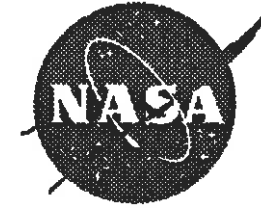




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Software Quality Assurance

Harry K. Utterback

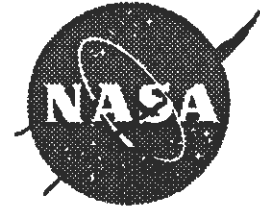
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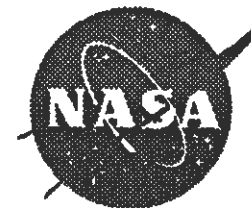
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Topics of Discussion

- **Responsibilities**
- **Activities**



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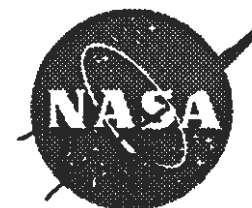
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SQA Responsibilities

- **Program Level Software Quality Assurance**
- **Software Development Standards**
- **Quality Assessment Mechanisms**
- **Software Development Process**



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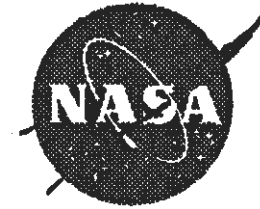
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SQA Activities

- **Promote Software Process Improvement**
- **Provide IV&V Management**
- **Perform Software Process Audits**
- **Chairs Software Configuration Control Board**
- **Approves Software Development Plans**
- **Approves Software Test Plans**
- **Participates in all Software Design Reviews**



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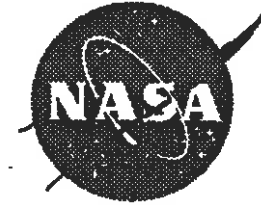
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SQA Reviews

- **Mission Data Center**
 - **Documentation**
 - **Software Development Plan 10/21/96**
 - **Configuration Management Plan (in SDP)**
 - **Requirements Document (draft)**
 - **MDC - Mini MOC Requirements, Design Review 3/27/97**
 - **14 Action Items**
 - **Planned reviews tied to Build 2 (3rd qtr '98)**



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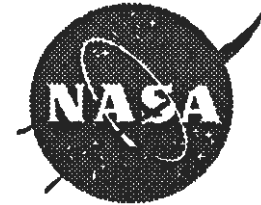
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SQA Reviews

- **Mission Operations Center**
 - **Documentation**
 - **Software Development Plan 1/17/97**
 - **Software Configuration Management Plan (in SDP)**
 - **Software Requirements Document 10/96**
 - **Interface Control Documents (3 - 8/6 /97, 10/17/97, 11/6/97)**
 - **Design Documents (2 - 8/11/96, 11/21/97)**
 - **Build 1 (Mini-MOC) Design review 5/8/97**
 - **8 Action Items**
 - **Build 2 Review scheduled 2/23/98**
 - **Build 3 Review scheduled 10/5/98**



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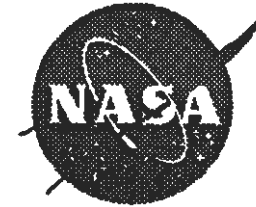
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SQA Reviews

- **Command and Data Handling**
 - **Documentation**
 - **Software Development Plan 1/3/97**
 - **Configuration Management Plan (in SDP)**
 - **Interface Control Document (7/25/97)**
 - **Software Requirements Document 6/9/97**
 - **Software Design Document 7/25/97**
 - **Interfaces Review 4/25/97**
 - **4 Action Items**
 - **Software Requirements Review 6/9/97**
 - **15 Action Items**



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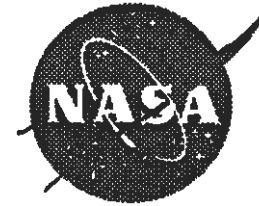
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SQA Reviews

- **Command and Data Handling (cont.)**
 - **Preliminary Design Review 7/25/97**
 - **11 Action Items**
 - **SDD unsigned**
 - **Detailed Design Reviews for Builds 1, 2 and 3 not scheduled**
 - **Test Plan in draft (independent tester)**



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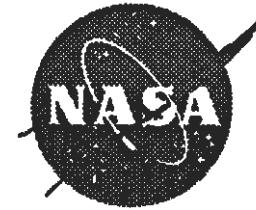
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SQA Reviews

- **Guidance and Control**
 - **Documentation**
 - **Software Development Plan 12/10/96**
 - **Configuration Management Plan 12/10/96**
 - **Boot Programs Requirements Draft 8/11/97, 10/30/97**
 - **TASTIE Requirements Draft 8/22/97**
 - **AIU Boot Design Document Draft 8/11/97**
 - **TASTIE Functional Configuration 8/22/97**



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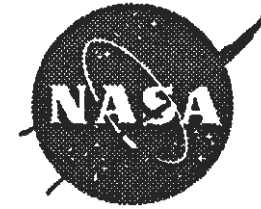
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SQA Reviews

- **Guidance and Control (cont.)**
 - **AIU Boot Program Requirements and Design 8/11/97**
 - **5 Action Items**
 - **No CDR Planned**
 - **TASTIE Requirements and Functional Configuration 8/26/97**
 - **5 Action Items**
 - **No CDR Planned**
 - **Flight Boot Computer Requirements 10/30/97**
 - **13 Action Items**
 - **Other reviews to done jointly with GNS**
 - **AIU and AFC Design Reviews scheduled for May 1998**



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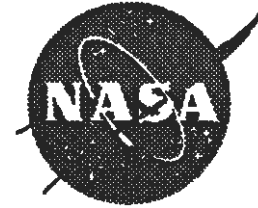
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SQA Reviews

- **GPS Navigation System**
 - **Documentation**
 - **Software Development Plan 3/13/97**
 - **Configuration Management Plan (in SDP)**
 - **Internal Interface Control Document 9/29/97**
 - **External Interface Control Document 11/xx/97**
 - **Software Requirements Document 9/24/97**
 - **Software Design Document (Preliminary) 11/xx/97**
 - **Requirements and Preliminary Design Review 11/17/97**
 - **___ Action Items**
 - **CDRs not scheduled**



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SQA Activities

- **Software Process**
 - **Code Walkthroughs**
 - **3 to date**
 - **MOC (2), MDC (1)**
 - **Reports submitted to SQAE**
 - **Central Configuration Management Tool**