

CENTER SERIES**SAFETY, RELIABILITY AND QUALITY ASSURANCE OFFICE (SRQA) DOCUMENTS**

This subseries consists of documents generated by the Safety, Reliability and Quality Assurance Office (SRQA) (NA, NB mailcodes) from 1985 to 1989. The documents arrived in the History Office unstapled and in a rather haphazard chronological order, since they had just been photographed for microfilming. The collection was culled extensively during processing, because many of the items were of minimal research interest or were incomplete. Documents that were kept are various safety reviews of ongoing projects, presentations generated by SRQA, and manual drafts and revisions. All of the documents were generated by an Action Documentation paper that requested background data, action required, and completed action information. Other items that appear or were culled in the collection are Data Requirement Descriptions (DRD's), Review Item Dispositions (RID's), MIL Standards, Non-Orbiter Project Parts Approval forms, and Boeing Technical Information Release papers. The collection includes a complete series of weekly activity reports for SRQA for 1987, in chronological order. The order of the other documents is also chronological. The various persons and signatures that appear include Charles S. Harlan, Director; Duane L. Duston, Chief, Reliability Division; and Robert H. Steele, Payload Reliability Engineering Branch. This subseries is a glimpse of SRQA and its activities immediately before and in the wake of the Challenger accident. The documentation indicates the continuing and profound effect of the accident on this division.

Inventory**SubHeading:****Box Number: 1**

Data Requirements Descriptions (DRD) (re: NHB 5300.4) (SRQA Procedures)	1972, 1978, 1982, 1985, 1
Launch and Orbital Flight Experience of ELV's (Expendable Launch Vehicles) and the STS (Space Transportation System)	July 1985
Assessment of Boeing Reliability Shuttle Activity	September 1985 - January
Rockwell International, Cost Avoidance in Performance of Operational Failure Analyses	January 10, 1986
Space Station Program Level B SIB (Systems Integration Board), Minutes of Meeting (re: failure tolerance evaluations)	February 11, 1986
Presentation to Support Failure Modes and Effects Analysis / Critical Items List Re-evaluation from STS 51L Investigation	April 18, 1986
Reliability Tasks and Manpower Requirements to Support STS 51L Re-evaluation	May 5, 1986
Level C On-Orbit Maintenance Inventory Panel Meeting (re: Space Station)	June 10, 1986
Response to Action from Fuqua Committee (re: criticality items)	June 11, 1986
Maintainability Top Level Requirements	June 12, 1986
Space Station Maintainability Assurance Presentation	July 15, 1986
Boeing Aerospace Operations - Houston and Florida, Initial Meeting for Preparation of Space Station Reliability / Maintainability Analysis Manual	July 18, 1986
Preliminary Failure Modes and Effects Analysis (FMEA) for the 17-inch Disconnect Electronic Interlock	September 5, 1986
Special Level II PRCB (System Design Review Board)	September 17, 1986
Development of Options for Space Station Limited Life Approach	September 1986

	Work Package Failure Modes and Effects Analysis (FMEA) Integration Approach for Space Station Program Phase C/D	September 1986
	JSC-30216, Space Station Program Maintainability Process Requirements	October 16, 1986
	Preliminary Plan to Revalidate the JSC Certification System	October 23, 1986
	Answers to Questions from the National Research Council Committee on Space Shuttle Criticality Review and Hazard Analysis Audit	December 15, 1986
	NASA / Support Contractor Involvement Presentation (pre and post STS 51L)	December 16, 1986
	Ku-Band Failure Modes and Effects Analysis and Critical Items Lists for Presentation to the Configuration Control Board	December 10, 1986
	Critical Items Waiver Processing	December 1986
	Smoke Detection and Fire Suppression System, Criticality 1 Single Failure Point Concern	December 1986 - February
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	Presentation of Navigational Aids Failure Modes and Effects Analysis and Critical Items List	January 14, 1987
	Presentation of S-Band Radio Frequency and Antennas Failure Modes and Effects Analysis and Critical Items List	January 16, 1987
	GFE Flight Crew Equipment List	January 16, 1987
	Software Assurance Processes	January 29, 1987
	Technical Intern Training Program	January 1987
	Critique of NASA Headquarters Risk Factor Assessment	February 10, 1987
	Suspect Dale Resistors Affecting the Pyrotechnic Initiator Controllers and Other Shuttle Hardware	February 17, 1987
	JSC-22453, Failure Modes and Effects Analysis (FMEA) and Critical Items List for Extravehicular Mobility Unit (EMU) Light Assembly	February 1987
	Technical Intern Training Program	February 1987
	JSC-22480, Failure Modes and Effects Analysis and Critical Items List for the Extravehicular Activity Portable Foot Restraint Assembly	February 1987
	Orbiter Experiment Reliability Activities Presentation (OEX)	February 1987
	Failure Modes and Effects Analysis for the Orbiter Aft Fuselage Gas Sampler System (OAFGSS)	February 1987
	Shuttle EMU Program FMEA and CIL Revisions	February 1987
	Development of Standardized Electrical, Electronic and Electromechanical Parts Control System at Level A for Integration of Level C 483-40	c. February 1987
	JSC-17067, Failure Modes and Effects Analysis and Critical Items List for the Crewmember Safety Tethers	March 5, 1987
	Orbiter Tank Pressure Data	March 16, 1987
	JSC Reliability Activities in Support of the Space Transportation System	March 26, 1987

	Operations Contract (STSOC)	
	Closed Circuit Television (CCTV)	
	Problem History Presentation	April 17, 1987
	Critical Items List, Criticalities 1 and 1R Item Prioritization Methods	April 21, 1987
	Space Shuttle Orbiter and Government Furnished Equipment Problem Review Plan	April 22, 1987
	Resumption of EMU Ground Manned Operations Presentation	April 27, 1987
	Preparation of Element Interface Functional Analysis	April 28, 1987
	IVA (Intravehicular Activity) and IFM (In-Flight Maintenance) Tool Kit / EVA Equipment Presentations	May 11 - 12, 1987
	Planning Schedule for Life Extension (of Space Shuttle components)	May 15, 1987
	Space Shuttle Life Extension Assessment	May 18, 1987
	Space Station Reliability / Maintainability Analysis Manual	March 19, 1987
	Environmental Acceptance Test Requirements Documentation Concerns Presentation	May 22, 1987
	Information Resource Management Functional Decomposition Electrical, Electronic and Electromechanical Parts Presentation	June 10, 1987
	Numerical Design Analysis - What is it?	June 12, 1987
	Augmentation of JSC Civil Service Staff	June 15, 1987
	Failure Mode and Effects Analysis and Critical Items List Requirements and Procedures for NASA Programs (draft)	June 15, 1987
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	Problem Reporting, Corrective Action and Trend Analysis	June 17, 1987
	Plan for Trend Analysis of the Space Shuttle Government Furnished Equipment / Orbiter Resolved Problems	June 17, 1987
	Materials and Processes Requirements for NASA Space Programs (NHB 8060.XX)	June 17, 1987
	Phase O Safety Review for Industrial Space Facility (ISF)	June 25, 1987
	Method for submitting Electrical, Electronic, and Electromechanical Parts Non-Standard Part Approval Request	June 25, 1987
	JSC Reliability Operating Procedure Number 8.3F: Parts and Materials Activity - Control of Electrical, Electronic, and Electromechanical Parts	c. June 1987
	Requirements for National Space Transportation System (NSTS) Problem Trending System, Draft 2, NSTS Level II Safety, Reliability and Quality Assurance	c. June 1987
	Review of Correction Action Discrepancies and Criticality 1 Flight Failures	July 2, 1987
	Crew Escape Equipment Status Report	July 6, 1987
	High Pressure Oxygen Recharge Subsystem Development, NAS9-	July 9, 1987

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Updated Safety Division Survey Plan	July 20, 1987
Reliability Plan for Engineering Support Contract	July 21, 1987
Phase II Safety Review for Shuttle Solar Backscatter Ultraviolet Payload	July 22, 1987
Parts Requirements for NASA Programs, NHB 5300.4(1F)	July 27, 1987
Certification Status of 45 Return to Flight Mandatory Changes	July 31 - August 7, 1987
Method for Submitting Electrical, Electronic, and Electromechanical Parts Non-Standard Part Approval Requests	c. July 1987
New General Purpose Computer (GPC) and Enhanced Multiplexer / Demultiplexer EEE Parts	August 5, 1987
Suspect Electronic Parts Affecting the Space Transportation System	August 7, 1987
ALERT Procedure	August 10, 1987
Class "S" EEE Parts for Space Station	August 11, 1987
Safety Division Survey Report	August 18, 1987

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1987 JSC Safety Division Survey	August 18, 1987
Krug International Reliability Plan	August 18, 1987
Orbiter Criticality 1 Failure Review	August 21, 1987
Reliability Position on Acceptability of the 17-inch Disconnect for Flight	August 21, 1987
Draft of JSC Safety, Reliability and Quality Assurance General Operating Procedure 25D	August 24, 1987
Space Station Resource Optimization Program	August 27, 1987
Reassessment of Government Furnished Equipment Irregular Part Approval Requests Presentation	September 2, 1987
Development of Reliability Centered Maintenance Methodology Application to the Space Station Program	September 10, 1987
Updates of Reliability and Maintainability Operating Procedures	September 1987 - January
Government Furnished Equipment Requirements Review for the DRR (Design Requirements Review) and the DCR (Design Certification Review)	October 7, 1987
Review of Upper Atmosphere Research Satellite (UARS) Observatory NCR's	October 9, 1987
NASA Specification for Manufacturing and Performance Requirements of NASA Standard Aerospace Nickel Cadmium Cells	October 14, 1987
Level II Electrical, Electronic, and Electromechanical Parts Non-Standard Part Approval Request Program Responsibility	October 16, 1987
Phase O/I Safety Review for Dedicated Payload Communication Link (DPCL)	October 26, 1987
NSTS Program Parts and Materials Problem Assessments (ALERTS)	October 26, 1987
Flight Crew Equipment List for STS-26	October 28, 1987
Desk Instruction for Mission Kit Installation Reliability Review	October 29, 1987

FMEA / CIL Requirements (draft)	October 30, 1987
JSC-22764, Certification Plan for Space Shuttle Orbiter Stand-Alone Pressure Measurement Device (SAPMD)	October 1987
Tracking Matrix for the Actions / Recommendations from the 51L Review Panel / Committees for Safety, Reliability, and Quality Assurance	November 7, 1987
Remote Manipulator System (RMS) Problem Trend Assessment	November 13, 1987
Electrical, Electronic, and Electromechanical Parts Group Requirements (draft)	November 23, 1987
Progress Review of Criticality 1/1 Trend Analysis of Space Shuttle Orbiter Resolved Problems (GN&C)	November 30, 1987
Establishment of JSC Preaward Survey Approved Manufacturer List Presentation	December 9, 1987
Criticality 1/1 Trend Analysis of Data Processing Subsystem (DPS) Display Electronics Unit (DEU) Resolved Problems	December 10, 1987 & Janua
Implementation of a Level III Plan for Processing Orbiter and GFE Criticality 1 and 1R Corrective Action Records and Failure Investigation Action Reports	December 16, 1987
JSC Reliability Operating Procedure Number 81.F (draft): Parts and Materials - Implementation of ALERT and General Document Summary Sheet System (GDSS)	c. 1987
JSC Reliability Operating Procedure 85.D (draft): Parts and Materials - Participation in Government / Industry Data Exchange Program (GIDEP)	c. 1987
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Weekly Activity Reports	1987
Information Resource Management (IRM) Current Data System	January 15, 1988
Reliability and Maintainability Division Requirements for the Information Resource Management Working Group Effort	January 20, 1988
JSC-07689, JSC Reliability and Maintainability Plan for Preparation of Contract Statements of Work for NSTS GFE Hardware, Rev. E	January 1988
Assessment of Reliability Requirements and their Implementation Methodology	January 1988
Proposed JSC "Closed Loop" ALERT Reporting System Presentation	February 11, 1988
Criticality 1/1 Trend Analysis of Space Shuttle Orbiter Resolved Problems, Communication and Tracking Subsystem	February 22, 1988
Multiplexer / Demultiplexer Trend Study	February 23, 1988
JSC-22824, Failure Modes and Effects Analysis for the Wireless Crew Communication System	February 1988
Overview of the Four Phase Plan for Implementation of the JSC SR&QA Electronics Analysis Laboratory	March 4, 1988
Technical Intern Training Activities Report	March 7, 1988

Crew Station Review of Crew Escape System	March 8 - 10, 1988
Dale Resistors (ALERT VV-A-86-07) Affecting Orbiter GFE	March 14, 1988
Draft Policy and Guidelines for the Use of Fasteners in Critical Applications	March 18, 1988
Certification of Flight Intravehicular Activity (IVA) Clothing	March 21, 1988
Materials Problems and Solutions Associated with Space Program	March 23, 1988
Re-evaluation of Remote Manipulator System (RMS) Criticality 1 Problem Reports	March 23, 1988
SR&Q Strategic Information Plan	March 24, 1988
GFE FMEA / CIL Criticality Summary	March 30, 1988
Modeling the JSC Problem Resolution Package (PRP) Review Process	April 1, 1988
Progress Review of Criticality 1/1 Trend Analysis of Space Shuttle / Orbiter Resolved Problems(GN&C)	April 1, 1988
Remote Manipulator System (RMS) Problem Trend Assessment	April 11, 1988
Extravehicular Mobility Unit (EMU) Criticality 1/1 Problem Closeout Review	April 11, 1988
ALERT Implementation for the National Space Transportation System / U.S. Air Force Flight Termination System	April 11, 1988
NB5 Engineering Technical Base (ETB), Technical Requirements (civil service / contractor)	April 15, 1988
Criticality 1/1 Trend Analysis of Space Shuttle Orbiter Resolved Problems, Electrical Power Distribution and Control and Electrical Sequencing Subsystems	May 16, 1988
Pole Crew Escape System (PCES) Engineering Development Test	May 17, 1988
Prelaunch Alert Processing Guidelines	May 31, 1988
EEE Part Data Requirements	May 1988
NOPAR (Non-orbiter Parts Approval Request) System Review	June 22, 1988
Age Life of Non-Metallic Materials for Orbiter	June 29, 1988
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Progress Review of Criticality 1/1 Trend Analysis of Space Shuttle / Orbiter Resolved Problems for Mechanical Subsystems	July 6, 1988
GFE Flight Hardware and Payloads / Experiments	July 8, 1988
Assured Crew Return Capability (ACRC) Mid-term Review	July 25, 1988
Lessons Learned Regarding Preaward Surveys	July 25, 1988
Revised Statement of Work (SOW) for the Reliability Section of the Space Transportation Systems Operations Contract (STSOC)	August 11, 1988
Trend Analysis of Criticality 1/1 Space Shuttle/ Orbiter Resolved Problems	September 27, 1988
Orbiter Failure Modes and Effects Analysis / Critical Items List Re-evaluation	October 6, 1988

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Intern Training Plan, Increment II	October 12, 1988
A Proposal to Create a JSC Electronic Parts Newsletter	October 20, 1988
Reliability Operating Procedure 2.10: NASA Alert System	November 4, 1988
NASA Level II Change Request, Remote Manipulator System (RMS) and Inflight Maintenance Breakout Box Non-CIL Criticality 1R Items Change Request	November 7, 1988
OV-105 EEE Parts Requirements New Hardware Concerns	December 14, 1988
JSC Reliability and Maintainability Space Station Freedom CAUSE Desk Instruction Manual	December 30, 1988
Pole Crew Escape System, Closed Circuit Television (CCTV) Non-critical Items List Criticality 1R Items Level II Change Request	1988
Hand Held Microphone, ACCU Bypass Module, Very Lightweight Headset, Operational Water Dispenser, Extravehicular Mobility Unit Non-CIL Criticality 1R Items	1988
Resuscitator and Patient / Rescuer Restraint System, Orbiter Side Hatch Safety Lock, and Crew Escape Equipment Non-CIL Criticality 1R Items Change Request	1988
Possible Structural Inadequacy of the Crew Escape Pole Support Structure	January 3, 1989
Reliability and Life Cycle Cost Tradeoff Analysis on Different Classes of Microcircuits for New Hardware	January 6, 1989
EEE Parts Requirements for Space Station Freedom	January 12, 1989
Contracts NAS9-17800 and NAS9-14000, Schedules B and E, Results of Incremental Survey of NASA ALERT System Implementation	February 10, 1989
Assessment of Current NSTS ALERT System	February 13, 1989
Space Station Projects - Maintainability Assurance Procedures Using Design Checklists	February 17, 1989
JSC-23481, Failure Modes and Effects Analysis and Critical Items List for the Initiator Firing Unit	March 7, 1989
JSC-22679, Rev. A, Failure Modes and Effects Analysis, Voice Command System (VCS) (with comments)	March 10, 1989
In-Process Failure Summary Report Issue	March 15, 1989
Configuration Control Problem, As-Built Records vs. As-Designed Parts List	March 1989
Flammability Certification of Orbiter Materials at 10.2 psia (30% Oxygen) Cabin Environment	June 14, 1989
EEE Parts Information Management System Preliminary Design Document	September 19, 1989
MIL-HDBK-217E Overview: Reliability Prediction of Electronic Equipment	September 21, 1989
JSC-16043D, JSC Reliability Support Plan for JSC Life Sciences Project Division	September 1989
Crew and Equipment Translation Aids	October 3, 1989

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(FMEA / CIL)	
Contract NAS9-14000, Schedule E, Ferry Kit Certification Clarification	October 4, 1989
Rice Aircraft Counterfeit Fasteners (related memos attached)	October 11, 1989
Draft Revision of Rockwell International Standard Operating Procedure (SOP): Processing Alerts and Safe-Alerts	October 26, 1989
EVA Development Flight Equipment Payload Safety Support	October 26, 1989
Segregation and Delegation of the Authority of the Work Package 2 Parts Manager	c. October 30, 1989
STS-34 GFE Flight Hardware	November 2, 1989
STS-33 Government Furnished Equipment Flight Hardware	December 13, 1989
EVA Development Flight Equipment FMEA Status	December 21, 1989
Maintainability Training Course	December 22, 1989