

1 Scope

This document outlines the process for developing Standards / Recommended Practices documents and document number conventions for the Motion Imagery Standards Board (MISB) community. The intent is to: 1) define the process that begins with a recognized need for such a document through final document publication; 2) streamline the development and delivery of documentation to the community; 3) provide expertise and review of produced documents so the final product is accurate, consistent with existing MISB guidelines, and most important -- useful. Finally, the process for updating/retiring requirements is described.

2 References

- [1] EARS (Easy Approach to Requirements Syntax)", *Proceedings of the 2009 17th IEEE International Requirements Engineering Conference* Mavin, A., Wilkinson, P., Harwood, A., and Novak, M., IEEE, 2009, pp. 317-322
- [2] MISB Document Author Kit 5.0

3 Process Role Definitions

Approver	A MISB Core Team member who either approves or provides written feedback to the author(s)
Author	An expert in the given subject matter and who: leads the development of the document through approval; commits the time to produce a final document; co-operates with others to expedite the process
Technical Lead	A subject matter expert who provides technical support to the author(s) by attending TEMs, performing needed due diligence, and acts as a sounding board in the development of a document's content
Document	A Standard (ST) or Recommended Practice (RP) produced by the MISB
Reviewer	A person who commits time (generally within a two-week period of review) to provide document review and issue written feedback to the author(s)
Sponsor	A person, organization or entity who requests a new MISB document

4 Revision History

Revision	Date	Summary of Changes
7.0	2/27/2020	<ul style="list-style-type: none"> Modified content to add guidance on how to handle naming convention for editorial updates to existing documents through sub-versioning Other minor editorial changes

5 Document Development Process

5.1 Goals

- Transparency – Notify community on the status of ongoing documentation development through email.
- Consistency – Conform documents to a common format including requirements written according to the EARS [1] recommendations.
- Consensus Agreement – Approve documents through consensus of the MISB community independent of a MISB Forum: all documents reviewed at the next available MISB Forum.
- Timely – Ensure timely delivery of guidance and enable the approval/publication of documents independent of the MISB Forum cycle.
- Integration into MISP Functional Model – Align MISB documents to the MISP (Motion Imagery Standards Profile) Functional Model to facilitate uniformity, clarity and simplicity.

5.2 Document Development Process Overview

The Document Development Process is initiated by a need for new guidance in the NSG/ISR community. In the Assessment phase, such new guidance is brought to the attention of the MISB through a request by a Sponsor; that is a person, organization, or entity which desires a new Standard or Recommended Practice. A Sponsor could represent the government, commercial, or other industry source. The request is assessed on its merit, the need in the community, and the schedule and resources required for the development process. The Development phase begins with the formation of a MISB Action Team to perform relevant background research, vet various solutions, draft the document, and host one or more independent reviews. Once the Development phase is completed, the Approval phase begins with a request for the community to review the draft document. Once the community approves the draft document, the document is submitted to the NGA Architecture Standards Board (NASB) for publishing on behalf of NGA.

Figure 5-1 illustrates the Document Development process divided into three separate phases:

- Assessment
- Development
- Approval

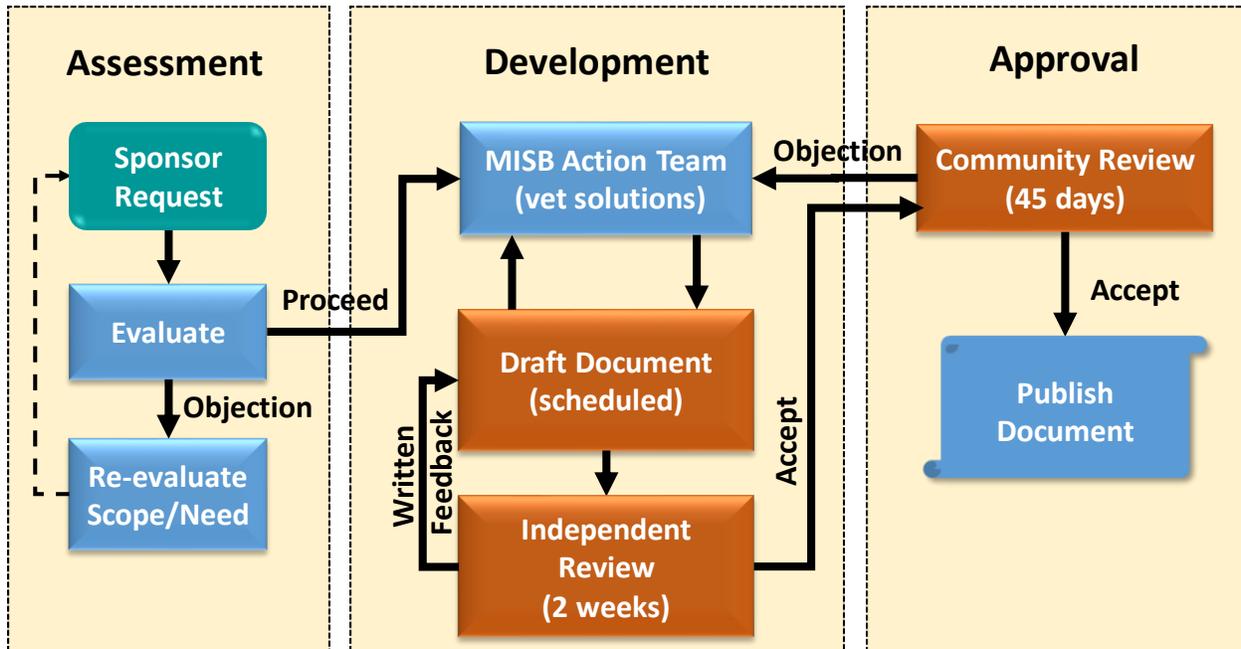


Figure 5-1: MISB Document Development Process

5.3 Roles

For the Document Development Process to function, various groups and individuals have roles and responsibilities.

5.3.1 NGA Architecture Standards Board

The NASB coordinates all standards activities taking place within NGA, addressing those standards required to achieve the desired capabilities in NGA’s systems development efforts. In addition to resolving issues related to GEOINT standards, the NASB also addresses issues related to other standards relevant to the NSG architecture, such as IT and security standards. Once the NASB approves a document, it can be officially published for use with the full backing of the GEOINT Functional Manager.

5.3.2 MISB Core Team

The MISB Core Team is directly funded by the government to lead MISB standards-related activities. The MISB Core Team first reviews and assesses a Sponsor’s request for a document as to its purpose, importance, and consistency with existing MISB standards and practices. Should the document scope be unclear, the MISB Core Team submits its concerns to the Sponsor, so a more appropriate document scope may be drafted. Once the MISB Core Team approves a request for a new document, the MISB Core Team oversees the document evolution through its various stages of development.

5.3.3 MISB

The MISB is the collective group of MISB Core Team, DoD/IC, contractors, commercial vendors, academia, and NATO partners all who have a vested interest in capability-based Motion Imagery interoperability.

5.3.4 MISB Forum

The MISB holds a MISB Forum three times per year. The MISB Forum is open to any party interested in the activities of the MISB. Documents approved prior to a MISB Forum are briefed to the community at that time. With a follow-on 45-day review & approval cycle feedback received is reviewed and documents updated as necessary. Once all documents are adjudicated, they are published to the MISB web site.

5.3.5 MISB Action Team

A MISB Action Team is an ad hoc group composed of one or more Authors and one or more Technical Leads. A MISB Core Team member assists in establishing, coordinating, and managing the MISB Action Team. The MISB Action Team is responsible for creating a document schedule, an initial draft of the document, integrating revisions based on comments and feedback, and producing a final document to be submitted to the NASB for official NGA publication. The schedule guides development activities of the MISB Action Team and oversight by the MISB Core Team to ensure the process is completed.

A document development information form created to aid in the formation of a MISB Action Team is provided in the Appendix (section 7). This form is to be submitted to the MISB Core Team for review and approval for the development of a new document.

5.3.6 Author

Once a request for a new document is approved by the MISB Core Team, it enters the Development phase. One or more Authors, who are subject matter experts in the domain of the documents content, are enlisted to author the document. In cases where there may be competing interests for the role of Author, the MISB Core Team chooses an appropriate Author. It is recommended there be a limit of three authors; this affords timely delivery of the document. Authors have the largest time commitment because they are doing most of the writing and coordinating with the technical leads.

The Author performs a key role in this process. The Author defines the document delivery schedule, initiates the document drafting cycle, manages the drafting process, and coordinates with the technical leads who serve to provide expertise and additional supporting guidance.

5.3.7 Technical Lead

A Technical Lead works in concert with the Author(s) and other Technical Lead(s) to supply the best and most accurate guidance possible. Typically, Authors facilitate TEMs (Technical Exchange Meeting) with the Technical Leads to address options and pose solutions. Technical Leads may be asked to research key topics that may align with their area of expertise. Technical Leads are continually reviewing changes to the document throughout its Development stage.

5.3.8 Reviewer

Once a draft document is completed, it is subjected to an Independent Review by Reviewers. A Reviewer is a subject matter expert who participates in the Independent Review stage to review and provide an assessment of the draft document before it is forwarded to the Approval stage. The Reviewers are purposely not included in the Draft Document stage so they can review the material without bias. Reviewers provide written feedback to the Authors and Technical Leads with an indication if the document should continue onto the Approval phase.

5.3.9 Approver

An Approver is a MISB community stakeholder, MISB Core Team member, or any interested party who participates in approving a document. In the interest of maintaining the schedule Approvers are asked to sign up with the MISB Core Team at least two (2) weeks before the Approval phase is scheduled to end. At the completion of their review, an Approver acknowledges acceptance/approval of the document, provides written editorial comments, or provides a written objection. Documents in this final stage are then presented publicly at a MISB Forum, which is held three times per year. Post Forum documents are posted to the protected side of the MISB website, and a notice sent to MISB community members of its availability for review. A 45-day period for review is allowed. Feedback received is adjudicated with updated documents published to the MISB public website.

5.4 Document Development Process Details

The following Sections describe the three stages of the document development process. Each stage accumulates metrics used to keep track of progress and other statistics.

5.4.1 Assessment Phase

The purpose of the Assessment phase is to answer the following questions:

- 1) Validity – Is the request valid (i.e. does the request constitute a new/revised document)?
- 2) Priority – How critical is it compared to other activities?
- 3) Timeframe – How long will it take (i.e. does it demand a small, medium or large effort)?
- 4) Estimate of resources needed (i.e. Authors, Technical Leads and Reviewers)

Metrics: number of requests, dates, and number of documents approved for development.

5.4.2 Development Phase

The heart of the Document Development Process is the MISB Action Team. Its role is to establish a credible and accurate document that meets the needs set forth in the document scope. A MISB Action Team is composed of Author(s), Technical Lead(s) and Reviewers. Generally, these are volunteers from the MISB community with the requisite knowledge needed to craft the document content, the expertise to properly evaluate the document, and stakeholders who stand to use the document. A MISB Action team composed of Authors and Technical Leads should be limited to five. This facilitates a more focused and timely delivery of the document. A MISB

Author Template [2], available on the MISB website, provides a framework for formatting a document.

Metrics: Schedule durations, number of volunteers, number of revisions, etc.

5.4.3 Approval Phase

The Approval phase includes a potentially large number of Approvers. Following the completion of the final draft document by the MISB Action Team, the document is posted on the MISB website with an announcement emailed to the community indicating the document is ready for review and approval. The announcement triggers a 45-day review/approval period. At this same time, it is submitted to the NASB for approval to publish. Feedback from an Approver must be received in writing during the 45-day period. Feedback that warrants changes to the document are made.

Following the 3review and approval period, the final document – revised if changes are necessary and approved by the NASB – is published on the MISB website. In some cases, based on discussion at the Forum, a document in need of further consideration may be posted for review and comment only. These are designated as such.

Metrics: Number of reviewers, number of yes/no votes and editorial comments.

Figure 5-2 summarizes the document development process.

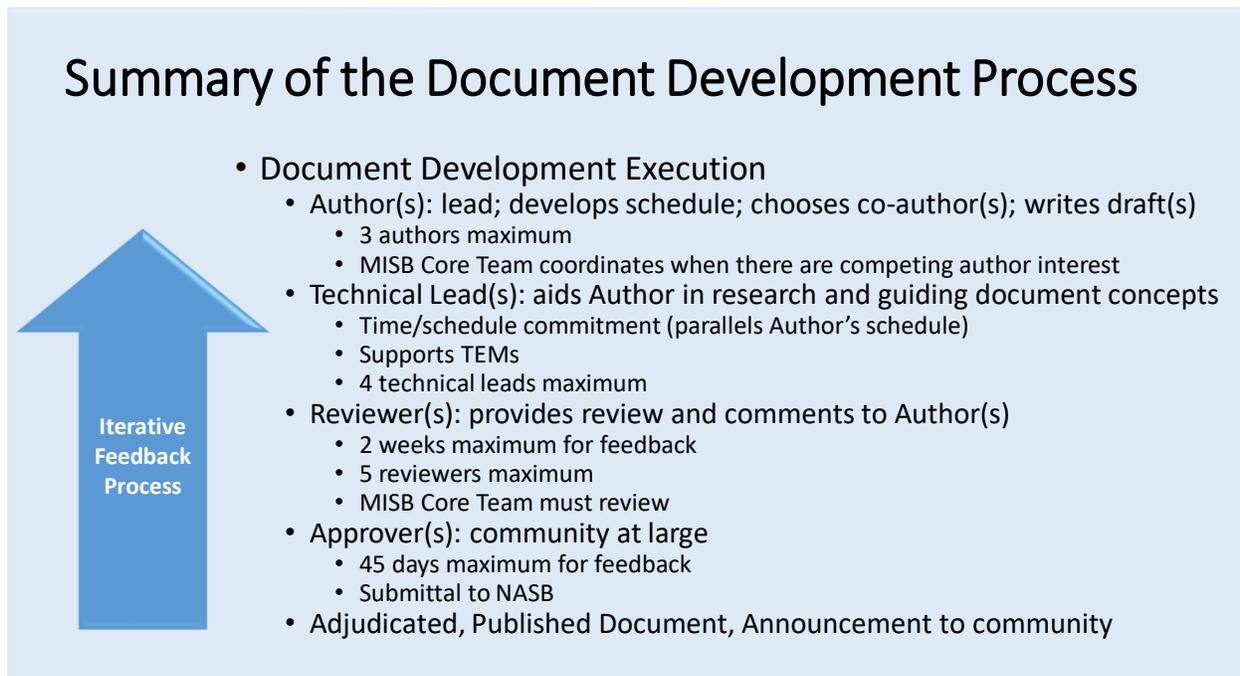


Figure 5-2: Document Development Process

5.5 MISB Author Template

A MISB Document Author Template [2] supports the drafting of MISB documents. The Document Author Template is a Microsoft Word template complete with instructions for

properly formatting a MISB document. Authors use this template making every effort to adhere to the predefined styles. The template specifies a unique style (REQ_TEXT which is the font Cambria) for document requirements; this affords ready extraction of all requirements using a macro designed to extract this font.

When authoring a document all stated requirements (those sentences with a “shall”) are to be represented as shown in the template and be written in one of the EARS (Easy Approach to Requirements Syntax) [1] patterns indicated in Table 1.

Table 1: EARS Patterns

Pattern	Use	Example
Ubiquitous	The <system name> shall <system response>	The phone shall have a microphone.
Event-driven	When <trigger>, the <system> shall <system response>	When a button is pressed the keypad shall illuminate.
State-driven	While <in a state>, the <system> shall <system response>	While the phone is muted, the mute button light shall be turned on.
Unwanted behavior	If <unwanted trigger>, then the <system> shall <system response>	If 4G network is lost, then the phone shall switch to 3G/EDGE without dropping calls.
Optional	Where <feature>, the <system> shall <system response>	Where Wi-Fi is available, Wi-Fi shall be used for IP data.
Complex	(multiple patterns)	If all networks are lost while a call is being placed, the screen will display a warning message.

Examples of requirements written in EARS:

Requirement	
ST 1304.1-01	MISB documents shall use EARS patterns for all stated requirements.
ST 1304.1-02	MISB documents shall use the MISB Author Document Kit for all documents.

5.6 Requirements Numbering

5.6.1 ST and RP

The format for writing a requirement is as shown above. The format for the requirement header box is Calibri 12 pt. font and the format for the requirement text is Cambria 11 pt. font. The requirement text font is different from the body text of the document; this is to facilitate extraction of the requirements via a macro designed to list all the requirements in a separate document.

The process for managing a requirement is as follows:

5.6.1.1 Naming a Requirement

- The document type, for example ST for Standard and RP for Recommended Practice is followed by the document number including its version and a requirement number. For example, ST 1204.2-01, RP 0811.1-01. Figure 5-3 provides a template. The first two digits in the number represent the last two digits of the year the document is initiated i.e., 12 for year 2012. Digits 3 and 4 represent the newest document introduced each year. Thus, the label for the first document in a year is 01, the next 02, and so forth.

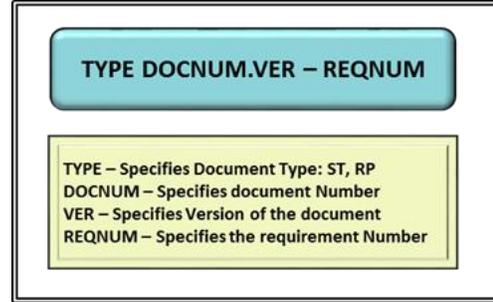


Figure 5-3: Requirement Naming

- In a documents’ initial publication, the requirements are numbered sequentially in increasing order. This may change through the lifetime of a document as some requirements may be deprecated. Requirement numbers however are never reused.

5.6.1.2 Rules for Requirement Name Management

- When an existing requirement is modified with a material change (and approved by the MISB Core Team) the version number is changed to match the current version of the document. For example, if the initial version is ST 4001 requirements are written as ST 4000-01, ST 4000-02, etc. Upon revision to version 1 requirements introduced will have designations ST 4000.1-05, ST 4000.1-06, etc. Thus, a requirement added to a specific document version carries that version number in its requirement numbering.
- Requirement numbers are never reused. Should a new requirement be introduced it will be assigned a number one greater than the highest number in the document. Should a requirement be deprecated a gap in the number sequence of the requirements will occur.
- Deprecated requirements are moved to the end of the document prior to any appendices. Also, a deprecated requirement must be signaled with the word “Deprecated” under the requirement number as shown below.

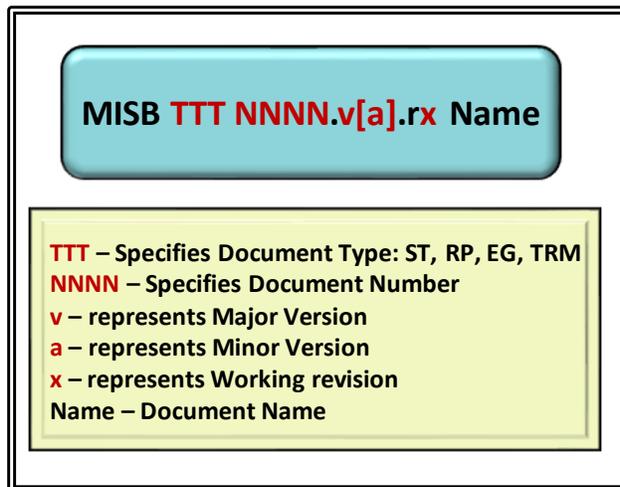
Requirement	
ST 4000.1-01 (Deprecated)	Text of requirement 01.

5.6.2 MISP

The rules for managing the requirements in the MISP are the same as for ST and RP; however, the naming convention for a requirement is different. A MISP requirement will have the word MISP, followed by its year of publication with its version number. For example:

Requirement	
MISP 2015.1-01	Text of requirement 01

5.7 ST, RP, TRM Document Numbering



For document drafts and revision tracking use the following nomenclature in Figure 5-4:

Examples:

MISB ST 1401.2.r1 Working Draft
 MISB ST 1401.2 Approved Major Version
 MISB ST 1401.2a Approved Minor Version
 MISB ST 1910a Approved Minor Version
 MISB RP 1503.0.r3 Working Draft
 MISB RP 1503 Approved Major Version

Figure 5-4: Document Numbering

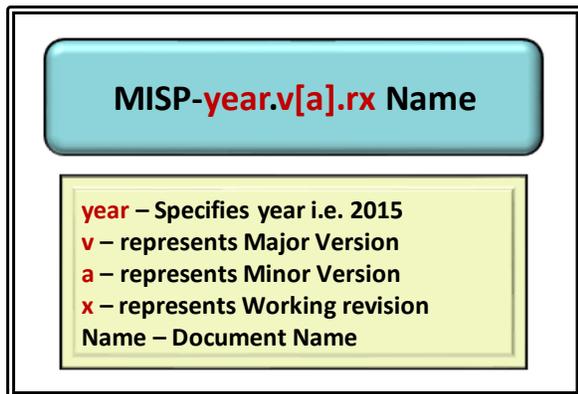
A document which change status, such as in promoting an RP to ST maintains the successive version numbering convention. As an example, for an initial release of document RP 2004, the name updated status document is ST 2004.1 when moved to a Standard.

When approved for publishing, the document, as posted on the MISB website, does not include the revision information; for example, “MISB ST 1401.2.r1 Document Name” is posted as “MISB ST 1401.2 Document Name” with the .r1 designation removed.

In the case where a Minor Version is needed, the naming convention shall append a letter, beginning with “a” to the Major Version; examples: “MISB ST 1401.2 Document Name” is revised to “MISB ST 1401.2a Document Name.”, MISB ST 1910 Document Name” is revised to “MISB ST 1910a Document Name.” As such, if a Minor Version exists, it will assume active status and all references to the Major Version shall be interpreted to use the Minor Version. This will eliminate the need to update all document references to cite the active Minor Version. In addition, only the Minor Version will be documented in MISB document repositories. The date shall be revised to reflect the date of publishing the Minor Version.

5.8 MISP Revisions & Supporting Document Numbering

The MISP is revised at each MISB Forum, which occurs three times a year. The nomenclature for numbering the MISP is shown in Figure 5-5: Thus, versioning will repeat after 3 e.g. MISP-2018.1, MISP-2018.2, MISP-2018.3, MISP-2019.1, etc.



Examples:

- MISP-2015.2.r1 Working Draft
- MISP-2015.2 Approved Major Version
- MISP-2016.1 Approved Major Version
- MISP-2016.1a Approved Minor Version

Figure 5-5: MISp Numbering

MISP supporting documents such as the MISp Governance, MISp U.S. Specific, and MISp Motion Imagery Handbook follow a similar naming convention. These documents may not change as frequently as the MISp, and therefore their version may not update within a year. The date on such documents however will update yearly. If no material change occurs within a document, this will be noted in the documents respective change log.

In the case where a Minor Version is needed, the naming convention shall append a letter, beginning with “a” to the Major Version; for example, “MISP-2015.1” is revised to “MISP-2015.1a.” As such, if a Minor Version exists, it will assume active status and all references to the Major Version shall be interpreted to use the Minor Version. This will eliminate the need to update all document references to cite the active Minor Version. In addition, only the Minor Version will be documented in MISB document repositories. The date shall be revised to reflect the date of publishing the Minor Version.

6 Document Lifecycle

Figure 6-1 shows possible stages of a document throughout its lifecycle. The process for a Developing document was described previously.

Once approved a document may remain in the Approved stage if it remains relevant. A document deemed to be superseded by newer technology or replaced by improved guidance will be deprecated and be moved to the Deprecated stage. A document in the Deprecated stage, however, may describe technology in use for some period until such technology can be upgraded. Deprecated documents that are no longer useful or contain significant obsolete or erroneous information are moved to the Retired state.

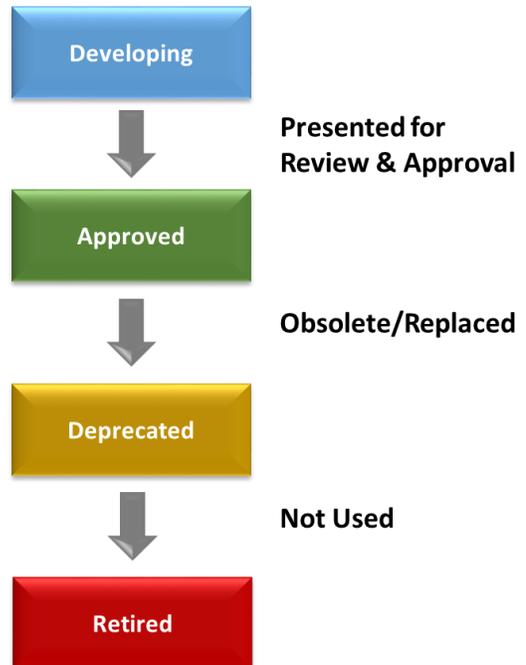


Figure 6-1: Potential Document Lifecycle

7 Appendix

The following informational form must be completed and submitted to the MISB Core Team for any new document to be considered for development by a MISB Action Team:

Document Title:	
Document Type:	ST <input type="checkbox"/> RP <input type="checkbox"/> TRM <input type="checkbox"/>
Date of Submission:	
Document Description:	
Document Schedule:	Start Date: _____ Desired Approval Date: _____
MISB Team Review	Accepted <input type="checkbox"/> Rejected <input type="checkbox"/>
Comments	
Author(s)	Lead Author: _____
	Co-Author 1: _____
	Co-Author 2: _____
Technical Lead(s)	1) _____
	2) _____
	3) _____
Reviewer(s)	1) _____
	2) _____
	3) _____