the following information at a minimum:

- Product Nomination title
- Name of proponent(s) and contact information
- Type of product that will be produced, or product to be modified
- Identification of the community to which the product applies
- Problem(s) and/or issue(s) that the proposed product addresses
- Indication of the maturity of proposed product—to include alternatives discussed, prototypes, impacts of product, impact of lack of product
- Planned compliance testing for items built using the product (only applies to Standards Products)
- Schedule of product development milestones including reviews, reports, and balloting
- Candidate volunteers for the effort
- Suggested periodic review cycle once the product is approved.

Each of these items is outlined in section 4.1.3 below.

4.1.3 The Product Nomination

In order to approve the PN, the SAC needs detailed information describing the proposed product. This includes an assessment of the product concept maturity and any potential impact it may have on the community. Approving the PN paves the way to subsequent product development. The SAC also needs to have some understanding of the level of expertise and relative experience of the people involved with developing the product. Proponents will include affiliation information about the sponsoring personnel relevant to the PN. The SAC shall also determine the interest that the community has in the completion of the product as well as ensure that product development moves forward in a timely manner. Sections 4.1.3.1 through 4.1.3.10 provide detailed information on completing the PN. If the PDG determines, in the course of product development, that the scope of the proposed product should change, the PDG may vote to modify the PN. The modified PN shall be submitted to the SAC for reapproval.

4.1.3.1 Product Nomination Title

Enter the title of the proposed product in the *Product Nomination Title* field. If the proposed product is made up of component(s), then the title of each component should be listed here as well.

4.1.3.2 Proponent Name(s) and Contact Information

The product's proponents are persons who have a vested interest in the success of the product. Provide the name and contact information in the *Proponent Name(s) and Contact Information* field. To assist the PDG in getting PN approval from the SAC, the SAC assigns one of its members to act as PN Technical Area Director (TAD). The TAD is responsible for contacting the proponent(s) and working with him/her to schedule a presentation of the PN and to incorporate any necessary changes to the PN. The TAD will serve as the liaison between the proponent and the SAC. He or she will also provide assistance and clarifications of SISO policies and procedures as necessary.

4.1.3.3 Type of Products

The two types of balloted SISO Products are Standards Products and Guidance Products. Since a product may be composed of multiple components, e.g. a standard component and a guidance component, each component will be identified in this section. Descriptions of each of these product types follow:

Standards Products - Standards are necessary for interoperability and reusability. Standards are usually documents that can control the development, integration, and use of common reference data or mechanisms in some part of the M&S community. A SISO Standard provides a stringent methodology to be used when the interoperability of heterogeneous systems is required. Compliance with a SISO Standard requires conformance with all of the mandatory declarations ("shalls") in the Standard. A special case of a Standard is a Supplement to the Standard. Supplements are substantive additions to an existing SISO Standard and cannot be used to make changes to the basic standard.

Guidance Products - A SISO Guidance Product controls the development, integration, or use of common reference data in some portion of the M&S community. Some examples of SISO Guidance Products are Processes and Best and Current Practices.

4.1.3.4 Identification of the Community to Which the Product Applies

Identify the community (ies) that benefit(s) from the development of this product in the Identification of the *Community to Which the Product Applies* field. Provide specific information on how this part of the community will benefit from this product and where possible, the impact it might have on other parts of the community. This addresses the balloted product principle for generality. SISO balloted products

should not be so tightly focused on one small sector of the community that they have little relevance anywhere else.

4.1.3.5 Problems and/or Issues the Proposed Product Addresses

Balloted products shall meet certain Technical Acceptance Principles, as described in the SISO P&P. They shall also be both necessary and sufficient. In the *Problems and/or Issues* field in the Proposed Product Addresses section, completely state the problem or describe the issue that the proposed product attempts to solve. Describe the relevant and substantive contributions that would be made by the proposed product. Indicate where (or if) other related attempts have been made and how the success of this product might be received in light of them.

4.1.3.6 Maturity of Proposed Product

SISO balloted products shall also meet certain Standards Principles, as described in the SISO P&P. Completed balloted products shall be able to demonstrate generality, stability, and supportability. The issue of maturity focuses more on the stability of the product proposal, and involves demonstrating the viability and utility of the product. A Proof-of-Principle demonstration, a logical proof, an interface description, or prototype implementations are all good examples that provide an indication as to the maturity of the concept being proposed. In SISO's estimation, an instance of a mature concept will likely have a better chance of success or utility in the community. This is a function of three variables: a) how near to agreement the community is; b) how hard it is to conduct authoritative experiments; and c) how hard people work on it. The critical problem for a volunteer organization is (c). SISO has no control over how hard volunteers work at achieving our standards goals. SISO can only encourage these groups. The only influence on this criterion is the desire of the individuals working on a standard to have SISO approval.

4.1.3.7 Planned Compliance Testing

For product approval, the SAC should assess each PDG's compliance testing methodology for balloted Standards products. The SAC should also assess the PDG's compliance testing methodology for balloted Guidance products as appropriate. Standards products are not likely to reach full maturity until after many years of testing and reuse by the community at large. This is the timeframe in which small ambiguities in a specification or implementation are likely to crop up, indicating that there may still be points of issue to resolve within a given specification. One way to help alleviate some of these potential problems is to provide a methodology, where appropriate, for compliance testing with or against the product.

As stated in the SISO P&P, Activity Approval, all SISO balloted Standards products are required to address the issue of compliance testing. SISO Balloted products may or may not require compliance testing. If a Balloted product requires compliance testing then a plan for Compliance Testing shall be provided. The plan for Compliance Testing, in part, shall address the issue of being in complete conformance with all of the requirements in a given product specification. For example, a compliance testing methodology for a Standard specification describing a software implementation, interface or protocol may specify interoperability with a reference implementation or between multiple prototype implementations. Multiple, genetically different prototype implementations written against the same version of a specification and brought together to validate an interoperable interface can go a long way toward reducing ambiguity in a product specification.

At the PN stage, testing of the product itself is not the central issue. However, how product compliance testing might be conducted should be well thought out at this stage. In other words, how a product will be used should be considered during development. At a minimum, the SAC shall see evidence of consideration of compliance testing for all SISO Standard products. Further, planned compliance testing for items built during SISO Standard product development should also be addressed.

4.1.3.8 Schedule

The PN shall include as detailed a schedule as possible for the proposed product's development life cycle. Standards and Guidance products do not evolve overnight. Generally, they take years of participation to develop, achieve consensus and ultimately approval and balloting. Specifically, important things to include are a planned schedule for PDG face-to-face meetings, periodic teleconferences and expected completion dates for product milestones.

Previous PDGs have used a two-year product delivery plan, but each product is different. The PDG's overall schedule depends on many factors—maturity of the concept, prior experience with the proposed product, and the number of actively contributing members of the PDG. Using the two-year model, for example, the first year could be used to develop the bulk of the Draft product and testing criteria, while the second year could be used to develop prototype or reference implementations as well as approve, publish and ballot the final product. Again, the initial maturity level of the proposed product concept will have a direct bearing on the length of time necessary for the product development lifecycle. Similarly, stable products with reliable, proven reference implementations and well-constructed compliance testing criteria are likely to be more readily adopted by the community than are others.

4.1.3.9 Candidate Volunteers for the Product Development Effort

Every PDG requires the participation of a certain "number of volunteers" in order to be productive (ref. 4.2.5 Voting). In the *Candidate Volunteers for the Product Development Effort* section, provide a list of candidate members for the proposed product development activity. For SAC review, two critical issues are being addressed. The first involves approximating the community's interest in the development of a proposed product. The second involves determining that a proponent can enlist enough volunteers to participate in the PDG to bring the proposed product to fruition in a timely fashion. If not, then this may be a good indication that the product will not likely meet SISO's Acceptance Criteria. Simply put, the more candidate volunteers a proponent can enlist to work on developing the proposed product within a PDG, the more likely the group's success will be in developing that product. In the case where the PN is submitted by an extant PDG to develop a product related to the PDG's ongoing work, this section may indicate the name of the extant PDG rather than naming all members.

4.1.3.10 Suggested Product Periodic Review Cycle (Timeline)

Each approved, balloted product is periodically reviewed. The specified period of time between reviews varies from product to product. During product review, a Balloted product may be reaffirmed, revised, or withdrawn. The Suggested Product Periodic Review Cycle (timeline) section shall include a suggested period of time that this product should be reviewed for renewal. Suggested periods of review range between once every two (2) years up to the maximum of once every five (5) years and should be based on the likelihood that the product may need to change over time. Additional direction and guidance for Step 6 is available in section 4.6 of this document.

4.1.4 Submittal of the Product Nomination

Completed PNs shall be submitted to the SISO Standards Activity Committee (SAC). PNs may be submitted either by emailing the electronic version of the completed PN to the current Chair and Secretary of the SAC or by posting the PN on the SISO-SAC discussion page.

4.1.5 The Role of the SAC with Regard to the PN

The SAC is the product development and support body of SISO and is responsible for the overall management of product development and product support. The SAC promotes standardization of technologies required to enable interoperable models and simulations for the SISO community. With regard to the PN, the SAC has the following responsibilities:

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- Make suggestions to the proposing group to bring the PN into compliance with SISO Goals.
- Determine if the concept is mature enough for a standards product development group to meet its proposed schedule.
- Ensure that proposed products will meet the intent of the PN and that they are viable for a majority of the SISO community.
- Assess if there is adequate community support and a pool of volunteers to produce the product.
- Assign a Technical Area Director (elected or appointed SAC member) to work directly with the proponent.
- Forward the PN to the EXCOM for approval following SISO community review and SAC approval.

4.1.6 SISO Community Review of PN

After the SAC ensures the PN is complete, it will post the PN for a thirty (30) day review by the SISO community. The SISO community may comment on the PN at this time. The TAD will work with the proponent to respond to comments and edit the PN as necessary. After the community review is complete and all edits to the PN are complete, the SAC will construct a recommendation on this PN and forward the PN with the SAC recommendation to the EXCOM for review.

4.1.7 The role of the EXCOM with regard to the PN

The EXCOM serves as the policy level body of SISO with oversight of policy implementation and general processes used by SISO. From a policy perspective, the EXCOM oversees the activities of the SAC and its PDGs. This oversight ensures that high quality products are produced in a timely and responsive manner as needed by the broad modeling and simulation community.

SISO EXCOM responsibilities to the PN include:

- Reviewing the PN to assess its impact on SISO including:
 - 501 (c) 3 status.
 - Conformance with the SISO Business Model.
 - Required support resources and approval for proposed budgets.
- Approving the PN and forming a Product Development Group (if necessary).
- Disapproving the PN with cause and returning it to the SAC for action.

NOTE: 501(c)(3) is designated by the United States of America Internal Revenue Code for charitable, scientific, religious or educational purposes. The 501(c)3 qualifies SISO as a nonprofit corporation for tax exemption.

4.1.8 Follow-On to Activity Approval

Once the PN has been approved by the EXCOM, the SAC Chair (as an ex-officio member of the SISO EXCOM) will notify the TAD and the proponent that the PN has been approved. In addition, discussions and web pages may be created to help meet the PDG's resource requirements. At this point, the PDG is chartered and the product development phase begins in earnest, as outlined in section 4.2, Step 2: Product Development.

4.1.9 Dissolution of a PDG

The SAC is responsible for making recommendations to the EXCOM to dissolve a PDG. There are five conditions under which a PDG may be dissolved.

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- The PDG successfully completes the products(s) described in the PDG's PN. The SAC, with EXCOM approval, will administratively dissolve the PDG upon approval of the PDG's product(s) and establishment of a Product Support Group.
- The PDG fails to follow or apply the SISO General Operating Principles and to follow the SISO P&P and this document. The SAC should seek all possible remedies for such PDGs. However, if the PDG persists, the SAC shall recommend the PDG be dissolved.
- The PDG determines that, for whatever reason, they are unable to complete their proposed products(s). The PDG should apply to the SAC for assistance in resolving obstacles to successful completion. Failing successful remediation by the SAC, the PDG may, by electronic vote according to the BPDSP, vote to dissolve. If the electronic vote fails to meet the requirements of the BPDSP (at least five votes), the SAC will determine the PDG is failing to make progress and proceed under this circumstance. If the electronic vote passes, the SAC, with EXCOM approval, will administratively dissolve the PDG.
- The SAC determines that the PDG is failing to make progress. This situation may be marked by a loss of leadership and the failure to replace it; a schedule slippage greater than one year; a failure to meet for two consecutive SIWs (unless the PDG is meeting regularly in other venues); a lack of activity on the PDG's discussion; or a failure to provide feedback to the PDG's TAD. The SAC should seek all possible remedies for such PDGs. However, if the SAC and PDG are unable to identify a remedy, the SAC will recommend the PDG be dissolved.
- The SAC determines there are overlap and/or conflict between two PDGs. The SAC will attempt to resolve the issue with the two PDGs. PDG votes to reduce the scope of product development efforts to resolve issues or to merge two efforts shall be conducted by both PDGs by electronic vote and revised Product Nomination(s) prepared for processing according to 4.1.4 - 4.1.9 of the BPDSP. If the SAC and PDGs are unable to resolve the overlap, the SAC may, at its discretion and with the approval of the EXCOM, determine the level of progress of each effort toward balloting and recommend the effort with the least amount of progress toward balloting be dissolved.

Under the conditions requiring a SAC recommendation for dissolution, the following steps will be taken:

- The SAC will prepare a PDG Dissolution Recommendation outlining the reasons for dissolving the PDG and identifying the process the SAC has taken to identify remedies to these reasons.
- The SAC will post the PDG Dissolution Recommendation for a thirty (30) day review by the SISO community. The SISO community may comment on the PDG Dissolution Recommendation at this time. The SAC will develop a response for each comment, edit the PDG Dissolution Recommendation as appropriate, and forward the PDG Dissolution Recommendation, Comments, and Responses to the EXCOM.
- The EXCOM will approve or disapprove the PDG Dissolution Recommendation. In the case of approval of the PDG Dissolution Recommendation, the SAC will administratively dissolve the PDG. In the case of disapproval of the PDG Dissolution Recommendation, the EXCOM will direct remedies for each issue leading to the PDG Dissolution Recommendation and the SAC will work with the PDG to implement these remedies.

4.2 Step Two: Product Development

4.2.1 Introduction

SISO PDGs shall conduct business in an open environment as specified in the Policies and Procedures and the General Operating Principles for SISO. The Standards Activity Committee (SAC) will work to ensure that a SISO Product under development is technically sound and has reached a maturity level necessary to be a stable standard.

4.2.2 Scope

This section provides guidance for step 2 of the BPDSP, Product Development. This section includes guidelines for drafting the product, identifying available documentation, defining the recommended organizational relationships to draft a product, and addressing how to meet process guidelines. In particular, this section addresses the following areas:

- The PDG Organization.
- PDG Operating Guidelines
- PDG Voting Rules
- The Development Process (Development, Prototyping, Finalization).
- Intellectual Property Issues.

4.2.3 PDG Organization

A PDG develops a product based on a Product Nomination approved by the SAC and EXCOM. The PDG is composed of SISO members interested in the product area. Members of the PDG assume different roles in the development of the product. These roles have different levels of commitment as defined in section 4.2.3.1 through 4.2.3.7 of this document.

4.2.3.1 PDG Chair

The PDG Chair shall be elected by a popular vote (simple majority of members voting) of the PDG membership to lead the product development activity. The PDG Chair plans and conducts PDG meetings and provides primary oversight for product development and other activities of the PDG. The PDG Chair appoints PDG members to any subgroup(s) formed under the PDG. The PDG Chair coordinates PDG meetings, issues calls for votes, and mediates disagreements. Above all, it is the PDG Chair's responsibility to achieve and maintain broad consensus within the PDG during the evolution of the product(s). The PDG Chair also has to ensure that the group is in conformance with SISO General Operating, Technical, and Standards principles during the product development process as appropriate. The Chair's responsibility to uphold the SISO General Operating Principles requires the Chair to maintain a position of neutrality on procedural and technical issues before the PDG. The Chair may introduce issues in accordance with his/her duties but is restricted from entering into any discussions on technical issues before the PDG, whether such discussions occur during a PDG meeting (section 4.2.4.2) or on the PDG electronic discussion (reflector). The chair does participate in discussions regarding the organization of the PDG, scheduling, planning, and other administrative matters. If the Chair wishes to participate in a discussion of technical issues, he/she shall yield the Chair position during that discussion and subsequent vote on the issue to the PDG Vice Chair or another person as appropriate. Participating PDG members may approve (by at least a 2/3 majority vote) that the Chair remain as Chair during the discussion of such issues. Chairs of PDGs developing IEEE standards shall be members of IEEE-SA and shall also be either IEEE members of any grade or IEEE affiliates.

4.2.3.2 PDG Vice Chair

The PDG Vice Chair shall be elected by a popular vote (simple majority of members voting) of the PDG membership. The PDG Vice Chair assists the Chair in obligatory activities and stands in to conduct meetings when the Chair is unable to attend. The PDG Vice Chair assumes the role of Chair if the PDG Chair yields to take a stand on an issue before the PDG. Upon assumption of the role of Chair, all responsibilities and restrictions in the preceding paragraph apply to the Vice Chair. It is the PDG Vice Chair's responsibility to assist the chair in maintaining broad consensus within the PDG during the evolution of the product(s).

4.2.3.3 PDG Secretary

The PDG Secretary shall be elected by a popular vote (simple majority of members voting) of the PDG membership and works in concert with the PDG Chair and Vice Chair to document the activities of the PDG meetings. If need be, the PDG Secretary will step in for the PDG Chair when neither the Chair nor the Vice Chair is able to lead the meeting. Upon assumption of the role of Chair, all responsibilities and restrictions in the preceding paragraph apply to the Secretary. The PDG Secretary is also responsible for compiling minutes at face-to-face meetings and during teleconferences. The PDG Secretary may also consolidate discussions from time to time, for example when preparing summations in preparation for a vote of the PDG.

4.2.3.4 PDG Membership

All PDG members shall be SISO members. All PDG members shall disclose their affiliation upon registration and shall update their affiliation with the PDG Secretary when any change in affiliation occurs. Only SISO members with completed affiliation information will be allowed voting rights in a PDG. Affiliation information may be entered by following the relevant Product Development Group link under "Development Groups" menu item in the "Standards Activities" drop down menu of the SISO home page.

A PDG may establish additional membership requirements with approval from the SAC. PDGs may develop guidelines which when approved by the SAC can restrict access to work products to protect applicable copyrights.

4.2.3.5 Drafting Group (DG)

A PDG shall establish one or more Drafting Groups to address the Product Nomination (PN). A DG shall consist of a subset of the PDG members appointed by the PDG Chair and ratified by the PDG. While the PDG as a whole determines the direction of the product, the DG actually produces the product or product component. For most products, a PDG will have to divide the work to efficiently complete the Product. DGs provide a PDG with a mechanism to divide work among several groups. Each PDG will have to determine the number of DGs required based on its PN. A PDG shall have at least one (1) DG and generally not more than three (3). The PDG should consider the following factors when determining the number of DGs required.

- Number of active PDG volunteers to support the DG.
- Structure of the Product. If the product is to be divided into several parts (see Product Numbering), one DG may be formed for each part.
- Schedule constraints under which the PDG is working.

Each DG shall have the following organization:

4.2.3.5.1 DG Editor

The PDG Chair appoints a Drafting Group Editor from the DG membership and the PDG votes to ratify this appointment. The PDG Chair shall not serve as DG Editor. The DG Editor is responsible for overseeing the development of a Product component based on direction from the PDG. The DG Editor assigns specific tasks to DG members, collects input, and integrates the input into the Product component being drafted. The DG Editor reports the efforts of the DG to the PDG.

4.2.3.5.2 DG Assistant Editor

The PDG Chair may appoint a DG Assistant Editor from the DG membership and the PDG votes to ratify this appointment. This position is optional but suggested by the SAC for those product components that are very large, or very complex.

4.2.3.5.3 DG Member

A DG Member provides input in the development of the draft Product or Product component.

4.2.3.6 PDG Technical Area Director (TAD)

The TAD is the SAC representative on the PDG. The TAD monitors PDG activities to determine if they meet SISO policy, product development requirements, and SAC directives. When necessary, the TAD is responsible for reprimanding PDG officers or members for failing to meet SISO P&P, and for elevating concerns about such failures to the SAC. The TAD serves as the liaison between the SAC and the PDG and often serves as a proponent of the PDG and its products to the SAC. The TAD is in the best position to make recommendations to the SAC on PDG requests for advice, direction, interpretations, etc., and is the conduit for the SAC to communicate with the PDG. The selection of the TAD is at the SAC's sole discretion. However, if the dynamics between the selected TAD and the PDG membership become negative, then the PDG Chair shall approach the SAC about resolving the situation by appointing a different TAD. The chair may yield the chair position, if so conflicted (ref. 4.2.3.1), thus allowing a vice chair or appointed group member take this issue to the SAC.

4.2.3.7 PDG Operating Guidelines

SISO PDGs shall conduct business in an open environment as specified in the Policies and Procedures. This document provides minimum requirements and guidelines for the organization and operation of a PDG.

4.2.3.7.1 Revisions or Additions

A PDG may wish to develop additional procedures to guide its operation or to revise procedures identified in this document. Any additional or revised procedures for a PDG shall be approved by the PDG according to paragraph 4.2.5 and shall be documented and provided to the SAC for review and approval.

4.2.3.7.2 File Library

A PDG shall maintain a File Library on www.sisostds.org which shall include any additional procedures, draft documents, meeting minutes, reports, and drafts of the proposed product.

4.2.3.7.3 Officer Vacancies

If an elected officer of the PDG resigns or is unable to perform the duties of that office, the PDG Chairman or Vice-Chairman shall hold an election to fill the vacancy. The election may be held at a Face-to-Face meeting or via an electronic ballot. In either case, an announcement of the vacancy and a reason for the vacancy shall be made on the PDG discussion. PDG members shall be provided at least 10 working days to self nominate for the vacant position. In the case of a Face-to-Face meeting, the

presiding chair shall present the nominees, allow for additional nominees from the floor, and hold the election. Electronic ballots shall be conducted according to paragraph 4.2.5.

4.2.4 PDG Meetings

4.2.4.1 PDG Kickoff Meeting

If the approved PN was not submitted by an extant PDG, the SAC will schedule a kickoff meeting to launch the new product development activity. The purpose of the meeting is for the SAC to provide initial training to the PDG on SISO P&P and for the PDG to begin to define the operating structure of that PDG. Before the kickoff meeting, the SAC shall appoint a TAD. The TAD shall coordinate and conduct the beginning of the first meeting. The TAD shall request all attendees desiring PDG membership to complete a roster that will be used to populate the PDG discussion. The attendees who complete this roster shall elect a permanent PDG Chair, Vice Chair, and Secretary. The new PDG Chair will assume responsibility at the conclusion of the election. The TAD may support the new PDG Chair in the procedural conduct of the kickoff meeting. The PDG shall review the SISO Balloted Product Development and Support Process and accept or modify the default procedures. This process should be supported by using the PDG Kickoff Slides. All modifications require SAC approval.

The PDG shall complete the following tasks as part of the kickoff meeting:

- Elect a Chair.
- Elect a Vice Chair.
- Elect a Secretary.

The PDG shall complete the following tasks within 60 days of the kickoff meeting:

- Identify any requested additions or revisions to the BPDSP.
- Determine the number of DGs required to develop the products.
- Identify the DG Editor(s) and Assistant Editor(s).
- Establish a schedule for completing PDG tasks.

The PDG shall submit the following to the SAC:

- Names of Chair, Vice Chair, and Secretary.
- DG tasks.
- Names of DG Editors and Assistant Editors.
- Proposed additions or revisions to the process specified in this document and the rationale for SAC approval.

If changes are required to the PDG leadership or to the DG makeup after they are initially formed, the PDG shall submit those changes to the SAC.

4.2.4.2 PDG Meeting Conduct

The most important tasks of a PDG Chair include ensuring that meetings run smoothly, and that the rights of all PDG members are protected. This means the Chair shall be fair and impartial. It is the PDG Chair's role to make certain that everyone has an opportunity to voice his/her opinions on a subject and to avoid having one speaker dominate a discussion. At the same time, the Chair should do all he/she can to move a meeting forward. As issues are resolved, the chair shall ensure that the PDG follows the voting rules specified in section 4.2.5. The Chair may assign action items to delegate work among various group members. The Chair shall ensure that a time suspense date is placed on action items. Any issues that require a response from the SAC shall be communicated to the TAD immediately, with a suspense date of

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at least 20 working days (to allow for a coordinated SAC response). All proceedings from the PDG meetings (to include electronic correspondence) shall be, at a minimum, placed on the PDG discussion.

A meeting Chair shall conduct meetings in accordance with Robert's Rules of Order Newly Revised (10th Edition) except where the procedures of this document provide alternative requirements. The Chair may entertain a motion to suspend specific rules (e.g. standing, recognition, debate limits) to allow for a more collegial process, however, at any time in the meeting, the Chair may invoke parliamentary procedures in order to control the meeting.

PDG meetings can occur in three primary formats:

1. Co-located, where the interested parties travel to a common location for a face-to-face meeting;
2. Teleconference, where interested parties call a teleconference hub and are connected into a party-line telephone call; and
3. Discussion, where interested parties subscribe to an automated Email program that relays their written comments among them.

PDG meetings shall be accessible to all SISO members and locations should be chosen with consideration to all. Prior to scheduling PDG meetings at venues other than Simulation Interoperability Workshops, the PDG Chair and TAD shall ascertain the projected attendance from the PDG membership (either face-to-face or via teleconference if available) and determine if the projected attendance meets the SISO Operating Principle of Openness.

PDG meetings shall be arranged far enough in advance to allow all interested parties to attend. This is particularly important for face-to-face meetings, where travel arrangements have to be made. The PDG Chair will announce face-to-face meetings a minimum of 30 days in advance. The PDG Chair will announce teleconference and discussion meetings a minimum of 5 working days in advance. Email notice via discussion will be the primary means for providing notice of all meetings. It is recommended that each PDG have at least two face-to-face meetings per year.

If a PDG meeting is conducted via discussion (as opposed to regular email exchange), both a start time/date and end time/date shall be required, to bound the discussion, and allow votes to be taken. The PDG Chair shall consider voting time when conducting meetings. As with all electronic votes, discussion-meeting votes shall be open for at least 5 working days. The actual time limit is set at the discretion of the PDG Chair.

The Chair shall make every effort to select the most cost-effective format for each meeting. Sponsorship should be sought to provide facilities for meetings, typically from the employers of PDG members. Such a sponsoring organization can provide meeting rooms and save the cost they would otherwise incur in travel for their workers. Other arrangements may be necessary, but specific approval of the EXCOM shall be received before meeting arrangements incurring costs to SISO are made.

The PDG Secretary shall identify all current PDG members attending each meeting and shall provide a roster for new attendees desiring to become members to complete. This roster will be used to update the membership roster and subscribe the new members on the PDG Discussion. The PDG may convey, by vote, immediate voting rights to new members prior to conducting business.

Each PDG meeting shall have an agenda. The following agenda is offered as an example:

- Call to order.
- Disclosure of affiliation (at teleconference meetings)
- Mandatory intellectual property slides
- Approve minutes of last meeting.
- Approve agenda (any new business added here).

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- Drafting Group reports (if any).
- Technical Business.
- Next meeting (announce date, time, and location, if known).
- Adjournment.

The PDG secretary, or another PDG member as designated by the meeting chair, shall take minutes at every PDG meeting. The minutes shall include at a minimum the following items:

- Name of group.
- Date and location of meeting.
- Presiding Officer, including the name of the secretary who wrote the minutes.
- Attendance (especially important when voting is to occur).
- Call to order, Chair's remarks.
- Approval of minutes of previous meeting.
- Agenda.
- Technical topics.
 - Brief summary of discussion, pros and cons, and conclusions (Do not include names, except for those who move and second motions unless a roll-call vote is ordered).
 - Motions with name of those who move and second the motions.
 - Actions items with name of responsible person(s) and due date.
 - Copies of handouts.
- Next meeting--date and location.

4.2.5 PDG Voting Rules

This section addresses the voting requirements used in the development of a product. Balloting of the product is a more formal process and is defined in section 4.3 of this document.

4.2.5.1 Voting

SISO product development is conducted through a consensus building process. The ultimate goal for a PDG is to develop a product that will pass the rigors of the Balloting process (see section 4.3 for Balloting process). A PDG shall resolve issues in a manner that attempts to address as many concerns as technically possible. Addressing concerns spans the spectrum from total adoption, to non-inclusion. However, complete consensus is difficult to reach. All registered PDG members have full voting rights. The PDGs shall use the voting process defined in the following paragraphs. A PDG may request modifications of this approach subject to SAC approval. This process is intended for general PDG business and comment resolution. This process is not intended for sub-groups within the PDG.

4.2.5.2 Face-to-face and Teleconference Voting

At face-to-face meetings and teleconferences, all PDG members present are eligible to vote. The larger of a five-person quorum or 5% of the registered membership quorum is required to conduct a vote. PDGs with restrictive memberships (additional qualifications to the ones listed in section 4.2.3.4) may establish a quorum requirement (with SAC approval) based on a different percentage of members. A 75% consensus of members voting (Yes or No; an abstention does not count as a vote) is required to approve a motion in a face-to-face meeting or teleconference. If a 75% consensus cannot be reached, the issue is moved to an electronic vote. If fewer than 67% of the members present vote (Yes or No; an abstention does not count as a vote), the issue shall be moved to an electronic vote regardless of the outcome of the vote. Figure 2 illustrates the face-to-face and teleconference voting rules.

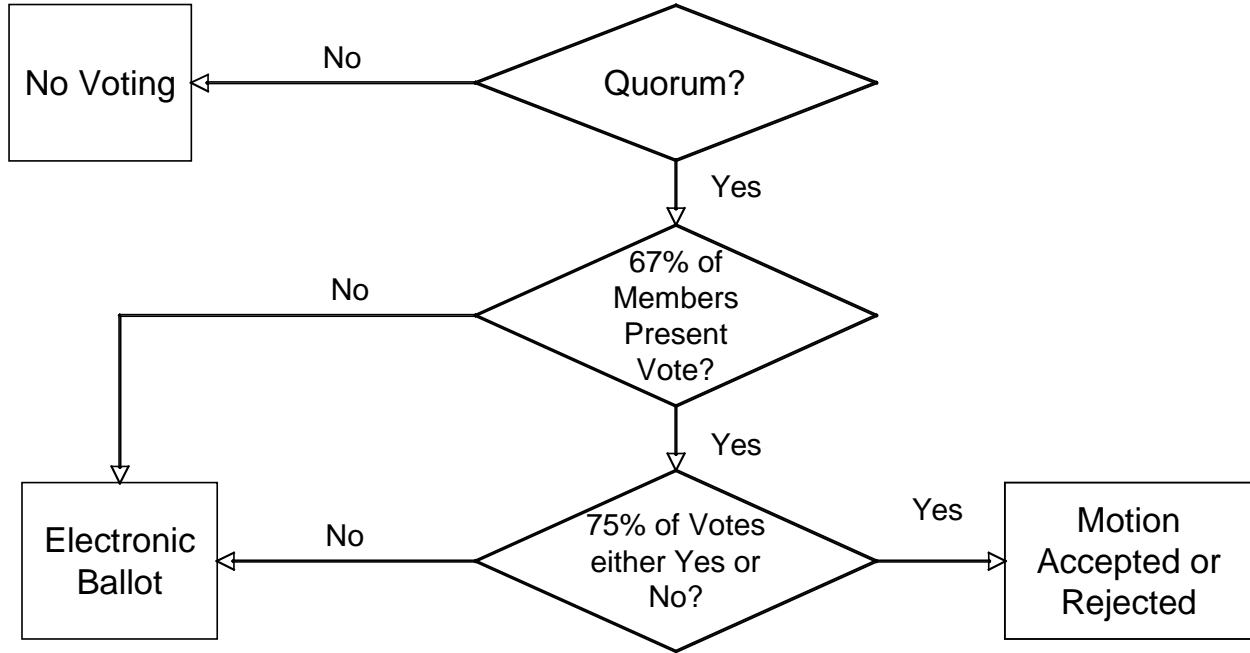


Figure 2 – PDG Face-to-Face and Teleconference Voting Rules

4.2.5.3 Electronic Vote

The PDG Secretary shall post a summary of the related discussion on the PDG discussion. After an announced period of time for discussion, an electronic vote is held to allow the complete PDG to vote on the issue. An electronic vote shall have the larger of five (5) voters or 10% of the registered PDG membership. PDGs with restrictive memberships (additional qualifications to the ones listed in section 4.2.3.4) may establish a quorum requirement based on a percentage of members with SAC approval. Electronic votes are carried by majority of votes cast. The PDG Chair and/or DG Editors may require an electronic vote on any issue. Notice of an electronic vote shall be posted at least 10 working days in advance and the voting shall remain open for 5 working days.

4.2.5.4 Recall of Face-to-Face or Teleconference vote results

Issues approved by 75% consensus at a face-to-face meeting or teleconference shall be posted to the discussion within 5 working days. Members of the PDG not present for the vote shall have 10 working days from the posting to recall the issue. Ten recall petitions shall require an electronic vote.

4.2.5.5 Officer voting

The PDG Chair, or acting PDG Chair, does not vote in face-to-face meetings or teleconferences and is not counted toward a quorum. The PDG Chair may cast the deciding vote in electronic votes. Other PDG officers including Vice Chair, Secretary, and DG Editors may vote in face-to-face, teleconference and electronic votes.

4.2.6 Appeals

The general operating principle of fairness requires every member of SISO have the right to appeal the actions of the SISO committees, panels, groups or their leadership.

A PDG member may appeal any decision on technical grounds if the PDG member believes the approved approach is not the best solution. Technical appeals shall be resolved at the PDG level and the action being appealed shall have occurred within 30 days of the submission of the appeal.

PDGs should make every effort to resolve procedural and ethical issues at the PDG level. Procedural and ethical issues that cannot be resolved at the PDG level shall be addressed in accordance with section 3.8 or Section 4 of the SISO P&P.

4.2.7 Development Process

A PDG shall undertake every effort to develop a consensus product in the minimum time. The community shall strike a balance between rapid decision-making and open participation. A schedule is developed as part of the nomination approval process, and lists the activities of the PDG. The SAC meets on a regular basis; therefore PDG issues can be addressed relatively rapidly. The PDG shall make their TAD aware of any development that might have an impact on the overall project timeline. Regular, routine communication between the PDG Chair and the TAD are essential to avoid surprises that could delay product development efforts.

4.2.7.1 Product Development

The primary activity of a PDG is the development of a product that represents the consensus view of the community. In developing consensus, the group starts with a review of the PN and existing research. A PDG should then determine the general outline of the product. Once the general outline is complete, a PDG should select one or more DGs who are to create a draft of the product, or product component, based on the PN and under the direction of the PDG. The DGs should circulate drafts and make appropriate revisions in response to comments collected from the PDG. It is not expected that any product will define every aspect of the domain and address every technical concept presented.

4.2.7.1.1 Draft Product Starting Point

Most SISO Products will be based on original work by the organization. SISO Products may also be based on work begun by other individuals or organizations with their consent. However, since the PDG is responsible for the finished product whatever the starting point, the development process covers the complete product.

4.2.7.1.2 Drafting

Drafts are built by breaking the product into segments, starting with the scope and purpose based on the approved Product Nomination. Next, based on related standards and publications, an outline is drafted to serve as the structure for the product. The DG members then split the outline into writing assignments. The DG Editor shall then compile this work into one Product component. Consistency in the tone of the Product components shall be ensured by favoring the verb “shall” for the standard products, “should” for recommended practices, and “may” for guidance products. The verb “must” shall not be used in a standards product. For products based on an existing standard or work, the DG may choose to use the Problem/Change Request (PCR) process to solicit and analyze proposed changes to the existing product.

4.2.7.1.3 Draft Review and Commenting

At various times during development, draft products are provided to the PDG membership for review and comment. SISO provides the on-line SISO Comment Tracking System (CTS) which may be used for this process. For those members of the PDG that do not have access to the CTS, the PDG will establish alternate methods for receiving comments. Should a PDG member decide to make comments about the product, the comments should fall into one of the following categories: General, Editorial or Technical. The three are described below:

- General comments are those that concern the overall organization of the document or fundamental concepts identified in the document.

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- Editorial comments are those that deal with typographical errors, grammatical errors, and formatting.
- Technical comments are those that specify changes in content that will affect the interpretation, scope, technical use, or how specific clauses in the document are covered.

Each comment should address a single point, and should stand alone. Each comment should be written so that the editors can evaluate it independently of all other comments. Each technical and editorial comment shall clearly identify the specific section of the document that is being addressed. When a comment refers to an entire section or clause, the section/clause number and title should be specified. Otherwise, the most specific identification possible should be provided. Technical and editorial comments should be ordered based on the document components that they address, from the beginning of the document to the end.

Each comment should provide a clear statement of the problem and identify what is correct and what is not correct about the current draft. Each comment should provide a clear and complete description of the recommended change, including all of the information necessary to implement the proposed change. Each comment should provide a clear rationale for the recommended change. The editors need to be convinced to make the recommended change. Whenever possible, cite an authoritative reference.

When submitting comments, each PDG member shall be required to submit the following information:

- Product Item
- Page Number
- Line Number
- Problem
- Proposed Action
- Change Type (select from the following)
 - General
 - Editorial
 - Minor Technical Change
 - Major Technical Change

4.2.7.1.4 Comment Resolution

The PDG shall resolve all the comments received. The resolution of the comments on product drafts shall become part of the package submitted to the SAC and EXCOM for product approval. Comment resolutions shall be subject to the PDG voting rules in section 4.2.5. The process for draft comment resolution is identical to the process for comment resolution during the Step 3, Ballot Product, and is described in sections 4.3.8.1, 4.3.8.2, and 4.3.8.3. During the draft product development, some general or technical comments may require considerable analysis and evaluation prior to the identification of a resolution. The PDG may establish a subgroup (e.g. a tiger team) to analyze the comment and prepare a proposal for either the current resolution or for a future draft review. In such case, the comment will receive one of the Hold resolution codes. A PDG using the Problem/Change Request form (Appendix A) and process may chose to establish a Problem/Change Request for a comment and assign a Hold for Consideration (HC) resolution code.

4.2.7.1.5 Draft Product Editorial Checklist

The PDG shall use the following editorial checklist when determining if the proposed Product is ready for BPDSP step 3, Balloting.

- Draft number (per Product Numbering Procedures) and date on every page.
- Copyright statements included with the current year cited in the copyright statements.
- Reference clauses for each reference mentioned in text.
- Current references.
- Exclusion of nonstandard references.
- Permission releases for text or figures from other copyrighted sources.
- Correct verbs used in the Product (i.e., shall, should, etc).
- Trademark or patent issues addressed properly.
- Ensure SI units (International Standard of Units) used consistently (for compatibility with IEEE and ISO; non-SI units require SAC approval).
- No mention of specific companies.
- An introduction is included with the PDG roster.

4.2.8 Product Numbering

Balloted products are assigned a product number when the development activity is approved by the EXCOM per the SISO Product Numbering Procedure

4.2.9 Product Prototyping

The PDG is responsible for prototyping products as appropriate. While the PDG may select the form of the prototyping, ideally PDG members will prototype the product as part of their job.

4.2.10 Product Finalization

Once the DG has a draft product complete, a vote is taken by the DG members to approve the product for review by the whole PDG. A PDG may approve a product for ballot at a face-to-face meeting with 30 days notice and 10 working days to review the draft product. Otherwise, a product is approved for ballot through an electronic vote. Once the PDG approves the product, it moves to the Balloting process.

4.2.11 Intellectual Property Issues

Sections 4.2.12 through 4.2.14 provide guidance for intellectual property issues. The PDG shall direct any questions to the PDG TAD for consideration by the SAC. Some issues may have to be taken to the EXCOM.

4.2.12 Using References and Bibliography

The difference between a reference and a bibliographical entry is that references require the user to have the referenced document available. Bibliographies contain those documents a PDG used in researching the product and contain useful background information or additional material related to the subject. Some examples are workshop papers, journal articles, books, and committee reports. If the user of the product does not absolutely need the reference, then it is considered a bibliographic entry. As a rule, the result of this should be that a bibliography is larger than a reference list.

The product being developed may reference draft standards, but there are specific rules controlling this. When a draft SISO Product references a draft document, it shall mention the specific draft version (usually by its number and date), and a copy of that draft shall be kept by the PDG. All references should be readily available and retrievable, and a draft product can be superseded by a later version or may not be readily distributed.

4.2.13 Copyright Guidance

Every draft version of a product shall be labeled with the appropriate copyright notices. If the product is in document form, a brief copyright notice appears on every page of the product. All legal records, such as copyright permissions or patent or trademark information, shall be sent to the SAC for inclusion in SISO files.

When using material from another document, a PDG needs to ensure that the copyright owner has granted them permission to use that material. The request should be submitted to the copyright owner as soon as possible to ensure that waiting for permission does not affect the PDG's schedule.

4.2.14 SISO Patent Policy

The SISO policy on patents prohibits the use of restricted intellectual property in any product. Explicit worldwide patent release is required from technical contributors as part of submissions to SISO. EXCOM approval, through the SAC, is required for any exception to this policy. If approval of restricted content is granted by EXCOM, patented technology shall be identified in the introduction of the document. Further, a letter shall be obtained from the patent holders indicating they are willing to extend their patent to anyone on a nondiscriminatory basis. If applicable, the letter will also address the patent extension fee. In order to determine whether to use patent material, the PDG shall examine its technical merits only.

4.2.15 Trademarks Instructions

Trademarks shall be marked as such at the first mention in every version of the draft document, with appropriate footnotes explaining who holds the trademark.

4.2.16 Trial Use Standards

Under certain circumstances, the previous activities will not produce a product that is ready to go directly to balloting. These circumstances may include:

- The PDG thinks the product would benefit from allowing users to implement it, gain experience, and evaluate it.
- The PDG has developed a standard to the point it is implementable, but has stopped making progress, e.g. there is no significant activity on the reflector or at workshops.

Under these circumstances, the product may proceed to a trial use standard.

The default duration for a trial use standard shall be one year. Longer or shorter durations shall require justification to the SAC. In cases where the standard is particularly complex or where implementing users have not been identified, the PDG may request a longer period. A trial use standard shall be valid for a maximum of two years. In cases where the PDG has a clear purpose for starting as a trial use standard, they may request a shorter period. The minimum duration shall be 120 days. The PDG may request an extension if necessary. The request for extension shall be received by the SAC at least 30 days prior to the end of the original trial use period. After the trial use period, the product shall be balloted or converted to a reference product.

A PDG's decision to proceed to trial use shall require a vote just as the decision to proceed to ballot.

In the case where the PDG has developed a standard to the point where it is implementable, but has stopped making progress, the TAD may recommend a trial use standard to the PDG. The TAD shall give the PDG 30 days notice to vote to accept or reject the recommendation. If the PDG rejects the trial use recommendation, the PDG shall proceed to ballot.

Trial use standards shall include a statement of the period of trial use. Trial use standards shall not proceed to balloting prior to the end of the stated period of trial use. The PDG shall hold at least one comment round prior to proceeding to balloting on a trial use standard.

Trial use standards shall not be used when:

- A PDG simply doesn't want to expend the effort to ballot
- A PDG doesn't want to accept changes from the broader community

The SAC will rely on the PDG TAD to provide informed insight into the state of the PDG for making the last two assessments.

4.2.17 What's Next

After the PDG has completed the development of the SISO Product, the product is ready to be balloted by the SISO community. At this point the Product Development phase is complete and the PDG Chair shall move to the Ballot Product step of the BPDSP, as outlined in section 4.3, Step Three: Ballot Product.

4.3 Step Three: Ballot Product

4.3.1 Introduction

This section provides guidance for step three of the BPDSP, Ballot Product, for PDGs developing non-IEEE products. PDGs developing IEEE standards assume the dual role of an IEEE Working Group and conduct balloting and approval of IEEE standards using IEEE established procedures rather than the procedures of Step Three. These PDGs resume their SISO responsibilities during Step Four.

SISO balloted products require a formal balloting process to ensure community consensus. The PDG shall make every effort to develop a product in the minimum time that represents the consensus view of the community. The community shall strike a balance between rapid decision-making and open participation. This section provides the guidelines for the actual balloting of the product, identifies available documentation, defines the recommended percentages for a ballot to pass, and provides guidelines for revising and re-circulating the original product. This BPDSP document does not cover the approval process for SISO Reference or Administrative Products.

4.3.2 Scope

This section includes guidelines for the actual balloting of the product, identifies available documentation, defines the recommended percentages for a ballot to pass, and provides guidelines for revising and re-circulating the original product.

In particular, this section addresses the following areas:

- Forming a Ballot Group (through the Ballot Pool).
- Conducting the Initial Ballot.
- Resolving Ballot Group Member Comments.
- Conducting a Re-Circulation Ballot.
- Closure Activities.

4.3.3 Approval to Enter Ballot Product Phase

Once the PDG has completed Step 2, the PDG presents the product to the SAC for approval to begin balloting. The SAC will review the product for completeness and the PDG's drafting process for evidence of product maturity. In addition to the product, the PDG shall submit meeting minutes, comment resolution artifacts, and relevant supporting material for major technical revisions to support the SAC's review. The SAC can accept the product for balloting or send it back for more work. For SISO Products, the PDG shall submit to the SAC a categorization of organization to be used for balancing a ballot group and the plan for ballot resolution, including the make-up of the Ballot Review Group (BRG) if one is being used. For IEEE Products, the PDG shall provide the SAC their approach for balloting group categories (unless they choose to use the standard IEEE categories) and their plan for ballot resolution, including the make-up of the Ballot Review Group (BRG, ref. 4.3.8.1). The SAC TAD will be included as member or observer in any BRG. SAC approval is required for any PDG/WG to begin the balloting process under IEEE.

PDGs/WGs balloting under IEEE processes resume their SISO responsibilities during Step Four.

4.3.4 Forming the Ballot Group

Balloting the product within a group of interested individuals ensures that the product receives attention from those who have a valid reason for participating. Sections 4.3.4.1 through 4.3.4.3 contain the information necessary for the SAC and the PDG Chair to establish a ballot group. Figure 2 depicts the formation of a ballot group. The three steps to creating a Ballot group are: 1) Ballot Announcement, 2) Form the Ballot Group, and 3) Balance the Ballot Group.

4.3.4.1 Phase One –The Ballot Announcement

After accepting a product for balloting or in anticipation of receiving a product for balloting if requested by the PDG Chair, the SAC and PDG Chair will develop a Ballot Pool and a Ballot Announcement. The Ballot Pool is made up of those who subscribe to the SISO-ADMIN discussion. The SAC may, with input from the PDG, post the announcement by additional mechanisms. Those mechanisms may include the SISO web site, other SISO discussions, and mechanisms available through other organizations. The announcement shall include a description of the product, a description of ballot group responsibilities, and deadlines. The announcement serves as an invitation to interested individuals to join the product’s ballot group. The invitation to join the ballot group is open for a minimum of 30 days and a maximum of 45 days.

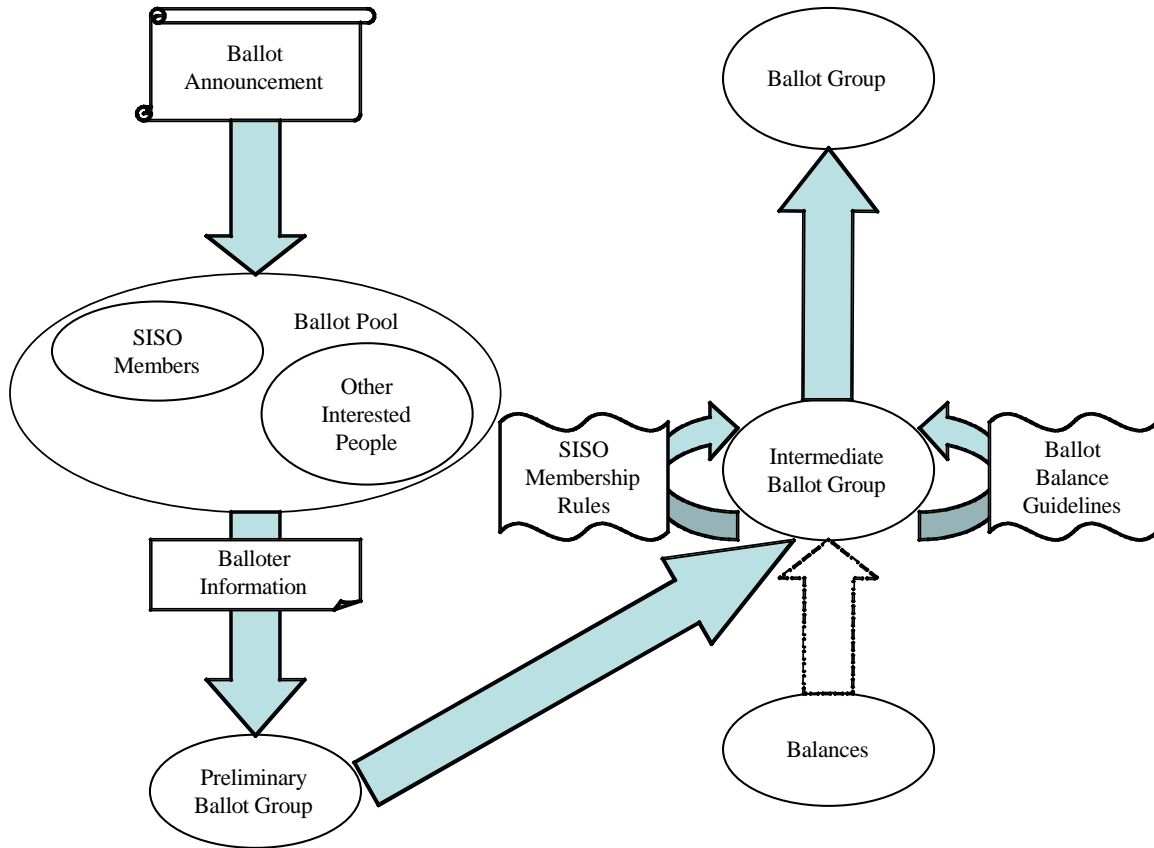


Figure 3 - Forming a Ballot Group

4.3.4.2 Phase Two–Forming the Ballot Group

The ballot group is composed of individuals who respond to the ballot announcement. Individuals should join the ballot group if they have an interest in the proposed product and have the technical expertise required to review the Product. Those responding to the ballot announcement shall be members of SISO

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or become members of SISO to be included in the ballot group. Non-SISO members may join SISO when they respond to the ballot announcement by completing the required forms and paying the membership fee. More information on joining SISO can be found at <http://www.sisostds.org/> (Select “About” and scroll down to directions for becoming a SISO Member)

Individuals joining the ballot group shall provide the following required information:

- SISO Member Number
- Name
- Organization (as defined in the announcement)
- Postal Address
- Email Address
- Phone Number
- Representation: (select one)
 - Commercial
 - Government
 - Academic
- Interest: (select one)
 - User
 - Developer
 - General Interest

By joining the ballot group, an individual is committing to conducting a thorough review of the product, completing the review in the required time period and submitting the written ballot by the due date (ref. 4.3.5.3.)

4.3.4.3 Phase Three—Balancing the Ballot Group

All SISO activities are conducted in an open and fair manner. A balanced ballot group is very important to create community confidence in a SISO Product. The SISO P&P establishes specific rules to balance a ballot group. The PDG uses the information provided by members of the ballot group to determine if the ballot group is balanced.

The ballot group shall be balanced using three different criteria— representation, organization and interest. The three criteria areas are described below:

- Representation: three categories exist for representation: commercial, government, and academic. No representation category shall exceed 75% of the ballot group and each category shall be a minimum of 10% of the ballot group.
- Organization: No organization shall exceed 25% of a representation category.
- Interest: three categories exist for interest: user, developer, and general interest. No interest category shall exceed 50% of the ballot group.

Representation is based on the employer or employment activities of an individual. A person working for a company on a government contract would usually be considered commercial. Similarly, an individual working for a college or university on a government grant or contract would generally be considered academic. These are only suggestions; it is up to the individual to determine the correct representation. An individual should direct any questions about the determination of representation to the SAC via the PDG’s TAD.

The definition of organization is not exact. The intent is to prevent a single organization from having an unfair advantage in the ballot group. Because it is difficult to anticipate all possible organizations or means of “packing” a ballot group, the PDG, with the approval of the SAC, will establish categories of organization required to meet the SISO General Operating Principles and ensure a fair, balanced ballot. The PDG shall document their categorization of organization and submit this documentation with their product for balloting or their request to form a ballot group.

Individuals select their interest based on their expected involvement with the approved product. Individuals that will use the product as part of their job should select the category *User*. If the individual's or individuals' organization is going to build products that support, require, or produce the proposed product they should select the category *Developer*. If individuals do not have planned use for the proposed product, but are interested because of potential future work, impact on other SISO Products, or impact on research, they should select the category *General Interest*. If individuals are unsure of their interest, they should select the category *General Interest*.

The PDG has two means by which to balance the ballot group. The first is to request that specific ballot group members change their criteria group. This does not usually apply to the representation criteria or organization. However, if individuals can claim more than one group, the PDG may ask the individuals to change their representation criteria or organization. It is more likely that individuals could change their interest criteria. In either case, this can only be done with the consent of the ballot group member. The second option is to add members to the ballot group in the needed representation or interest area group. Under no circumstances may a balanced ballot group be created by dropping individuals from the ballot group.

The SAC shall approve the composition of the ballot group. If the SAC determines the membership of the ballot group is unsatisfactory (based on the stated criteria), it shall direct the PDG to rebalance the group.

4.3.5 Conducting the Initial Ballot

4.3.5.1 The Circulation Package

The PDG and SAC will conduct balloting once the product is approved for ballot and the ballot group formed. The circulation package that supports the initial ballot will be sent to each member of the ballot group. The circulation package should consist of the product being balloted, the Product Nomination, instructions for completing the ballot and any additional documentation determined pertinent by the PDG.

The preferred method for submitting ballots and comments is using the on-line SISO Comment Tracking System (CTS). For those members of the ballot group that do not have access to the CTS, the ballot (including comments) may be submitted using alternate methods (ex: facsimile or the U.S. Postal Service). The circulation package will contain instructions for satisfactory alternate methods for submitting the ballot.

4.3.5.2 The Ballot Period

A ballot period is that span of time during which ballot group members are to review the circulation package, formulate their comments, determine whether they accept or reject the product, and submit their ballots. The ballot period for an initial ballot shall be between 30 and 60 days (as determined by the PDG and listed in the circulation package). If all ballots are returned before the end of a ballot period then the ballot period is considered closed.

4.3.5.3 Ballot Non-responders

Ballot group members not responding to the ballot may risk rejection from joining future ballot groups.

4.3.6 Completing the Ballot

During the balloting of a SISO Product, each member of the ballot group will have the opportunity to accept or reject the product and to submit comments. It is important that each ballot group member writes and submits the most effective ballot possible. Should a ballot group member decide to make comments about the product, the comments should fall into one of the following categories: General, Editorial or Technical. The three are described below:

- General comments are those that concern the overall organization of the document or fundamental concepts identified in the document..
- Editorial comments are those that deal with typographical errors, grammatical errors, and formatting.
- Technical comments are those that specify changes in content that will affect the interpretation, scope, technical use, or how specific clauses in the document are covered.

Each comment should address a single point, and should stand alone. Each comment should be written so that the editors can evaluate it independently of all other comments. Each technical and editorial comment shall clearly identify the specific component of the document that is being addressed. When a comment refers to an entire section or clause, the section/clause number and title should be specified. Otherwise, the most specific identification possible should be provided. Technical and editorial comments should be ordered based on the document components that they address, from the beginning of the document to the end.

Each comment should provide a clear statement of the problem and identify what is correct and what is not correct about the current draft. Each comment should provide a clear and complete description of the recommended change, including all of the information necessary to implement the proposed change. Each comment should provide a clear rationale for the recommended change. The editors need to be convinced to make the recommended change. Whenever possible, cite an authoritative reference. Additional information on submitting and resolving comments is available below and in section 4.3.7.

For a ballot group member to reject a proposed product, explanatory comments shall accompany the rejection. The comment should include a clear specification of the perceived problem and a description of what the ballot group member perceives to be the best resolution. If a rejection is submitted without comments, and the PDG cannot readily determine the reason, the rejection will be considered as non-responsive. In addition, if the PDG is unable to either contact or negotiate with the ballot group member who submits the rejection, the comments submitted with the rejection vote will be ignored as well.

When submitting comments, each ballot group member shall be required to submit the following information:

- Product Item
- Page Number
- Line Number
- Problem
- Proposed Action
- Change Type (select from the following)
 - General
 - Editorial
 - Minor Technical Change
 - Major Technical Change

4.3.7 Ballot Result Determination

For a product ballot to be valid, at least 75% of the ballots, including ballots to abstain, shall be returned. If fewer than 75% of the ballots have been returned when the product ballot period closes, the PDG Chair may request a one-time extension of between 15 and 30 days, as determined by the SAC. If at least a 75% return is not achieved within the approved extension time, a product ballot is deemed invalid. The SAC shall assess all invalid product ballots to determine the reason(s) for the less than 75% ballot return rate. If 30% or more of the ballot returns are abstentions, the product ballot is deemed invalid. Based on the reason for the invalid ballot, the SAC shall determine whether to simply reballot or to reform the ballot group prior to reballoting.

For all valid product ballots, the following criteria shall be met for a product ballot to be successful:

- at least 75% of the accept and reject ballots returned shall be for the acceptance of a Standards Product.
- at least 65% of the accept and reject ballots returned shall be for the acceptance of a Guidance Product.

Products which have a successful product ballot and have had no comments submitted shall proceed on to the next step in the Balloted Products Development Process (Product Approval). Products which have comments submitted by ballot group members shall have the comments resolved prior to product approval. Balloted products that do not have a successful product ballot shall go through the comment resolution and product ballot re-circulation.

4.3.8 Comment Resolution

The PDG shall resolve all of the comments received. The resolution of the comments becomes part of the package submitted to the SAC and EXCOM for approval. This process has three steps: comment assessment, PDG review, and final resolution.

4.3.8.1 Comment Assessment

Comment assessment may be performed by either the editor and/or assistant editor, or by a BRG. The PDG shall select either the editor method or BRG method. BRG membership shall be open to all members of the PDG. The product or product component editor shall be a member of the BRG and may chair the BRG group. The chair of the BRG has leadership/management responsibilities consistent with other chair positions such as running meetings, managing member activities, tracking action items to closure, and ensuring that the tasks are completed by the BRG group. For the remainder of this subsection, the term editor is used to mean the product or product component editor and/or assistant editor.

The editor/BRG reviews all of the comments submitted and then assigns an initial recommendation. The editor/BRG may propose revisions to the suggested changes. The editor/BRG may also group similar comments. The editor/BRG may contact the comment author for additional information. The editor/BRG may also reclassify the change type (see section 4.3.6).

The editor/BRG should recommend the appropriate resolution codes listed in Table 2 below. The editor/BRG generally requires between 15 and 30 days to complete this review.

4.3.8.2 PDG Review of Editor Comment Assessment

This subsection applies only if the PDG chooses to perform comment resolution without delegating to a BRG. The results of the preceding analysis are provided to the PDG members in table form. The PDG Review begins when the comment assessment is complete. Each member of the PDG should review the assessment. The PDG generally requires a face-to-face meeting to conduct this review. Resolving questions on comments can be handled via teleconferences and electronic exchanges; however this is

generally not effective for most products. Most face-to-face meetings for comment resolution will last from one to two days.

The PDG should review each comment. The assessment should serve as a starting point for the discussion. The PDG shall approve each resolution using the voting rules defined in section 4.2.5. Complex resolutions may be assigned to a single PDG member or a group of members. The PDG may contact the comment author to request additional information. PDG members should make sure that the comment author has not already been contacted.

4.3.8.3 Final Resolution

A resolution code is assigned to each comment. Table 2 outlines resolution codes. The PDG shall provide the results of comment resolution to all members of the balloting group.

Table 2 Comment Resolution Codes

Code	Description	Phase Resolution is Appropriate		
		Editor /BRG Assessment	PDG Review (where applicable)	Final Resolution
A1	Adopt as proposed.	X	X	X
A2	Adopt with minor changes (describe changes).	X	X	X
A3	Agree with comment but implementing alternative resolution.	X	X	X
A4	Adopt with changes in order to be compatible with other comments (references these comments and describe changes thoroughly).	X	X	X
A5	Adopt, Duplicates Comment xxx.	X	X	X
HI	Hold requesting more information. The person making the comment has been requested to provide additional information to explain or support the recommendation. The comment is held over to the next draft of the product. This comment code is not applicable to final ballot comments.	X	X	
HR	Hold for Resolution. This comment needs a resolution before it can be accepted. This is not valid as a final resolution.	X	X	
HC	Hold under consideration. The comment is held over to the next draft of the product. This comment code is not applicable to final ballot comments.	X	X	
D1	Decline - Proposed change is out of scope. Recommend for consideration in later version (give reason).	X	X	X
D2	Decline - Proposed change is inconsistent with the general approach used elsewhere in the standard (give references).	X	X	X
D3	Decline - Comment is too vague, succinct correction not available (explain as thoroughly as you are able).	X	X	X

D4	Decline – Comment and proposed change are technically incorrect.	X	X	X
D5	Decline, Duplicates Comment xxx.	X	X	X
W	Withdrawn. Used for comments retracted with the consent of the person making the comment.			X

4.3.9 Conducting a Re-Circulation Ballot

A re-circulation ballot is conducted if the previous product ballot is unsuccessful and the PDG and SAC agree that the balloting process should continue. This determination is usually based on whether the PDG membership believes that a consensus can be achieved. The same rules as the initial balloting are applied but with shorter time periods and restricted commenting rules.

4.3.9.1 The Re-circulation Package

The re-circulation package that supports a subsequent product ballot will consist of the revised product being balloted, documentation of all 'Reject' and/or 'Technical' comments received in the previous product ballot and their resolution, and any additional documentation determined pertinent by the PDG. In addition, clear and concise instructions for completing the re-circulation ballot are to be provided.

4.3.9.2 The Re-Circulation Ballot Period

The ballot period for a re-circulation product ballot is 30 days.

4.3.9.3 Ballot Non-responders

Ballot group members not responding to the ballot may risk rejection from joining future ballot groups.

4.3.9.4 Ballot Recirculation - Completion, Results, and Comment Resolution

Recirculation ballots are completed, ballot results are determined, and comments are resolved as in sections 4.3.6, 4.3.7 and 4.3.8 respectively; with the following exceptions:

For a re-circulation ballot, ballot group members previously abstaining or voting to accept are only required to respond to the re-circulation ballot if their vote would change based on the changes made to the product. A 'receipt acknowledge' from initial balloters is requested so that it is assured that the balloter has received the message indicating a re-circulation balloting is in progress.

For a re-circulation ballot, ballot group members may only comment on changes that have been made to the product since the previous ballot.

4.3.10 Bringing the Process to Closure

The balloting/comment resolution/revision/re-balloting process will continue until such time that a consensus product is achieved and passes the balloting process OR the SAC, in concert with the PDG and the EXCOM, determines that it will not be possible to reach consensus and the process is halted.

In the case where a consensus product is achieved, the PDG continues the product development process for accomplishing the final product approval and circulation.

In the case where the process is halted, the community is advised. If proponents wish to attempt to resolve issues within the community and start the process again at a later time, they may.

4.3.11 Follow-On to Product Balloting Process:

When the balloting is complete, the product is now ready for final approval by the SAC and EXCOM. At this point the PDG Chair shall move to the Product Approval step of the BPDSP, as outlined in section 4.4, Step Four: Product Approval.

4.4 Step Four: Product Approval

4.4.1 Introduction

This section provides guidance for step 4 of the BPDSP, Product Approval. This section includes guidelines for drafting a Product Approval Package, guidelines for SAC review and approval, and guidance for presenting a finished product to the EXCOM as appropriate. This section explains the process used by the SAC and the EXCOM to make informed decisions on whether to approve the products as established SISO Products.

PDGs developing IEEE standards follow IEEE procedures for product approval. Upon completion of balloting and product approval under IEEE procedures, the PDG completes the PDG responsibilities under section 4.4.3.

4.4.2 Scope

In particular, this section of the BPDSP document addresses the following areas:

- Documentation of the product(s) development process (i.e., the Product Approval Package Review) for conformance with:
 - The PDG's Product Nomination
 - SISO Operating Principles
 - SISO Technical Acceptance Principles and
 - SISO Standards Principles
- Acceptance of a product by the SAC
- Approval of a product by the EXCOM

4.4.3 Product Approval Package

To enable the SAC and the EXCOM to make informed decisions on whether to approve the products from an established PDG as SISO Products, a PDG's officers shall submit the balloted product(s) and supporting material to the SAC. The SAC reviews these materials to ensure that the proposed products were developed in accordance with the PDG's charter and SISO's product development procedures, are technically acceptable and editorially correct, and that the products are in harmony with the operating principles of SISO. This section defines the requirements for what a Product Approval Package shall contain and the rationale for each part. The PDG Chair provides the appropriate TAD with the approval package. The TAD, optionally with the support of the PDG Chair, presents the package to the SAC for its approval. Then, if the product type requires EXCOM approval, the SAC Chair presents the Product Approval Package to the EXCOM with any SAC recommendations.

4.4.3.1 Product Approval Package Summary and Guide

The Product Approval Package shall contain a summary document available separately as a SISO Template available on the SISO website that will provide an executive summary of the PDG activities since it received its charter. The package shall include a guide for reviewing the package and locating the appropriate information or files.

4.4.3.2 Final Product

The core element of the package is the final version of the balloted product as approved by the balloting group. The balloted product shall be delivered in a format that complies with the Style and Format of SISO Documents applicable to the product type. The product shall also be provided electronically in a SAC-specified file format that allows SISO to maintain and distribute the product as required.

4.4.3.3 Product Nomination (PN)

The Product Approval Package shall include the Product Nomination. The PN is used to verify that the final product is within the scope and intent defined in the PN. Documentation of any approved PN revisions shall also be included.

4.4.3.4 Ballot Results

The Product Approval Package shall include all documentation relating to the ballot group including balancing information and response information. The Product Approval Package shall contain a compilation of the results from each balloting of the product being submitted for approval. The ballot results shall include the final tally of the accepts and rejects, all of the comments on the product, and the final resolution of all comments. (Note: A report from the SISO Comment Tracking Tool, if used, will fulfill this requirement.) Ballot group member acceptances of comment resolutions and rebuttals to unresolved reject ballots shall be included in the package.

4.4.3.5 PDG Activity Documentation

The Product Approval Package shall document the PDG's activities since the time it received its charter. Nominally, this documentation will include:

- Compilation of a complete set of minutes of all the regular PDG meeting and any salient meetings of subgroups of the PDG
- Documentation to demonstrate all legal issues related to the product have been adequately addressed
- Documentation of any trial use or testing of the product
- Documentation required support interpretation of the product.

4.4.3.6 PDG Lessons Learned

A summary description of any lessons-learned from the product development process and suggestions that would improve the process for future PDGs is encouraged.

4.4.4 SAC Review

The SAC is responsible for ensuring that the PDG conformed to the SISO Operating Principles and Technical Acceptance Principles throughout the product development process and during the balloting period.

4.4.5 Typical Review Criteria

When the SAC reviews the Product Approval Package, it will typically look for the following specific issues:

- Balloting group is balanced.
- Ballot is valid. Sufficient ballots were returned and had sufficient accepts.
- Product is within scope of the PN.
- All ballot group members were given an opportunity to see all the comments and their resolutions.
- All legal issues (e.g., patents, copyrights, intellectual property concerns) have been addressed.
- No technical or procedural oversights exist.
- Product is sufficiently mature. A prototype has been tested, if appropriate.
- Product is useful and timely.

Following the SAC approval, the EXCOM will review the entire Product Approval Package.

4.4.6 SAC Approval

The SAC is responsible for approving the product(s) developed by the PDG and recommending a final disposition of the product(s) to the EXCOM. The SAC reviews the product for its compliance with SISO operating principles and any other principles that are appropriate to the product category. The SAC will typically, but is not required to, take one of the following actions: (1) approve, (2) disapprove with cause, or (3) defer pending further action.

Once the SAC has received the Product Approval Package, it will require some time to review the product and the supporting documentation. Depending on the size of the package and how involved the SAC members were in the PDG, this review may take 4-6 weeks. Regardless of how long it takes the SAC to review the product, the SAC will respond to the PDG with disposition of the product within 30 days of its submission to the SAC. If the Product Approval Package is too large for the SAC to review and decide on the final disposition in this 30-day window, the SAC will provide a date for the final approval decision with a deferred decision.

During this approval process, the SAC Chair is responsible for keeping the EXCOM informed of the progress of the products through the development, balloting, and SAC approval. Once the SAC has approved the Product Approval Package and any SAC issues have been addressed, the SAC forwards the approval package to the EXCOM for final approval as a SISO Product.

If the SAC should reject the balloted product for any reason, the PDG has two options: fix the issue(s) that caused the SAC to reject the product, or appeal the SAC's decision. Typically, the SAC will provide feedback to the PDG via the TAD if they detect any problems that would prevent approval of the product(s). If the solution to the SAC's problem requires substantial changes to the balloted product, the PDG shall reballot the product. If the PDG believes that the SAC acted in a manner contrary to SISO policies, it may appeal the SAC's decision to the Appeal Board. The appeals process is described in the SISO Policies & Procedures, Section 3.8. Generally, the PDG and SAC can avoid a product being rejected by ensuring that regular, open communication exists between the two groups.

4.4.7 EXCOM Approval

The EXCOM is responsible for final approval of all products that will carry the SISO label. In this role, the EXCOM validates that the SAC's approval was given in accordance with the SISO P&P, and that the product does not conflict with SISO operations as a standards organization or as a not-for-profit organization.

4.4.8 Establishment of Product Support Group

All SISO balloted products or SISO sponsored balloted products shall have a Product Support Group established to support the product once approved. If an appropriate PSG does not exist, the PDG and the TAD shall develop a Terms of Reference (TOR) to establish a PSG and submit the TOR to the SAC for approval. If an appropriate PSG exists, the PDG Chair and TAD shall coordinate with the PSG Chair and TAD to review and revise, if necessary, the existing TOR and transfer responsibility for the product to the PSG upon approval. If necessary, the PDG Chair and TAD shall solicit volunteers from the PDG to join the gaining PSG to allow for continuity.

4.4.9 Follow-On to Product Approval

Now that the SISO Product is approved, it is ready for distribution to the SISO community. The SAC Chair should forward the approved SISO Product to the SISO Support Contractor for distribution and to the gaining PSG for product support as outlined in section 4.5, Step Five: Interpretation, Distribution and Configuration Management.

4.5 Step Five: Interpretation, Distribution and Configuration Management

4.5.1 Introduction

This section describes step 5 of the BPDSP, Interpretation, Distribution and Configuration Management. Step 5 of the BPDSP process will be managed by a SISO Product Support Group under direction from the SAC. SISO Product Support Groups (PSGs) shall conduct business in an open environment as specified in the Policies and Procedures, section 2, General Operating Principles for SISO).

4.5.2 Scope

This section provides guidance for the product support of a SISO product after the product has been produced. A PSG may support several related products, both IEEE and SISO-only products. A PSG may exist concurrently with a PDG developing a new version of the product as a means of providing support for existing versions of the product. In particular, this section addresses the following areas:

- The PSG Organization,
- PSG Operating Guidelines, and
- Product Support Activities.

4.5.3 PSG Organization

A PSG organization supports SISO approved products by providing continuity for the product once the product has been approved as well as a support forum for developers and users of the product. The PSG organization should include a PSG Chair, Vice Chair and Secretary selected from the members of the PSG and approved by the SAC. Since the PSG is not developing a balloted product, the PSG organization and operation have less stringent requirements than a PDG.

4.5.3.1 PSG Chair

The PSG Chair shall be elected by a popular vote (simple majority of members voting) of the PSG membership to lead the product support activity. The PSG Chair shall plan and conduct PSG meetings and provide primary oversight for product support activities. The PSG Chair appoints PSG members to any subgroup(s) formed under the PSG. The PSG Chair coordinates PSG meetings, issues calls for votes, and mediates disagreements. Above all, it is the PSG Chair's responsibility to achieve and maintain broad consensus within the PSG during the life cycle of the product(s). The PSG Chair also has to ensure that the group is in conformance with the SISO General Operating Principles during the product support process as appropriate.

4.5.3.2 PSG Vice Chair

The PSG Vice Chair shall be elected by a popular vote (simple majority of members voting) of the PSG membership. The PSG Vice Chair assists the Chair in obligatory activities and stands in to conduct meetings when the Chair is unable to attend. The PSG Vice Chair provides continuity in the event the Chair resigns.

4.5.3.3 PSG Secretary

The PSG should elect a secretary to maintain the records of the PSG. If elected, the Secretary shall be elected by a popular vote (simple majority of members voting) of the PSG membership. If elected, the Secretary works in concert with the PSG Chair and Vice Chair to document the activities of the PSG meetings. If need be, the PSG Secretary will step in for the PSG Chair when neither the Chair nor the Vice Chair is able to lead the meeting. The PSG Secretary is also responsible for compiling minutes at face-to-face meetings and during teleconferences. The PSG Secretary may also consolidate discussions

from time to time, for example when preparing summations in preparation for a vote of the PSG. If a secretary is not elected, the Chair or Vice Chair is responsible for maintaining the records of the PSG.

4.5.3.4 PSG Membership

All PSG members shall be SISO members. All PSG members shall disclose their affiliation upon registration and shall update their affiliation with the PSG Secretary when any change in affiliation occurs. Only SISO members with completed affiliation information will be allowed voting rights in a PSG.

A PSG may establish additional membership requirements with approval from the SAC.

4.5.3.5 PSG Technical Area Director (TAD)

The TAD is the SAC representative on the PSG. The TAD monitors PSG activities to determine if they meet SISO policy, product support requirements, and SAC directives. When necessary, the TAD is responsible to reprimand PSG officers or members for failing to meet SISO policy and procedures, and for elevating concerns about such failures to the SAC. The TAD serves as the liaison between the SAC and the PSG and often serves as a proponent of the PSG and its products to the SAC. The TAD is in the best position to make recommendations to the SAC on PSG requests for advice, direction, interpretations, etc., and is the conduit for the SAC to communicate with the PSG. The selection of the TAD is at the SAC's sole discretion. However, if the dynamics between the selected TAD and the PSG membership become negative, then the PSG Chair shall approach the SAC about resolving the situation by appointing a different TAD. The chair may yield the chair position, if so conflicted (ref. 4.2.3.1), thus allowing a vice chair or appointed group member take this issue to the SAC.

4.5.4 PSG Operating Guidelines

A SISO PSG shall execute the following tasking:

1. Establish and maintain a process to respond to questions (requests for interpretation) concerning the language used in the standard, the intention or result meant by a particular action, or an explanation of the reasons behind what the standard says. Interpretations for SISO Sponsored IEEE products shall be forwarded through the SAC.
2. Establish and maintain a Help Desk function using the SISO provided discussion board to answer questions and provide support to the community.
3. Establish and maintain a Problem/Change Request process to collect problems and change requests from the community. Conduct analysis and refinement of submitted problems and change requests.
4. When the PSG is operating in parallel with a PDG developing a revision to a product, forward refined PCRs to the PDG for use in revision development.
5. Maintain liaison with related Conference Forums, related PDGs, related PSGs, and related SGs.
6. When allowed by the Terms of Reference, identify, create, and maintain SISO reference products relating to the balloted products being supported.
7. Identify and create Product Nominations for additional parts or supplements.
8. Conduct periodic review and evaluation of the supported products. Prepare recommendations for reaffirmation, revision, or withdrawal.

A PSG may not change the existing product including making interpretations that change the meaning of the existing product.

4.5.4.1 PSG Kickoff Meeting

The PSG is established while the PDG is still active and has a core group of interested personnel. The PSG should conduct its first meeting to establish this product support activity before or in conjunction

with the last PDG meeting. The PDG Chair or SAC TAD will chair the kickoff meeting through the election of the PSG Officers. This process should be supported by using the PSG Kickoff Slides. The interim Chair shall request all attendees desiring PSG membership to complete a roster that will be used to populate the PSG discussion. The attendees who complete this roster shall be considered members of the PSG. The purpose of the kick-off meeting is to:

- Elect a Chair.
- Elect a Vice Chair.
- Elect a Secretary (when desired)
- Determine the approach and scheduling for meeting the PSG responsibilities.

The PSG shall submit the following to the SAC:

- Names of Chair, Vice Chair, and Secretary,
- Unique support requirements beyond SISO Web-board and Tele-conference support.

If changes are required to the PSG leadership after they are initially formed, the PSG shall submit those changes to the SAC.

4.5.4.2 PSG Meeting Conduct

The most important tasks of a PSG Chair include ensuring that meetings run smoothly, and that the rights of all PSG members are protected. This means the Chair shall be fair and impartial. It is the PSG Chair's role to make certain that everyone has an opportunity to voice his/her opinions on a subject and to avoid having one speaker dominate a discussion. At the same time, the Chair should do all he/she can to move a meeting forward.

A PSG shall resolve issues in a manner that attempts to address as many concerns as technically possible. However, complete consensus is difficult to reach. Therefore, each PSG shall follow the PSG Voting rules identified in section 4.5.5. A PSG may request modifications of this approach subject to SAC approval.

Any issues that require a response from the SAC shall be communicated to the TAD immediately, with a suspense date of at least 20 working days (to allow for a coordinated SAC response). All proceedings from the PSG meetings (to include electronic correspondence) shall be, at a minimum, placed on the PSG discussion.

PSGs are strongly encouraged to make maximum use of teleconference or discussion formats and minimize the requirement for meeting space at Simulation Interoperability Workshops.

PSG meetings shall be accessible to all SISO members and locations should be chosen with consideration to all. Prior to scheduling PSG meetings at venues other than Simulation Interoperability Workshops, the PSG Chair and TAD shall ascertain the projected attendance from the PSG membership (either face-to-face or via teleconference if available) and determine if the projected attendance meets the SISO Operating Principle of Openness.

PSG meetings shall be arranged far enough in advance to allow all interested parties to attend. This is particularly important for face-to-face meetings, where travel arrangements have to be made. The PSG Chair will announce face-to-face meetings a minimum of 30 days in advance. The PSG Chair will announce teleconferences a minimum of 5 working days in advance. Email notice via discussion will be the primary means for providing notice of all meetings.

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The Chair shall make every effort to select the most cost-effective format for each meeting. Sponsorship should be sought to provide facilities for meetings, typically from the employers of PSG members. Such a sponsoring organization can provide meeting rooms and save the cost they would otherwise incur in travel for their workers. Other arrangements may be necessary, but specific approval of the EXCOM shall be received before meeting arrangements incurring costs to SISO are made.

The PSG Secretary shall identify all current PSG members attending each meeting and shall provide a roster for new attendees desiring to become members to complete. This roster will be used to subscribe the new members on the PSG Discussion. The PSG shall convey, by vote, immediate voting rights to new members prior to conducting business.

Each PSG meeting shall have an agenda. The following agenda is offered as an example:

- Call to order.
- Disclosure of affiliation (for teleconference meetings)
- Mandatory intellectual property slides
- Approve minutes of last meeting.
- Approve agenda (any new business added here).
- Technical Business.
- Next meeting (announce date, time, and location, if known).
- Adjournment.

A PSG officer or member shall take minutes at every PSG meeting. The minutes shall include at a minimum the following items:

- Name of group.
- Date and location of meeting.
- Presiding Officer, including the name of the secretary who wrote the minutes.
- Attendance (especially important when voting is to occur).
- Call to order, Chair's remarks.
- Approval of minutes of previous meeting.
- Agenda.
- Technical topics.
 - Brief summary of discussion, pros and cons, and conclusions (Do not include names, except for those who move and second motions unless an all-call vote is ordered).
 - Motions with name of those who move and second the motions.
 - Actions items with name of responsible person(s) and due date.
 - Copies of handouts.
- Next meeting--date and location.

4.5.5 PSG Voting Rules

This section addresses the voting requirements used in the support of a product.

4.5.5.1 Voting

SISO Product support is conducted through a consensus building process. All PSG members shall be eligible to vote. The PSGs shall use the voting process defined in the following paragraph.

4.5.5.2 Face-to-face and Teleconference Voting

At face-to-face meetings and teleconferences, all PSG members present are eligible to vote. A minimum of a five-person quorum is required to conduct a vote. A 75% consensus of members voting (Yes or No; an abstention does not count as a vote) is required to approve a motion in a face-to-face meeting or teleconference. If a 75% consensus cannot be reached, the issue is moved to an electronic vote. If fewer than 67% of the members present vote (Yes or No; an abstention does not count as a vote), the issue shall be moved to an electronic vote regardless of the outcome of the vote.

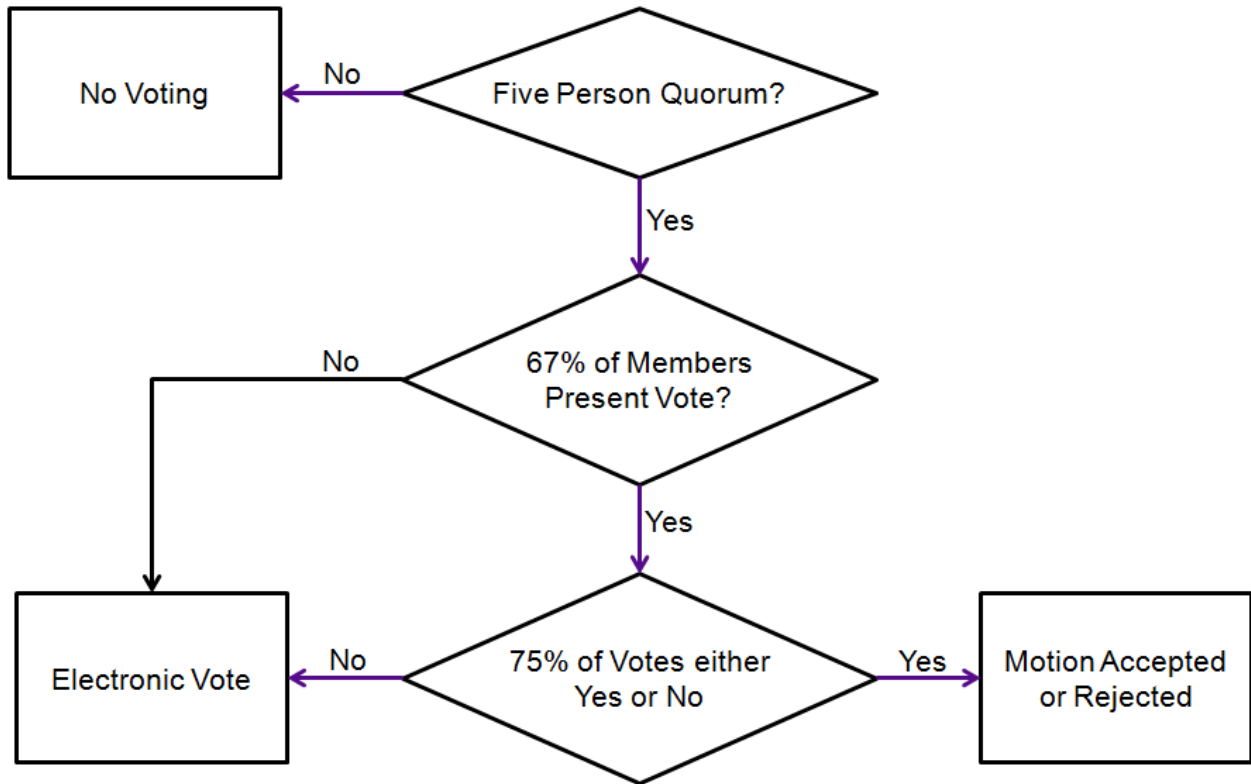


Figure 4 – PSG Face-to-Face and Teleconference Voting Rules

4.5.5.3 Electronic Vote

The PSG Secretary shall post a summary of the related discussion on the PSG discussion. After an announced period of time for discussion, an electronic vote is held to allow the complete PSG to vote on the issue. An electronic vote shall have at least five (5) voters. Electronic votes are carried by majority of votes cast. The PDG Chair may require an electronic vote on any issue. Notice of an electronic vote shall be posted at least 10 working days in advance and the voting shall remain open for 5 working days.

4.5.5.4 Recall of Face-to-Face or Teleconference vote results

Issues approved by 75% consensus at a face-to-face meeting or teleconference shall be posted to the discussion within 5 working days. Members of the PSG not present for the vote shall have 10 working days from the posting to recall the issue. Ten recall petitions shall require an electronic vote.

4.5.5.5 Officer voting

The PSG Chair, or acting PSG Chair, does not vote in face-to-face meetings or teleconferences and is not counted toward a quorum. The PSG Chair may cast the deciding vote in electronic votes. Other PSG officers may vote in face-to-face, teleconference and electronic votes.

4.5.6 Appeals

The general operating principle of fairness requires every member of SISO have the right to appeal the actions of the SISO committees, panels, groups or their leadership.

A PSG member may appeal any decision on technical grounds if the PSG member believes the approved approach is not the best solution. Technical appeals shall be resolved at the PSG level and the action being appealed shall have occurred within 30 days of the submission of the appeal.

PSGs should make every effort to resolve procedural and ethical issues at the PSG level. Procedural and ethical issues that cannot be resolved at the PSG level shall be addressed in accordance with section 3.8 and section 4 of the SISO P&P.

4.5.7 Distribution of SISO Products

SISO Products are distributed by SISO's support contractor. Specific directions for product distribution are located on the SISO Web-Board: <http://www.sisostds.org>

4.5.8 Configuration Management

Configuration Management for approved SISO balloted products is managed by the SAC through SISO's support contractor. Support contractor staff work with SISO product developers and SISO committees to assign product numbers, store products in an electronic library, provide web space for access, and may provide editing and publishing services as required by SISO.

4.5.9 Development of Supplements to SISO Balloted Products

Supplements are substantive additions to existing SISO products and may, in addition, contain minor typographical corrections. The PSG will determine the need for any supplements. Since a supplement is an independent product, it is processed with a separate PN, developed by a PDG and balloted independently in accordance with the requirements of these procedures. The approved supplement to a SISO product is incorporated into the SISO product at the earliest full revision of the product. The existence of a supplement to a balloted product requires a recommendation for a product revision at the first scheduled periodic review. Supplements shall not be used to interpret or change the meaning of any portion of the basic product.

If the SISO product is older than two years, then only two supplements are approved before the document is revised. A request for an exception to add more than two supplements may be made to the SAC and requires EXCOM approval. Supplements to SISO products are considered SISO products and can be changed according to the process defined in the Policies and Procedures.

NOTE: When a document is withdrawn, its supplements are also withdrawn unless otherwise determined by the committee considering the withdrawal of the SISO Product associated with the supplement.

4.5.10 Revisions of SISO Products

There are primarily two types of changes that result in the revision of a SISO Product: a minor change and a major change. Minor changes include correcting typographical errors, making minor table modifications, and other changes that are editorial in nature and do not change the scope of the document. SISO balloted products are not subject to making minor changes outside the product revision process. Minor typographical or editorial changes may be included in a balloted supplement to a SISO product.

Major changes consist of changes that are technical in nature and change the intent or scope of the product. Major changes to approved SISO Products require submittal of a Product Nomination and the completion of the six-step process shown in Figure 1.

4.6 Step Six: Periodic Review

4.6.1 Introduction

This section describes step 6 of the BPDSP, Periodic Review. This section explains the process and available mechanisms to conduct a periodic review of approved products. The purpose of this section is to ensure that there is a process and a mechanism for the periodic review of approved products with a focus on the maintenance of these products. In order to uphold the SISO operating and technical principles that are critical to the Product Development Process, it is critical that an effective maintenance process is available. This maintenance process ensures the continued credibility and integrity of the development process by maintaining the quality of a product after it is approved and published.

4.6.2 Scope

The 6th step in the Balloted Products Development and Support Process (BPDSP) includes periodic review guidelines for a recommended review schedule, procedures to address revisions, as well as the reaffirmation or withdrawal of a published product.

In particular, this BPDSP document addresses the following areas:

- Product Review
- Product Reaffirmation.
- Product Revision.
- Product Withdrawal.
- Retaining Related Files.

4.6.3 Balloted Product Periodic Review Cycle

The Product Support Group for each approved and published product will review the product every five years (at a minimum) since the date of publication. As a result of this review, one of the following decisions is made for each product:

- Reaffirm.
- Revise.
- Withdraw.

Appendix B provides formats for recommendations. The following sections describe the necessary actions to complete the review as well as the subsequent required actions based on the decision.

4.6.4 Scheduling of Periodic Reviews

The PSG shall review each product every five years at a minimum and will recommend reaffirmation, revision or withdrawal. The PSG should periodically review PCRs and interpretations. A preponderance

of PCRs or interpretations, or the existence of problem reports addressing severe shortcomings in the standard may indicate a need to initiate an out of cycle review of the product.

4.6.5 Periodic Review Actions and Criteria

4.6.5.1 Reaffirm

4.6.5.1.1 Reaffirm Criteria

- PSG believes the product continues to be useful and has value in the community AND,
- proposed changes to the product do not justify a full revision to the product AND,
- the product has not been supplemented.

4.6.5.1.2 Reaffirm Process Description

The PSG shall prepare a recommendation for reaffirmation identifying the results of the review and the reasons for recommending the reaffirmation. The SAC will publish the reaffirmation recommendation to the SISO-ADMIN discussion for a 30-day comment period. After this comment period, the recommendation for reaffirmation will be reviewed, revised and approved by the SAC, then forwarded to the EXCOM for approval. If the product is a SISO sponsored product under another standards organization, the PSG and SAC will fulfill the requirements of the standards organization for reaffirmation.

4.6.5.2 Revise

4.6.5.2.1 Revision Criteria

- PSG believes the product continues to be useful and has value in the community

AND

- the product has material that is obsolete or incorrect OR,
- major proposed changes exist and/or significant minor changes exist OR,
- the product has been supplemented

AND

- there is interest and support for the revision.

4.6.5.2.2 Process Description

The PSG shall prepare a recommendation for the revision identifying the results of the review, the reasons for recommending the revision, and submit a Product Nomination for the revised product. The SAC will publish the recommendation for revision and Product Nomination to the SISO-ADMIN discussion for a 30-day comment period. After this comment period, the recommendation for revision and product nomination will be reviewed, revised and approved by the SAC, then forwarded to the EXCOM for approval. If the product is a SISO sponsored product under another standards organization, the PSG and SAC will fulfill the requirements of the standards organization for revision.

4.6.5.3 Withdraw

4.6.5.3.1 Withdraw Criteria

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- PSG believes the product is useful and of value to the community AND,
- the product contains significant obsolete or erroneous information AND,
- there is not adequate support to revise the document,

OR

- PSG believes the product is no longer useful and of value to the community.

4.6.5.3.2 Process Description

The PSG shall prepare a recommendation for withdrawal identifying the results of the review and the reasons for recommending the withdrawal. The SAC will publish the recommendation for withdrawal to the SISO-ADMIN discussion for a 30-day comment period. After this comment period, if the reason for withdrawal is related to the lack of support for a revision, the SAC will assess the continued support for the product and determine if the process has produced enough support for a revision of the product. If so, the SAC will request the PSG work with the identified proponents to develop a recommendation for revision.

If the comment period confirms there is not support for revision, or that the product is no longer useful or has value to the community, for SISO balloted products, the SAC will form a balanced ballot group in accordance with this document to ballot the withdrawal. Any recommendation for withdrawal shall be supported by a ballot of at least 75% approval, based on a 50% ballot return from a balanced ballot group. A majority vote of the EXCOM is required to confirm a withdrawal. When a document is withdrawn, its parts are also withdrawn.

If the product is a SISO sponsored product under another standards organization, the PSG and SAC will fulfill the requirements of the standards organization for withdrawal.

4.6.6 Information Retention

4.6.6.1 Types of Information

Information collected while administering the periodic review process to reaffirm, revise or withdraw a product shall be captured, retained and closely associated with the appropriate product. The following are potential sources of this information:

- Periodic Product Review Schedule.
- Log of issues (resolved and unresolved).
- Meeting minutes and attachments.
- Technical input resulting in a revision to the standard.
- Draft revisions and correspondence.
- Correspondence produced by the committee.
- Ballot summaries, comments, resolutions and related correspondence.

4.6.6.2 Retention Process

In coordination and compliance with the Configuration Management procedures in step 5 of the BPDSP, all new or revised product documents collected as a result of the periodic review process shall be retained and managed.

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The method used for this retention process should follow the method used to collect and store documents and artifacts from the following:

- Balloted Product Development Process in step 2 of the BPDSP.
- Product Balloting Process in step 3 of the BPDSP.
- Balloted Product Approval Process in step 4 of BPDSP.

Additional information collected in this periodic review process shall also be retained.

Appendix A: SISO Problem/Change Request (PCR)

Block 1. <i>Submitters may include a proposed title and suggested category. Leave the other Block 1 fields blank.</i>			
PCR Title:		PCR No: <i>leave blank</i>	
Category:	Cat Name:	Priority: <i>leave blank</i>	Status: Open-FA
Purpose: This form is to be used by a person submitting a problem, clarification or proposed change related to a SISO or SISO sponsored balloted product. It will also be used to provide the draft document changes for initial review. Refer to the <i>PCR Form Submittal Instructions</i> .			
Block 2. General Information			
Submitter:		Date:	Phone:
Email:		Phone 2 (DSN/Cell):	
Affiliation:		Submitter Willing To Be Lead Analyst:	
Present Lead Analyst:		Email:	
Associated Analysts Names:		Email:	
Source: <i>(Use "X" for all that apply)</i> Review: Exp: Test: AAR: Spec: Other:			
Type Request: <i>(Use "X" for all that apply)</i>			
Problem ___ Change To Product ___ Clarification ___ Question ___ Other ___			
Document References: <i>(if applicable or know. . Use block 7 continuation if needed.)</i>			
<u>Document Name</u>	<u>Doc No.</u>	<u>Page</u>	<u>Paragraph</u>
Additional Points of Contact:			
Name:		Email:	
Block 3. Technical Information			
a. Problem/Change Request Description:			
b. Analysis of Problem			
c. Recommended Action <i>If this includes changes to a document, list the wording changes in Block 8. A brief summary of the paragraphs changed and rationale may be provided here.</i>			

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PCR Nbr:	Page 2
Block 4. Impact Analysis	
Block 5. Impacts on other standards or products	
Block 6. PCR Action History	
Record actions taken and progress of discussions and review, dates of messages related to a discussion of this PCR on the Discussion, or inclusive Discussion dates if too many.	
Date	Action
continue on additional sheets as needed	
Block 7. Continuation	
Submitter or Lead analyst may add additional details for any block here, as well as, use attachments. Include Block number and any sub-block titles.	
Block 8. Approved Changes to Documentation	
Draft __ Final __ Date:	
Include the Document Number, specific document insertion points (usually paragraph numbers) and the exact wording of the changes. Continue on addition sheets as needed. Block 8 changes may be contained as an attachment to this PCR. If provided as an attachment to this PCR, the following information shall be provided at the top of each page. Indicate Draft or Final and date.	
Block 8 Attachment - PCR XXX Draft/Final, Date, Document Name, Attachment Page Number	
Example:	
Block 8 Attachment - PCR 068A Draft 21 Apr 05 IEEE 1278.1 Page 1	

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SISO Problem/Change Request Form - Instructions

<i>These instructions are for use in completing the Problem/Change Request (PCR) Form. Complete the form and submit it to the Product Support Group as an attachment to a new topic.</i>	
Blocks 1	Instructions
PCR Title	Enter a Proposed Title for this PCR.
PCR No.	Submitter- Leave this field blank.
Priority	Submitter- Leave this field blank.
Status	Open-For Analysis (FA) is automatically assigned to new PCRs.
Block 2	General Information
Submitter	Name of person submitting form
Date	Date form was completed
Phone	Submitter's commercial phone number.
Email	Submitter's email.
Phone 2 (DSN/Cell)	Submitter's additional phone numbers. Please indicate if DSN (U.S. DoD) or cell.
Affiliation	Submitter's affiliation as recorded in the PSG roster.
Willing to be Lead Analyst	If you also want to be the lead analyst for this PCR enter "Yes". If not, enter "No".
Present Lead Analyst	Leave blank or enter name if you are willing to be lead analyst.
Lead Analyst email	Leave blank or enter email address if you are willing to be lead analyst.
Supporting Analysts	Leave blank or enter names of people who are going to work on this PCR or enter the name of a Tiger team that is going to work on this PCR.
Source	Indicate whether this PCR is based on all that apply: Standards (Review), Simulation experience (Exp), Integration testing (Test), After Action Review (AAR), a specification for an existing or future simulation application (Spec), or other (Other).
Type Request	Problem, Change, Clarification, Question, Other.
Applicable Documents	Include, as a minimum, the document name. If a <i>Clarification</i> or <i>Question</i> , please include the paragraph number(s) as well. Page numbers are optional as they vary with electronic versions. You may list any non-proprietary documents that could be made available that are related to this PCR. If there is an electronic version of the document that is freely releasable, you may include it as an attachment to your email or indicate how it may be obtained. If it is a <i>For Official Use Only (FOUO)</i> document, note that designation even though it cannot be included as an attachment.
Additional Points of Contact	Add any other people that have knowledge of this problem or change request.

Block 3	Technical Information
Problem/Change Request Description	A problem is a technical deficiency with an existing product or draft product. A change is a requirement for a new capability not currently addressed by the existing product or draft. Describe the problem or change request. For a change request, explain why the change is needed. Provide whatever level of detail you have available.
Analysis of Problem /Change	As a submitter, you can leave this section blank. However, if you are familiar with the problem and have some comments, ideas, or have done an analysis, go ahead and include it. The same is true for a change request. <i>Use Block 5 Continuation.</i>
Recommended Action	As a submitter, you can leave this section blank. However, if you are familiar with the problem and have some comments, ideas, or have done an initial analysis, go ahead and include it. You may include specific wording changes, additions and deletions to the applicable IEEE 1278 document(s) as part of the form or as a separate document.

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Block 4. Impact Analysis
This block will be completed as part of the analysis and may be left blank for an initial submission or may be filled in, if known.
Block 5. Impacts on other standards or products
This block will be completed as part of the analysis and may be left blank or filled in, if initial analysis has been performed.
Block 6. PCR Action History
Submitter - leave blank. This will be used by the lead analyst to document actions taken on the PCR.
Block 7. Continuation
Use as needed either by the submitter or lead analyst to continue any block of this form.
Block 8. Changes To Documentation Draft __ Final __ Date:
Include the Document Number, specific document insertion points (usually paragraph numbers) and the exact wording of the changes. Continue on addition sheets as needed. This section contains the final approved changes only.

Appendix B: Product Review Decision Matrix and Recommendation Templates

The following are the formats for the recommendations required from a periodic review of a product. The responsible Product Support Group or SAC assigned review committee shall review the product and provide the SAC one of the following recommendations for the product.

Recommendation for Reaffirmation

Product Number:

Product Name:

Product Date:

Product Support Group:

Description of the Product Review Process:

Describe the continued usefulness of the product and its value to the community:

Describe the status, currency, and technical accuracy of the product:

Summarize the justification for the recommendation:

Recommendation for Revision

Product Number:

Product Name:

Product Date:

Product Support Group:

Description of the Product Review Process:

Describe the continued usefulness of the product and its value to the community:

Describe the status, currency, and technical accuracy of the product:

Summarize the justification for the recommendation:

Attach Product Nomination

Recommendation for Withdrawal

Product Number:

Product Name:

Product Date:

Product Support Group:

Description of the Product Review Process:

Describe the continued usefulness of the product and its value to the community:

Describe the status, currency, and technical accuracy of the product:

Summarize the justification for the recommendation:

Appendix C: Glossary of Terms

The following terms and acronyms are used throughout this document, with the following meanings:

Affiliation	A group member's primary employer, parent corporation/ prime contractor, sponsoring agency, and program/ product
BPDSP	Balloted Product Development and Support Process.
BRG	Ballot Review Group
CC	Conference Committee. The element of SISO responsible for developing and presenting Simulation Interoperability Workshops throughout the year.
DG	Drafting Group. The editorial team that develops and evolves the text and figures in the standard.
EXCOM	Executive Committee. The element of SISO responsible for policy and control of the CC and the SAC.
IEEE	Institute for Electrical and Electronics Engineers. The IEEE is a professional society that also has an affiliated standards organization that develops international standards in a manner similar to SISO's.
P&P	Policies and Procedures.
PCR	Problem/Change Request
PDG	Product Development Group. The SISO-chartered group tasked to develop a standard or other balloted product. The PDG provides a balanced representation of the community for a product nomination and development.
PN	Product Nomination. The SISO form that defines the scope of a standards proposal, the community members available to develop it, and the need it satisfies.
PSG	Product Support Group. The SISO-chartered group tasked with providing support to an existing standard or other balloted or unballoted products.
SAC	Standards Activity Committee. The element of SISO responsible for developing the processes, procedures, and guidelines for standards development.
SISO	Simulation Interoperability Standards Organization. SISO is a public, charitable organization (IRS 503(c)) that encourages the development of interoperable simulations through discussion of technology standards. SISO has three elements: the EXCOM, the CC, and the SAC.
TAD	Technical Area Director. A member of the SAC assigned to each PDG to provide a communications channel for issues and resolutions. The TAD is responsible for guiding the PDG within the bounds of SISO policy and representing the PDG's progress and issues before the elements of SISO.