Guidance and Levels of Technical Review for NASA Scientific and Technical Information (STI)

Agency-Wide STI Program

Contact the CASI Information Desk at
help@sti.nasa.gov

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1. OVERVIEW

This guidance is intended to help ensure that NASA scientific and technical information (STI) receives the appropriate level of technical review pertinent to its nature and impact.

Under most circumstances, NASA STI falls within the "Basic/Minimum" level (Level 1) of technical review discussed in Section 2. Publication types are given in Table 1. NASA establishes technical review requirements for this level of review.

In some circumstances, a "Basic/Higher" level of technical review (Level 2) is called for and encouraged; Level 2, which is a full peer review by a committee of experts, is discussed in Section 3. NASA establishes technical review requirements for this level of review.

In extremely rare and unusual circumstances, NASA STI may fall within the Office of Management and Budget's (OMBs) definitions of "Influential" or "Highly Influential" information or assessments, as defined in OMB's "Information Quality Bulletin for Peer Review," although those categories are normally more pertinent to Federal Agencies with policymaking or other statutory authority. This is the highest level (Level 3) of technical review. This level has separate guidance (see NASA Guidelines for Quality of Information) and technical review requirements that are established by OMB rather than NASA. This review is implemented under the auspices of the Agency Chief Information Officer, NASA Information Quality Officer, listed on the above website.

2. BASIC/MINIMUM (LEVEL 1) TECHNICAL REVIEW FOR STI DOCUMENTS

NASA requires at least the minimum level of technical review indicated in Table 1 for typical STI documents.

In situations in which an STI document has more than one author, all authors must be made aware of and have the opportunity to give input to the STI for which they are listed as authors before it is published. This is done through the technical or peer review process.

Table 1. NASA STI Document Types and Technical Review Requirements

Document Types	Technical Review Requirements
NASA STI Report Series*	
TP (Technical Publication)	Technical review by expert single reviewer or committee of peers (see reviewer qualifications in Section 5)**
TM (Technical Memorandum)	Review by NASA technical management
CR (Contractor Report)	Review by NASA technical management or expert reviewer
CP (Conference Publication)	Review by technical management
SP (Special Publication)	Professional review controlled by NASA HQ Office or NASA Center; SPs in the History Series (numbered in the 4000 range) also require review by the HQ History Office
TT (Technical Translation)	No technical review; some printing authorization required; permission to use copyrighted information must be obtained
Other (journal articles, books, conference papers, etc.)	Review by NASA technical management and proofreading review prior to submission outside of NASA
**[See NPR 2200.2B]* ***STI recommends that TPs receive professional editing when possible*	

Technical reviews are performed by personnel and peers who have expertise within the technical discipline of the activity or research being documented. These reviews assess the technical integrity and merit of the activity or research being performed and the results being documented without regard to the effectiveness of the document at communicating the information.

3. BASIC/HIGHER (LEVEL 2) TECHNICAL REVIEW FOR STI DOCUMENTS

Whenever possible, NASA recommends a basic but higher level of technical review. This higher level entails peer review by a committee of experts, either from within NASA or externally. The types of STI that qualify for this higher level are left to the discretion of NASA managers and technical reviewers. See Section 5 for qualifications of reviewers, and Attachment A for suggestions on handling the peer review.

4. HIGHEST (LEVEL 3) TECHNICAL REVIEW FOR STI DOCUMENTS

The two previous categories of information fall within NASA's basic level of technical reviews, and most of NASA's technical reviews will fall within Levels 1 or 2. However, there is another category that falls within the President's Management Council, OMBs definitions of "Influential" or "Highly Influential," as defined in Section 515, "*OMB Guidelines for Ensuring and Maximizing the Quality, Objectivity, Utility, and Integrity of Information Disseminated by Federal Agencies"* [see NASA Guidelines for Quality of Information]. This is the highest level of technical review required, and it includes a period of public comment (as long as the information is not restricted). "NASA Guidelines for Quality of Information" defines the requirements.

"Influential" is defined in Section C.2.b of the "NASA Guidelines for Quality of Information" as "Influential scientific, financial, or statistical information…that, when disseminated, will have or does have clear and substantial impact on important public policies or important private sector decisions."

"Highly Influential Scientific Assessments" is defined in Section C.2.b.3 of the "NASA Guidelines for Quality of Information" as "A scientific assessment is an evaluation of a body of scientific or technical knowledge that typically synthesizes multiple factual inputs, data, models, assumptions, and/or applies best professional judgment to bridge uncertainties in the available information."

Both "Influential" and "Highly Influential" categories require a much more intense peer review, which applies only to the more important scientific assessments disseminated by NASA.

Contact the NASA Information Quality Officer, Lori Parker, Lori.Parker-1@nasa.gov, early in the process to determine specifics of this review and the timeframe under which it must be accomplished.

5. QUALIFICATIONS OF TECHNCIAL REVIEWERS

The NASA STI Program abides by NASA's guidelines, including those established by OMB. As such, NASA accepts and encourages technical review by a qualified (based on technical excellence) committee of external reviewers. NASA also accepts technical review by a qualified committee of internal reviewers who are selected on the basis of technical expertise and who do not have (or have disclosed) prior situations or personal or funding issues that would affect their technical reviews. Technical reviews should attempt to include reviewers who represent a diversity of technical perspectives.

Peer reviews must be conducted in an open and rigorous manner. Peer reviews must also ensure that the data are reliable, unbiased, accurate, complete, and have full documentation and that any situations that could affect data quality are identified and disclosed.

6. PROFESSIONAL REVIEW FOR STI DOCUMENTS

Professional reviews are also called "editorial" and "content" reviews. These are not considered technical reviews, but are included in this document to help give a general understanding. They

- Are performed by individuals or groups with technical knowledge or background tempered by interdisciplinary expertise in program management, history, and/or education

- Assess the quality of the document content in terms of its readability, communication of information, and suitability for a particular audience without focus on technical content

7. DISSEMINATION REVIEW FOR STI DOCUMENTS

Dissemination reviews determine if STI can be released to the public or must be restricted and if so, who may gain access to the restricted document. They

- Are handled through the mandatory NASA Form (NF)-1676, "NASA Scientific and Technical Information (STI) Document Availability Authorization (DAA)" review. NF-1676 is NASA's compliance review process for the release of NASA STI by or for NASA through any channel or media

They

- Apply not only to STI that will be externally released but also to the presentation of NASA STI at internal meetings or workshops at which foreign nationals may be present

- Encourage technical approval and reviews for restricted access STI, such as national security classified information, export-controlled information, proprietary/sensitive STI, and documents disclosing an invention

A copy of the latest version of NF-1676 can be found at the NASA Electronic Forms site, or your Center's forms manager or forms server. For more information, contact the CASI Information Desk, help@sti.nasa.gov, at the NASA Center for AeroSpace Information.

8. REQUESTS FOR TECHNICAL RE-REVIEW OR CORRECTION AFTER PUBLICATION

If NASA receives an inquiry relating to possible incorrect data or the need for subsequent correction after an STI document has been published or released, follow the guidance below:

1. Determine if the error falls within the normal STI correction process allowed for via an Errata or Corrected Copy (see NPR 2200 for additional specifics) for Levels 1 and 2. Contact the Agency Technical Publications Manager at help@sti.nasa.gov.

2. If not, if information is Level 3, see the Agency review process indicated in "*NASA Guidelines for Quality of Information*" at http://www.nasa.gov/offices/ocio/qualityinfo/index.html and contact the NASA Information Quality Officer indicated on the website.

9. PEER REVIEW COMMITTEE PLANNING GUIDANCE FOR LEVELS 1 AND 2

A special thanks goes to Dryden Flight Research Center for allowing the STI Program to adapt their peer review process for Agency-wide use. See Attachment A for peer review planning guidance.

10. REFERENCES

1. Office of Management and Budget "Final Information Quality Bulletin for Peer Review"
http://www.whitehouse.gov/omb/inforeg/peer2004/peer_bulletin.pdf

2. OMB "Guidelines for Ensuring and Maximizing the Quality, Objectivity, Utility, and Integrity of Information Disseminated by Federal Agencies (February 22, 2002)"
http://www.whitehouse.gov/omb/fedreg/iqg_oct1notice.html

3. “NASA Guidelines for Ensuring the Quality of Information” at http://www.nasa.gov/pdf/517756main_FINAL_NASA_guidelines.pdf

4. National Academy of Sciences, “Policy and Procedures on Committee Composition and a Balance and Conflicts of Interest for Committees Used in the Development of Reports,” May 2003. Available at: http://www.nationalacademies.org/coi/index.html

5. NPR 2200.2B, Requirements for Documentation, Approval, and Dissemination of NASA Scientific and Technical Information (STI) http://nodis3.gsfc.nasa.gov/displayDir.cfm?Internal_ID=N_PR_2200_002B_&page_name=main

6. NF-1676, NASA Scientific and Technical Document Availability Authorization (DAA) http://nef.nasa.gov

ATTACHMENT A.

PEER REVIEW GUIDELINES AND PLANNING FOR THE TECHNICAL COMMITTEE

Prior to external release or publication or access internally by a foreign person, STI must be approved via NASA Form (NF)-1676. This ensures that it has been reviewed for potential export control and intellectual property restrictions and who may have access to the STI.

As a member of the peer review committee, you are charged with ensuring that

- A responsible technical review is conducted of the STI document prior to the NF-1676 dissemination review
- The technical review is open and rigorous
- The data are reliable, unbiased, accurate, complete, and have been fully documented
- Any situations that could affect data quality are identified and disclosed

We recommend that you review the document thoroughly for technical accuracy and suitability for publication before the technical review meeting and that you indicate your comments. This may help you during the meeting to have your comments clearly in mind and for the author to include your comments in the final report.

Attendance at the review is mandatory. If you are unable to attend for some unforeseen reason, please give your comments to the chairperson or have them reschedule the peer review for a different time.

TO THE CHAIRPERSON:

You are responsible for

- Making certain that the committee performs the functions specified, as approved by you

- Ensuring that the material in question is discussed and resolved with the originating Division Chief or appropriate Manager if, in the opinion of any committee member, the recommendations are not accepted by the author or by you, as chairperson

- Ensuring that the Inter-Center and Headquarters comments are handled and dispositioned correctly

- Notifying the committee members, the authors, the editor, and other appropriate organizations if the meeting date or place is changed

TO THE PROJECT MANAGER:

The author proposes to publish this document as

_____

_____

[*insert type of document and any information about dissemination*] report

The author will request your signature after the peer review. Your signature indicates that the report has been reviewed technically and meets NASA requirements. Technical review is done prior to NF-1676 dissemination review and approval.

TO THE AUTHOR:

After the meeting, you should revise the report according to committee recommendations and return it to the chairperson for approval. You must ensure that NF-1676 is initiated and approved prior to publication or release or access internally by a foreign person.

PERTINENT INFORMATION FOR PEER REVIEW:

- Meeting Date:
- Time:
- Location:
- Labor Code:
- Type of document:
- Title:
- Authors:
- Project Manager:
- Editor:
- Release Information:
- Reviewers and affiliation:

- Disclosure of prior situations or personal or funding issues that would affect reviewers technical review:

- Documentation of significant issues involved in peer review and their follow-up:

- Technical review has been completed, and the STI is approved to be sent for NASA Form-1676 Dissemination Review

_____ Yes Date and Approval Signature for Technical Review
_____

_____ No Reason and Followup Requested_____
_____

_____ Date that NF-1676 is Initiated

_____ If STI meets criteria for Level 3 (as specified in "Guidance and Levels of Technical Review for NASA Scientific and Technical Information (STI)" and OMBs "Information Quality Bulletin for Peer Review," check here. Indicate the date that you contacted the Agency Information Quality Officer and subsequent requirements and actions

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PEER REVIEW COMMITTEE CHECKLIST:

1. Is the document technically sound with adequate supporting data?

2. Is the approach valid and supported by the data?

3. Is the material presented clearly?

4. Is there adequate reference to previous work?

5. Is there abstract information?

6. Are all the figures and tables necessary and adequate?

7. Are all the mathematics correct?

8. Is the title as brief as possible without obscuring the meaning?

9. Are the reviewers comments documented and appropriately dispositioned?