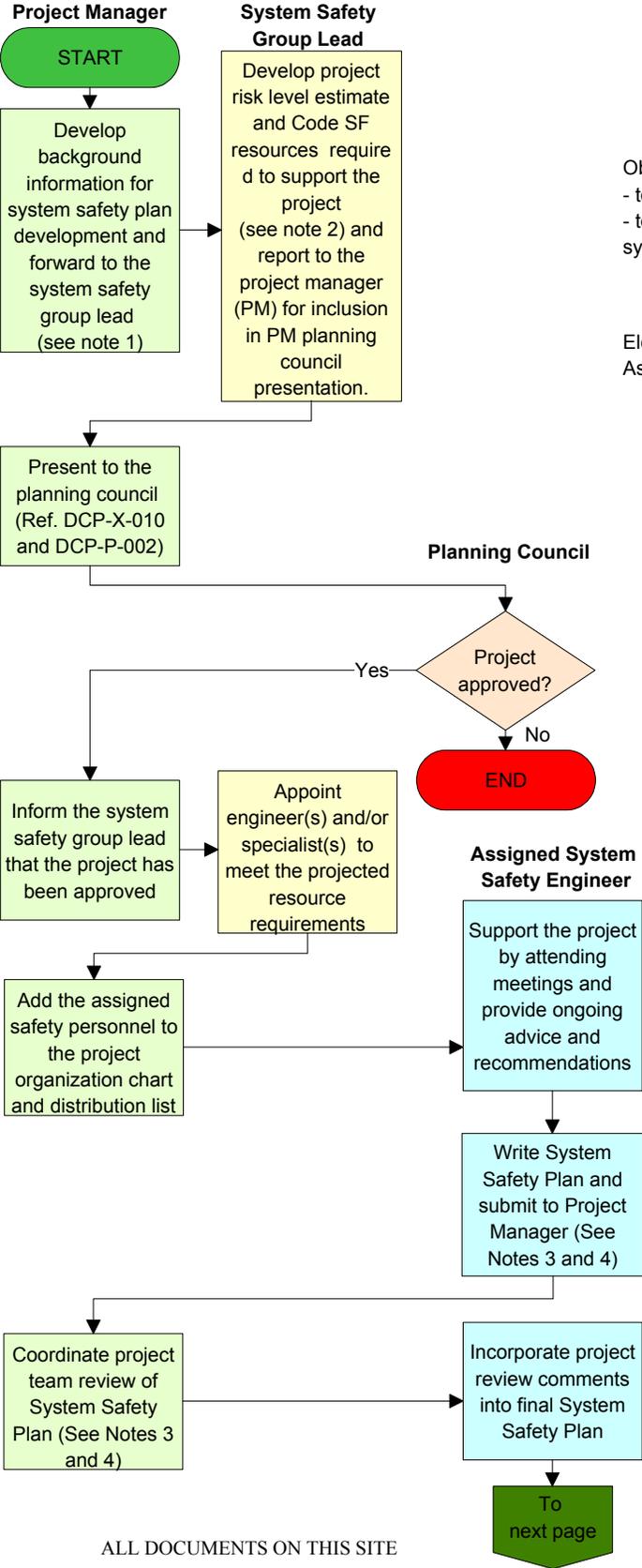


SYSTEM SAFETY SUPPORT

Dryden Flight Research Center
 DCP-S-004
 Revision: B

Objectives:
 - to manage risk and system safety on DFRC flight projects.
 - to ensure that all DFRC flight projects comply with all applicable system safety and risk management standards and procedures.

Electronically Approved by:
 Associate Director



Note 1
Background information for system safety plan development:

- Flight/range safety responsibility
- Aircraft status
- Hardware/software configuration
- Flight plans
- Schedule
- Applicable Memorandums of Understanding
- Applicable Memorandums of Agreement
- Contractual requirements
- General responsibilities (civil service vs contractor)
- Responsibility for hazard analysis development

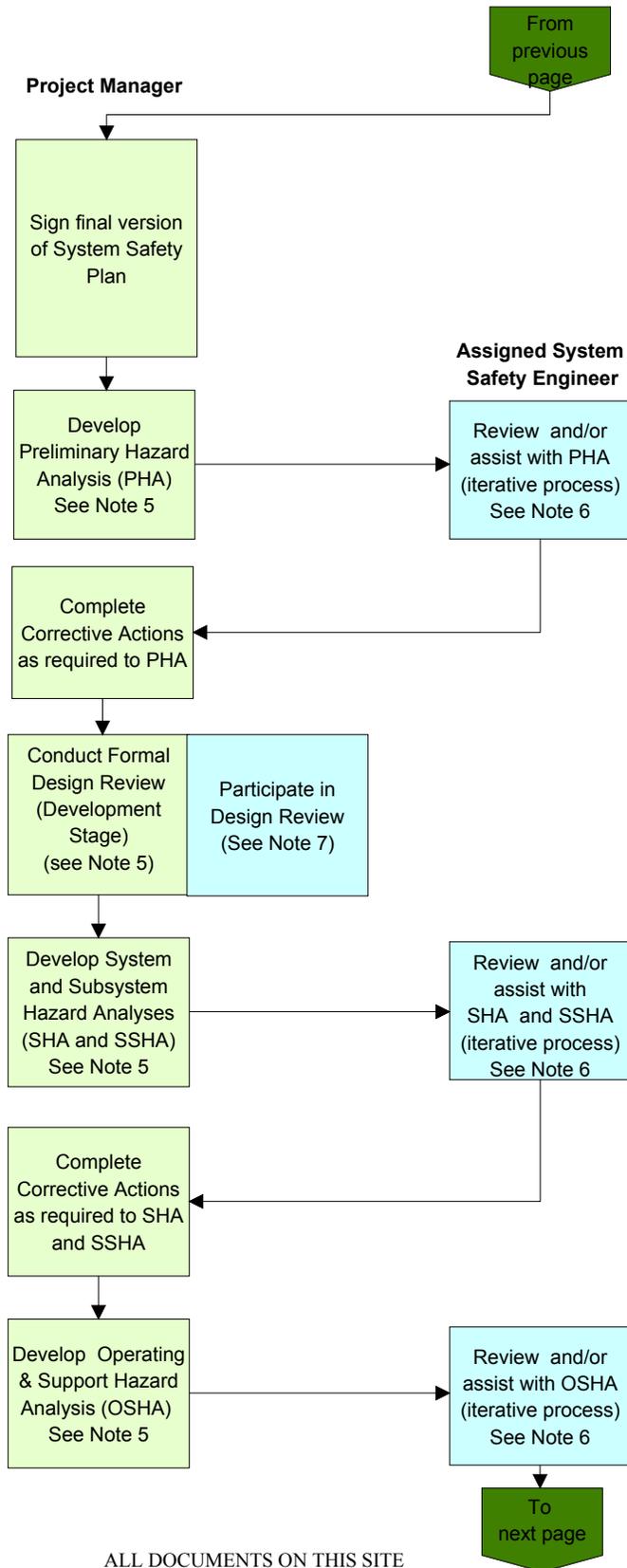
Note 2
Project risk level and resources content:

- High, medium or low risk
- Number of full time equivalents (civil service & contractor)
- Cost estimates

Note 3
System Safety Requirements & Guidelines:

1. DCP-S-002 Hazard Management
2. DCP-S-007 Software Assurance
3. DHB-S-001 System Safety Handbook
4. DHB-X-001 Airworthiness and Flight Safety Review, Flight Readiness Review, Tech Brief and MiniTech Brief Guidelines

ALL DOCUMENTS ON THIS SITE
<http://www.dfrc.nasa.gov/DMS/dms.html>
 ARE FOR REFERENCE ONLY
 THIS SITE IS UPDATED EVERY 30 DAYS



Note 4

System Safety Plan

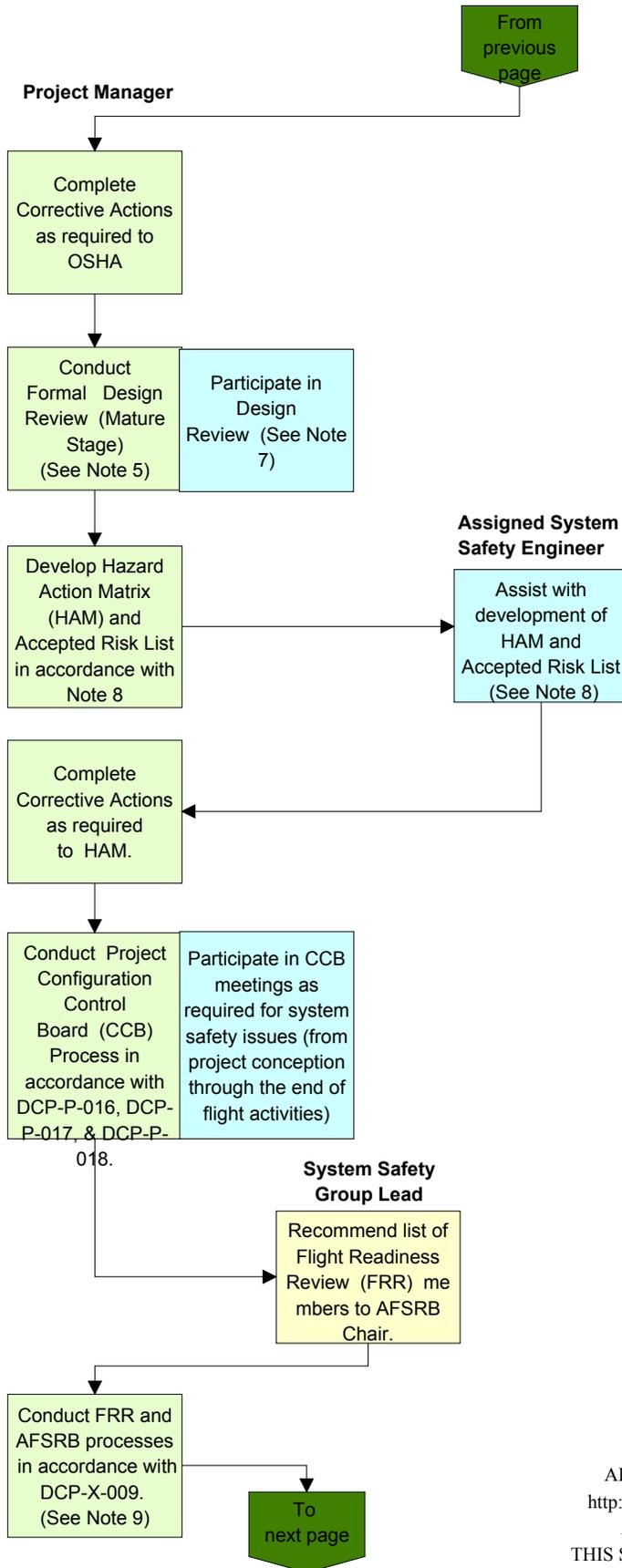
- System Safety Plan will comply with all requirements in Note 3 including specific format guidance in DHB-S-001
- Project manager will ensure that contractor-required System Safety Plans or Safety Program Plans are included in the Contract Data Requirements List (CDRL) for project-related contracts, with inclusion of all requirements in Note 3.
- Draft System Safety Plan should be started during initial project planning stage.
- Final System Safety Plan must be completed prior to Airworthiness and Flight Safety Review Board (AFSRB) and/or Operational Review Board (ORR)
- Project Manager will file original in Project File (DHB-P-002 may be used as guidance)

Note 5 Hazard Analyses and Design Reviews

- All hazard analyses and design reviews will be performed using practices and procedures compliant with all the references in Note 3.
- Project Manager will ensure that all contractor responsibilities for hazard analyses and design reviews are included in the CDRL with the references in Note 3 included.
- Number, scheduling, and content of formal design review may be tailored to the project. The two reviews shown here (in developmental and mature stages of the project) are typical.

Note 6 System Safety Engineering Responsibilities for Hazard Analyses

- Depending upon the level-of-effort for the project, the system safety engineer will develop the analysis, assist with developing the analysis, review an in-house analysis, or review a contractor analysis for compliance with all instructions and guidance in Note 3.
- Level-of-effort depends on responsibilities agreed upon in the System Safety Plan and Note 1.
- All requirements of DCP-S-002 Hazard Management must be met.



Note 7 System Safety Engineering Responsibilities for Design Reviews

The system safety engineer will participate in design reviews as required by the Project Manager. Duties may include:

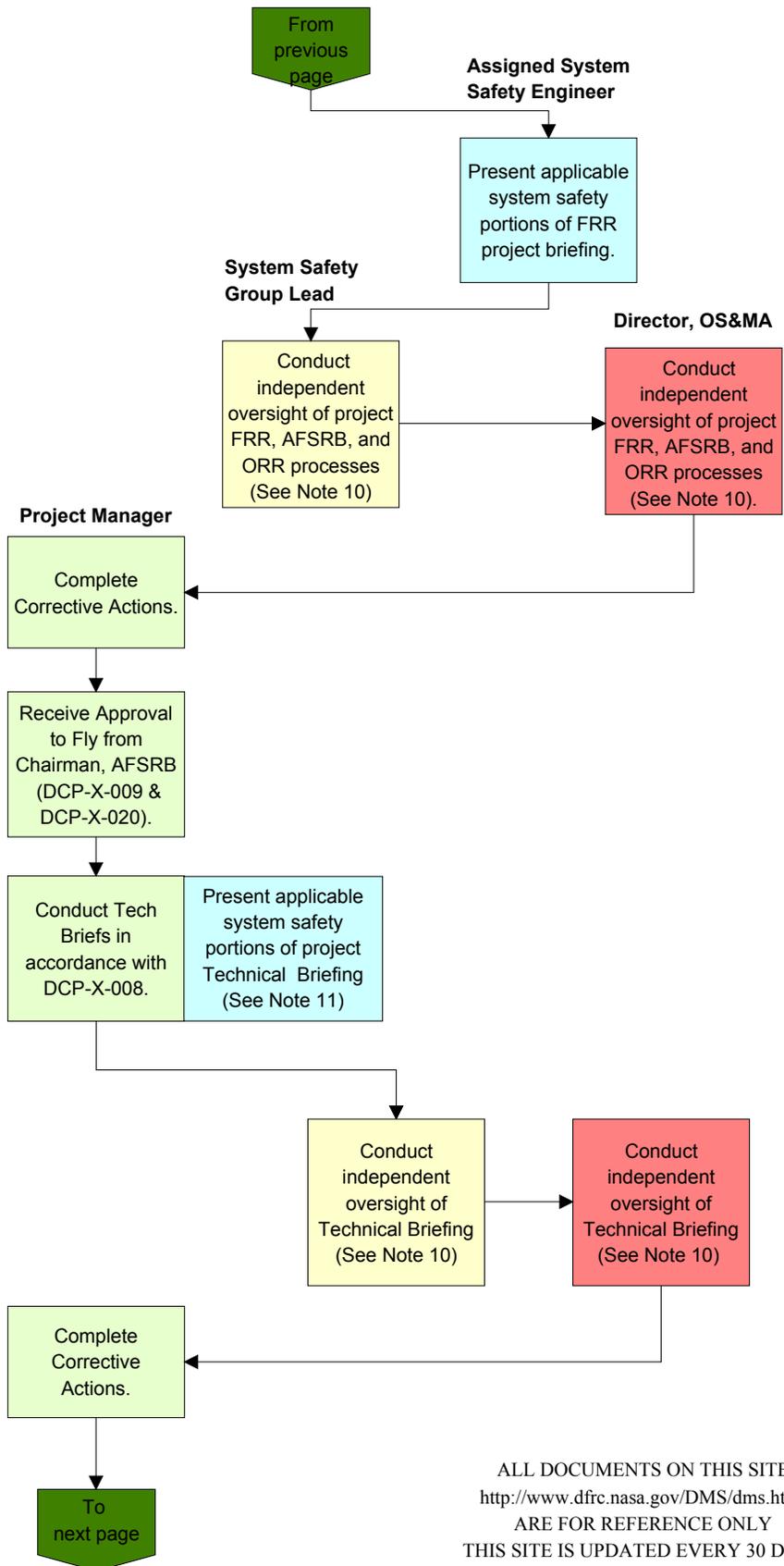
- Attendance and discussion insights
- Preparation and delivery system safety portions of the review (oral and written)
- Summary reports of hazard analysis results and status
- Technical input for solutions to system safety issues

Note 8 Development of Hazard Action Matrix and Accepted Risk List

- Convert all identified hazards from PHA, SHA, SSHA, and OSHA into Hazard Reports
- Develop Hazard Action Matrix (HAM)
- Develop Accepted Risk List from HAM
- All procedures and guidance in references 1-4 in Note 3
- The Chairman, AFSRB is the final approving authority for the HAM and Accepted Risk List (Ref. DCP-X-009)

Note 9 Airborne Science and Deployment Aircraft Process Differences

- Project/Mission Manager will also institute an Operational Readiness Review (ORR) per DCP-X-020
- System Safety Engineer will provide inputs and participate in ORR



Note 10 System Safety Oversight

- The Director, DFRC OS&MA and the System Safety Group Lead will perform continual independent oversight of all project airworthiness activities.
- Oversight will evaluate the project for compliance with all system safety standards in Note 3.
- Checklists for AFSRB and Tech Brief compliance with DCP-S-002 & guidance document DHB-X-001 will be used in conjunction with Code S Annual Operating Agreement metrics (DCP-S-001).
- Oversight duties related to official voting membership on the AFSRB are shown in DCP-X-009.
- Oversight duties related to official attendance at Technical Briefings are shown in DCP-X-008.

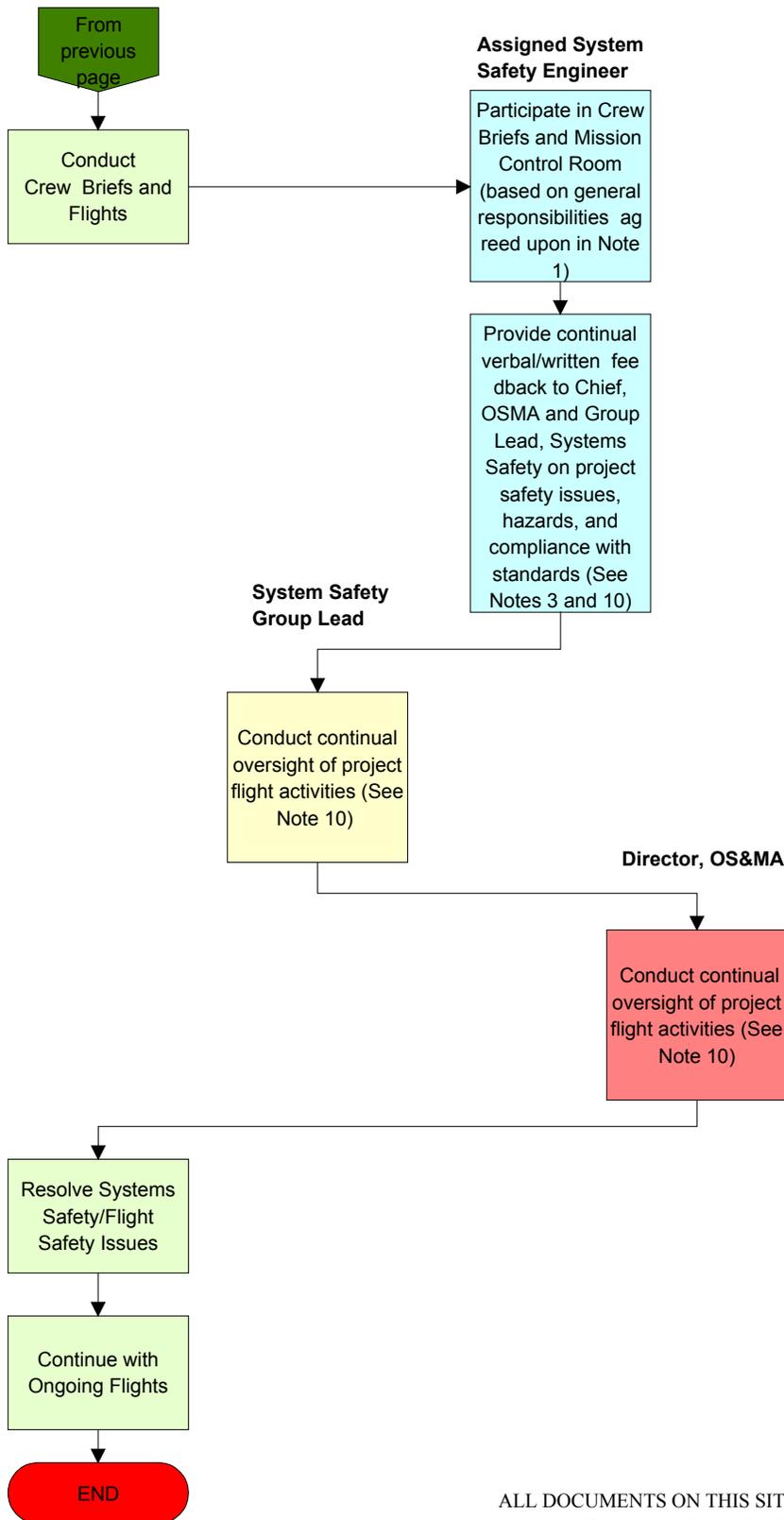
Note 11 System Safety Engineer Technical Briefing Duties

- The assigned system safety engineer will give the following portions of the Technical Briefing, upon the request of the Project Manager:
 - Hazard Summary and HAM
 - Accepted Risk List
 - Open Safety Items and Operational Safety Issues

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Project Manager

DCP-S-004
Revision: B



DOCUMENT HISTORY PAGE

This page is for informational purposes and does not need to be retained with the document.

<u>DATE APPROVED</u>	<u>ISSUE</u>	<u>PAGE</u>	<u>AMENDMENT DETAILS</u>
<u>1/12/99</u>	<u>Baseline</u>		
<u>1/28/99</u>	<u>Rev A</u>	<u>All</u>	<u>Minor revisions to the wording in the notes and blocks.</u>
<u>See IDMS Document Master List</u>	<u>Rev B</u>	<u>All</u>	<u>Modified Notes 3, 4, 5, 6, 8, 10. Added new Note 9 and renumbered Notes and reference to Notes in blocks. Deleted reference to MIL-STD-882 in Note 3. Modified terminology for Design Reviews throughout process.</u>