



**FIELDCOMM GROUP™**

*Connecting the World of  
Process Automation*

**Technical Development**

**FCG PD10014  
Edition 1.0  
12 May 2017  
RELEASED**

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## 1 Scope

This document covers the policies for developing technical content by FieldComm Group Working Groups. Working Group specific policies are specified in PD10013.

## 2 Normative References

The following documents, in whole or in part, are normatively referenced in this document and are indispensable for its application. For dated references, only the edition cited applies. For undated references, the latest edition of the referenced document (including any amendments) applies.

FCG PD10016, *Intellectual Property Policy*, FieldComm Group

FCG PD10013, *Working Groups*, FieldComm Group

## 3 Terms, definitions, abbreviated terms and acronyms

### 3.1 Terms and definitions

#### 3.1.1 Technical specification

Document with normative set of requirements for an item, material, component, system or service

#### 3.1.2 Test specification

Document containing a set of test data, preconditions, expected results and post-conditions, developed for a particular test scenario in order to verify compliance against technical specification normative requirements

## 4 Technical development overview

Working Groups produce a variety of internal and external technical content. This policy covers the development of technical specifications and test specifications. All other technical documents shall follow industry standard best practices as determined by the Technology Director.

Since FieldComm Group is a merging of existing standards organizations, technical development has occurred prior to this policy. The Technology Director shall determine how to transfer those existing technical documents into this new policy.

## 5 Technical specification development

### 5.1 Scope

As a standards developing organization, a key technical document is the Technical Specification. A Technical Specification introduces mandatory technical requirements (e.g. SHALL, MUST, SHALL NOT) to a product developed according to that specification.

Technical Specifications may define product requirements in the form of test cases. In this case, this document is a Technical Specification and subject to the policies in clause 5.

Technology groups may also provide registry type documents that supplement technical specifications. (e.g. common tables). These tables are updated more frequently to address the needs of industry. These registry documents are not subject to the policies in clause 5.

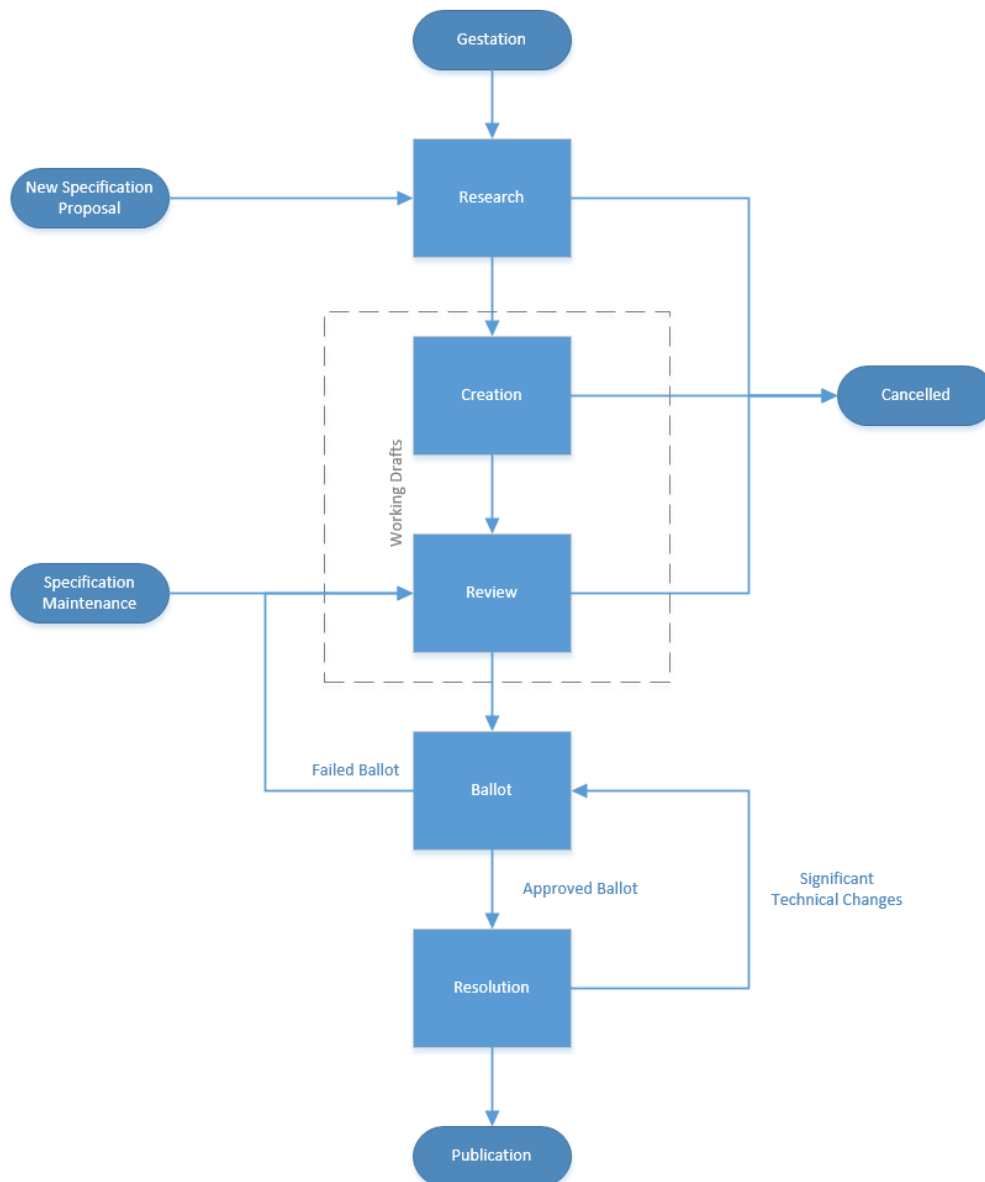
### 5.2 Technical specification process model

FieldComm Group uses a project based approach for developing high quality, market relevant technical specifications.

New technical specifications can originate from a variety of sources with FieldComm Group. Within the FieldComm Group Work Groups, member delegates can bring new ideas from their member companies, collaborate with their working group peers and identify new areas of standardization. The open polices of FieldComm Group’s Working Groups promotes this idea of “bottom up” organic growth to develop new technical standards.

New technical specification may also be charted by the Board of Directors/Strategic Technology Committee. In this “top down” case, the necessary Working Groups are chartered to develop the proposed technical specification.

Figure 1 illustrates the phases of the technical specification development process.



**Figure 1 - Technical specification development process**

### **5.3 Initiating a technical specification project**

#### **5.3.1 New technical specification proposal**

FieldComm Group Board of Directors/Strategic Technology Committee may charter new technical specifications. The new technical specification shall be assigned to a Working Group and shall begin in the research phase.

#### **5.3.2 Working Group gestation**

Gestation occurs when a delegate brings new specification proposal to a working group. The gestation period allows the members of a working group to recommend new technical specifications and determine if there is sufficient interest to begin a new technical specification.

A new technical development project begins at the research phase when the following requirements are met:

- The Working Group shall produce a document defining the scope and purpose of the new technical specification.
- The proposed technical specification shall be within the scope of the Working Group. If the Technical Specification involved more than one Working Group, the scope and boundaries for each group shall be defined.
- The Change Control Committee shall verify the proposed Technical Specification does not conflict with other Working Group activities.
- The Technology Directory, with collaboration of the Strategic Technology Committee, shall confirm the proposed technical specification is consistent with the FieldComm Group's technology strategy.
- The President and CEO shall approve the initiation of a new technical specification project.

#### **5.3.3 Specification maintenance**

After the formal publication, a technical specification is eligible to begin a maintenance cycle. The maintenance cycle may include editorial and technical changes.

A new technical specification maintenance project begins at the Review phase when the following requirements are met:

- The Working Group chair shall prepare a report documenting the intended scope of the next edition of the technical specification.
- The Technical Director shall verify the intended scope is within the maintenance of the existing document or if a new technical specification project is required.
- The President and CEO shall approve the initiation of a new technical specification project.

### **5.4 Technical specification project phases**

#### **5.5 Research**

##### **5.5.1 Purpose**

The research phase is intended to determine the business case for FieldComm Group to move forward with a new technical specification development.

##### **5.5.2 Activities**

The technology director in collaboration with the Working Group chairperson shall define the explicit requirements necessary for the completion of the research phase.

A technical specification project shall complete the research phase within 1 year of initiation or the project shall be cancelled unless an extension is granted by the Technology Director. The Technical Director may grant a time extension of up to 1 additional year.

A technical specification project in the research phase may be cancelled at any time with unanimous consent by the Technology Director, Working Group Chairman and President and CEO. Technical specifications that are charted by the Board of Directors shall also require board approval to cancel a technical specification project.

### **5.5.3 Success criteria**

The research phase is considered complete and shall transition to the creation phase when the following requirements are met:

- The Working Group shall produce a use case/requirements document.
- The Working Group Chairperson shall produce a project plan for the new Technical Specification project that includes:
  - Estimated project schedule
  - Assigned editors
  - Required resources or tools
  - Required subject matter experts
  - Project group creation
  - Anticipated meeting requirements (online and face-to face)
- The Technical Director shall produce a technology roadmap that includes:
  - New tools or impact to existing tools required to support the new proposed technical specification
  - Cost estimates and development forecast.
  - Registration program requirements
- The Change Control Committee shall verify that new proposed technical specification project does not conflict with other working group activities.
- The President and CEO shall approve the anticipated project expenses.

FieldComm Group shall notify the membership of the new proposed Technical Specification project and invite participation. FieldComm Group shall register document number(s) to the preliminary technical specification.

## **5.6 Creation**

### **5.6.1 Purpose**

The creation phase begins the drafting of preliminary technical specifications.

### **5.6.2 Activities**

During the creation phase, Working Groups shall produce preliminary copies of the preliminary technical specification. Many of these first drafts will be incomplete, so structured change management is not required during this phase. Working preliminary copies of the preliminary technical specification shall be made available to active participants of the assigned working group. The Working Group chairperson may choose to make preliminary versions available to the general membership for comment.

It is anticipated that during the creation phase, additional clarifications, changes or enhancements may be needed to the use case and requirements, project plans or technology roadmaps developed during the Research Phase.



All changes to these key documents shall be produced using a documented change tracking procedure. Significant changes, as determined by the Technology Director, require formal approval according to 5.5.5.3.

A technical specification project in the creation phase may be cancelled at any time with unanimous consent by the Technology Director, Working Group Chairman and President and CEO. Technical specifications that are charted by the Board of Directors shall also require board approval to cancel a technical specification project.

### **5.6.3 Success criteria**

The creation phase is considered complete and shall transition to the review phase when the following requirements are met:

- Working Group has produced a functionally complete version of the preliminary technical specification
- The preliminary technical specification shall be within the scope as defined by the use cases and requirements.
- The Technology Director shall approve the completeness of the preliminary technical specification.

## **5.7 Review**

### **5.7.1 Purpose**

The review phase is intended to improve the quality of the preliminary technical specification through validation and produce a document ready for a membership approval ballot.

### **5.7.2 Activities**

As with the creation phase, several preliminary technical specification drafts are produced during the Review phase. However, unlike the creation phase, all changes to the preliminary technical specification shall be made in accordance to a documented change control procedure.

The technology director along with the Working Group Chairperson shall determine the appropriate effort necessary to validate the preliminary specification. This may include:

- Expert inspection by a third party
- Complete or partial prototyping
- Complete or partial test case development

A technical specification project in the review phase may be cancelled at any time with unanimous consent by the Technology Director, Working Group Chairman and President and CEO.

### **5.7.3 Success criteria**

The review phase is considered complete and shall transition to the ballot phase when the following requirements are met:

- The technical content of the preliminary technical specification is complete.
- The Working Group chairperson produces a completed validation report that is approved by the Technical Director
- The Working Group chairperson reports there is consensus from the working group that the preliminary technical specification is ready for ballot.
- The Technology Director recommends the document is ready for ballot.
- The Change Control Committee audits the technical development process and verifies the preliminary technical specification is ready for a ballot.

## **5.8 Ballot**

### **5.8.1 Purpose**

The ballot phase seeks formal approval by the membership of a preliminary Technical Specification and solicits members to identify any known intellectual property issues per FCG PD10016.

### **5.8.2 Activities**

FieldComm Group shall notify all members on the intent to publish a ballot of a proposed technical specification. This notice shall include:

- Scope and purpose of the preliminary technical specification
- If this is a new edition to a prior released technical specification, a summary list of changes found in the new preliminary technical specification.
- Ballot start and completion date

Each member in good standing is permitted to cast one vote for a proposed technical specification.

To achieve quorum, at least 50% of the participating members in good standing from the working group that produced the proposed technical specification shall participate in the approval ballot process and cast a vote (including abstentions). A member is considered participating if a member delegate has accessed FieldComm Group Workspace within 12 months of the start of an approval ballot. For example, downloading a copy of meeting minutes or draft specification qualifies as participating.

The ballot period shall be 60 days.

Each ballot registration is unique for a given ballot. Multiple documents can be part of a ballot, but a ballot shall apply to individual preliminary technical specifications and not a documented set.

During a ballot, the member delegates shall cast a vote: positive, negative or abstention.

A positive vote may contain comments. A negative vote must be submitted with one or more technical comments or the vote is considered invalid and shall be treated as an abstention.

Voters that register for a ballot but fail to cast a vote by the ballot completion date shall be considered a positive vote.

FieldComm Group shall publish the results of a ballot within 30 days of the close of a ballot.

### **5.8.3 Success criteria**

The ballot phase is considered complete and shall transition to the resolution phase when the following requirements are met:

- Quorum of 50% of the participating member in good standing from the working group that produced the proposed technical specification
- Two-thirds of all valid ballots cast (excluding abstention) are positive.

### **5.8.4 Failed ballot**

If a ballot fails to achieve the success criteria specified in 5.8.3, the preliminary technical specification shall return to the review phase. All technical comments shall be resolved before a new ballot can be re-submitted.

## **5.9 Resolution**

### **5.9.1 Purpose**

The resolution phase resolves the comments collected during the ballot phase and prepares the preliminary technical specification for publication.

### 5.9.2 Activities

The Working Group shall resolve technical comments with a verdict of accept, accepted in principle, rejected or deferred for a future revision. The editor of the document shall incorporate the comments into the document. Any technical change to the preliminary technical specification shall be traceable to a ballot comment.

FieldComm Group shall publish the comment resolutions.

### 5.9.3 Success criteria

The resolution phase is considered complete and shall transition to the publication phase when the following requirements are met:

- The Working Group produces a document with all comments resolved to accepted, accepted in principle, rejected or deferred.
- The editor produces a final preliminary technical specification incorporating accepted review comments.
- The Working Group chairperson reports there is consensus from the working group that the preliminary technical specification is ready for publication.
- The Technology Director recommend the document is ready for publication.
- The Change Control Committee audits the technical development process and verifies the preliminary technical specification is ready for a publication.
- There are no known intellectual properties issues preventing publication per FCG PD10016.

### 5.9.4 Significant technical changes

In the event that the comments result in significant technical changes as determined unanimous consent by the Working Group Chairperson and Technical Director, the preliminary technical specification shall repeat the ballot phase.

## 5.10 Publication

### 5.10.1 Purpose

The purpose of the publication phase is to make the approved Technical Specification available to members and the general public.

### 5.10.2 Activities

In preparing the document for publication, FieldComm Group may make minor cosmetic changes to the document, such as resolving font or style anomalies, copyright dates or other editorial issues. FieldComm Group shall not modify the technical content of the approved technical specification.

### 5.10.3 Success criteria

The publication phase is considered complete when the following requirements are met:

- The approved technical specification is published.

## 6 Test specification development

### 6.1 Scope

Test specifications are developed to verify a product is conformant to a technical specification. Test specifications draw requirements from a technical specification, and therefore do not introduce new normative technical requirements. Because the technical specification is the source of product requirements, test specifications follow a simplified development model.

### 6.2 Test specification process model

Figure 2 illustrates the phases of the test specification development process.

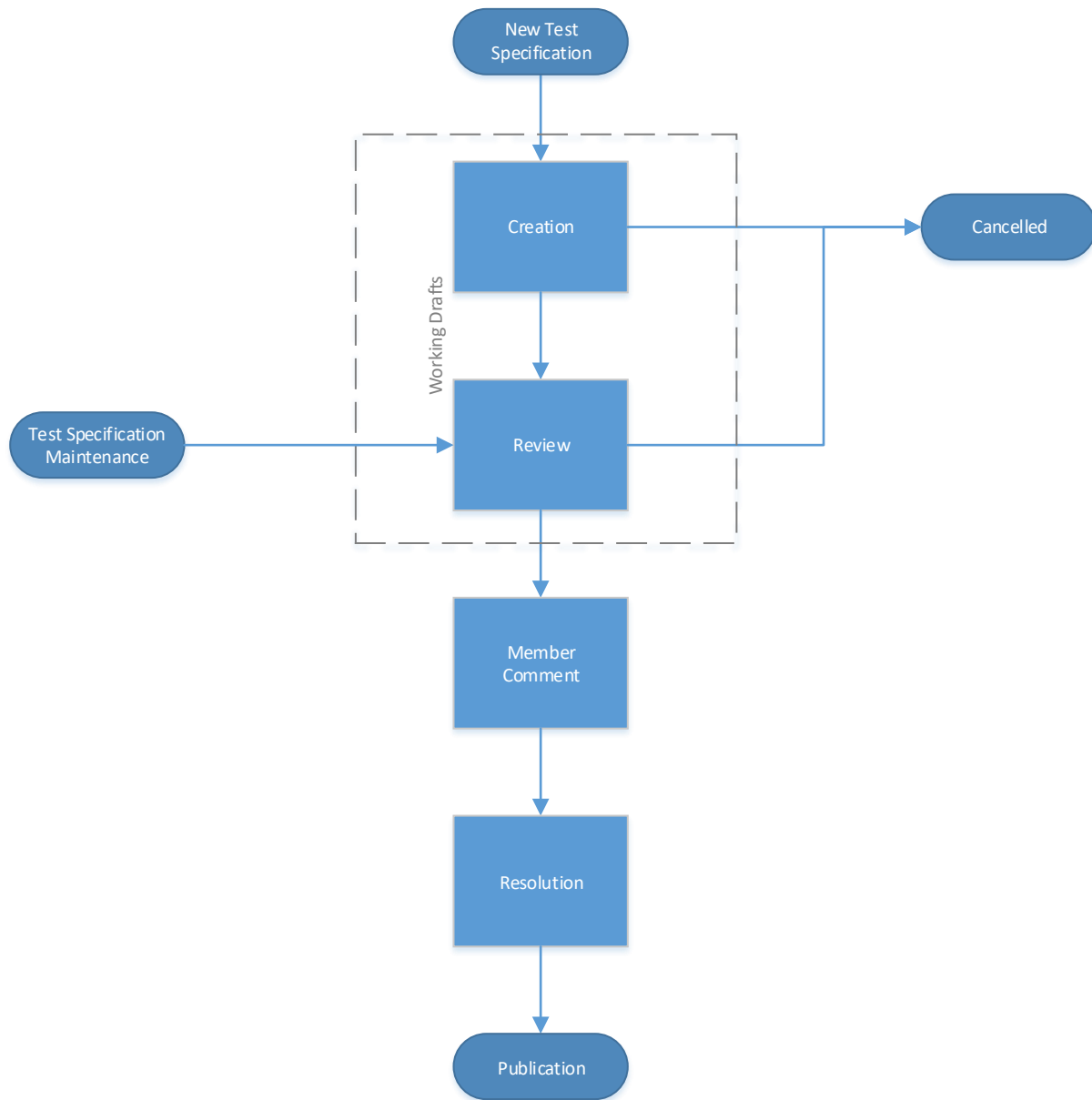


Figure 2 Test Specification Development Process

### 6.3 Initiating a test specification project

#### 6.3.1 New Test Specification

Test specifications can be initiated at any time a technical specification has started development. A test specification cannot be published before the reference technical specification has been published.

A new test specification development project begins at the creation phase when the following requirements are met:

- The Working Group shall produce a document defining the scope and purpose of the new test specification.
- The proposed new test specification shall be within the scope of the Working Group. If the Technical Specification involved more than one Working Group, the scope and boundaries for each group shall be defined.
- The Change Control Committee shall verify the proposed new test specification does not conflict with other Working Group activities.
- The President and CEO shall approve the initiation of a new test specification project.

### **6.3.2 Test specification maintenance**

After the formal publication, a test specification is eligible to begin a maintenance cycle. The maintenance cycle may include editorial and technical changes. A test specification maintenance project may also be initiated to reflect an updated Technical Speciation.

A new technical specification maintenance project begins at the Review phase when the following requirements are met:

- The Working Group chair shall prepare a report documenting the intended scope of the next edition of the test specification.
- The Technical Director shall verify the intended scope is within the maintenance of the existing document of if a new technical specification project is required.
- The President and CEO shall approve the initiation of a new technical specification project.

## **6.4 Test specification project phases**

### **6.4.1 Creation**

#### **6.4.1.1 Purpose**

The creation phase begins the drafting of preliminary test specification.

#### **6.4.1.2 Activities**

During the creation phase, Working Groups shall produce preliminary copies of the preliminary test specification. Many of these first drafts will be incomplete, so structured change management is not required during this phase. Working preliminary copies of the preliminary test specification shall be made available to active participants of the assigned working group. The Working Group chairperson may choose to make preliminary versions available to the general membership for comment.

A test specification project in the creation phase may be cancelled at any time with unanimous consent by the Technology Director, Working Group Chairman and President and CEO.

#### **6.4.1.3 Success criteria**

The creation phase is considered complete and shall transition to the review phase when the following requirements are met:

- Working Group has produced a functionally complete version of the preliminary test specification
- The preliminary test specification shall be within the scope of the referenced technical specification.
- The Technology Director shall approve the completeness of the preliminary test specification.

## **6.4.2 Review**

### **6.4.2.1 Purpose**

The review phase improves the quality of the preliminary test specification through validation and produce a document ready for a membership comment.

### **6.4.2.2 Activities**

As with the creation Phase, several preliminary test specification drafts are produced during the review phase. However, unlike the creation phase, all changes to the preliminary test specification shall be made in accordance to a documented change control procedure.

The technology director along with the Working Group Chairman shall determine the appropriate effort necessary to validate the preliminary test specification.

This may include (but not limited to):

- Expert inspection by a third party
- Complete or partial prototyping
- Test case development

A test specification project in the review phase may be cancelled at any time with unanimous consent by the Technology Director, Working Group Chairman and President and CEO.

### **6.4.2.3 Success criteria**

The review phase is considered complete and shall transition to the member comment phase when the following requirements are met.

- The Working Group chairperson produces a completed validation report that is approved by the Technical Director
- The Technology Director recommend the document is ready for member comment.
- The Working Group chairperson reports there is consensus from the working group that the preliminary technical specification is ready for member comment.

## **6.4.3 Member Comment**

### **6.4.3.1 Purpose**

The member comment phase seeks formal comments by FieldComm Group membership of a preliminary test specification.

### **6.4.3.2 Activities**

FieldComm Group shall notify all members on the intent to solicit comments on a preliminary test specification. This notice shall include:

- Scope and purpose of the preliminary test specification
- If this is a new edition to a prior released test specification, a summary list of changes found in the new preliminary technical specification.
- Member comment start and completion date

The member comment period shall be at least 30 days.

During the member comment phase, members are encouraged to review the preliminary test specification and provide comments. Comments shall be against the test specification (e.g. test setup, test methodologies, verification points) and not against the normative technical specifications that resulted in the applicable test case.

#### **6.4.3.3 Success criteria**

The Member Comment period is considered complete when the Member comment period has ended.

#### **6.4.4 Resolution**

##### **6.4.4.1 Purpose**

The Resolution phase resolves the comments collected during the member comment phase and prepares the preliminary test specification for publication.

##### **6.4.4.2 Activities**

The assigned Working Group shall resolve technical comments with a verdict of accept, accepted in principle or rejected. The editor of the document shall incorporate the comments into the document.

Any comment that is determined to be against the reference normative Technical Specification shall be rejected as out of scope.

FieldComm Group shall publish the comment resolutions in the member portal.

##### **6.4.4.3 Success criteria**

The resolution phase is considered complete and shall transition to the publication phase when the following requirements are met:

- The Working Group produces a document with all comments resolved to accepted, accepted in principle or rejected.
- The editor produces a final document incorporate accepted review comments.
- The Working Group chairperson reports there is consensus from the working group that the preliminary test specification is ready for publication.
- The Technology Director recommends the preliminary test specification is ready for publication.

#### **6.4.5 Publication**

##### **6.4.5.1 Purpose**

The purpose of the publication phase is to make the approved test specification available to members and the general public.

##### **6.4.5.2 Activities**

In preparing the document for publication, FieldComm Group may make minor cosmetic changes to the document, such as resolving fonts, copyright dates or other editorial issues. FieldComm Group shall not modify the technical content of the approved document.

##### **6.4.5.3 Success criteria**

The publication phase is considered complete when the following requirements are met:

- The test specification is published.

**Annex A  
(informative)**

**Document History**

Edition	History
1.0	Initial Release