CENTER SERIES
OMV DOCUMENTS

The Orbital Maneuvering Vehicle (OMV) was designed to be "a reusable, remotely controlled, free-flying vehicle capable of performing a wide range of on-orbit services in support of orbiting spacecraft. It is projected as an important element of the Space Transportation System (STS), designed to operate from either the Shuttle or the Space Station." (USER's Guide for Orbital Maneuvering Vehicle, December 1986, Marshall Space Flight Center, Alabama 35812) The arrangement of materials in this collection centers around the personal effects of William H. Gerstenmaier, head of the OMV Operations Office, Systems Division, Mission Operations. Along with his own collected materials, Mr. Gerstenmaier also appears to have received the personal effects of two other engineers on the project: James B. McDede, a member of the OMV Operations Office; and Mike Veres, an engineer with Rockwell Space Operations. The order of materials has been kept in place as much as possible, whether chronological or subject-oriented. This will be explained in detail under the description of each person's archival papers The beginning of the collection comprises introductory materials to the OMV: its purpose, uses, and design. This includes the Request for Proposal (RFP) document; two User's Guides, one from 1986 and the other from 1989; and the Design, Development, Test, & Evaluation (DDTE) paper. Immediately following these papers are some various Operations documents, including a review draft and final Baseline Operations Plan. Mr. Gerstenmaier's archives comprise the next group of materials. These papers contain the nine Operations Working Group (OWG) meetings that took place from January 1987 to December 1988. Each file contains the agenda, minutes (usually), and other documents related to the discussions of each OWG. The meetings are filed chronologically, but the contents of each file have been left intact with no imposed order. These materials contain many personal notes and comments by Mr. Gerstenmaier. Mr. McDede's files have been placed next in the collection. This material, dating from 1989-1990, has been divided into four sections: 1) early Redundancy Management (RM) documents, including teleconferences (chronological); 2) RM review papers on various subjects (chronological); 3) Preliminary Data Requirement (PDR) Review Item Discrepancy (RID) documents for software and MOS (numerical order), with introductory material for both. A question and answer document on the PDR RID's by various personnel completes this subsection; and 4) miscellaneous papers (chronological). Mr. McDede's archives also contain many personal notes and comments regarding this stage of the project. Mr. Veres's materials, also dating from 1989-1990, are concerned with the various components and systems on the OMV. Many of these papers are from TRW, the contractor involved in the simulation runs and systems development of the OMV. This section begins with the contents of five Man-Machine Interface (MMI) trips that Mr. Veres made to the TRW simulator in Redondo Beach, California. The remainder of the file is subject-oriented, focusing on various aspects of OMV operations and systems. Many of Mr. Veres's personal notes and comments are interspersed throughout his papers. An interesting descope of Mr. McDede completes Mr. Veres's archives. The final section of this collection is comprised of JSC documents associated with the OMV Training Facility (OTF) and Multiprogram Training Facility (MPTF). Some introductory documents are given first, including a preliminary and final copy of the OMV OTF Requirements (JSC 34240) and the OMV OTF System/Subsystem Functional Design Review (Parts 1-2). The archives are then arranged to show the structure of one particular document -- JSC 22976, which had nine appendices and deals with the subsystem requirements for the OMV OTF. JSC 23430, 23431, 23433, and 23434, study analysis reports on various subsystems of the OMV OTF, follow. A technical interchange meeting on the OMV OTF and two OMV TDRSS documents complete the OMV OTF section. The various documents regarding the MPTF, which contained the OMV OTF and the Spacelab Simulator (SLS), are filed chronologically. Documents on the Multiprogram Control Center (MPCC) are also filed chronologically. An extensive microfilm collection on OMV documents and papers is also available for perusal. History Office personnel can assist in its location and viewing area.

Inventory

SubHeading:	Box Number: 01	
	JSC-19391 Free Flyer Mission Support from a Space Station, Vol. 2	February 1985
	Orbital Maneuvering Vehicle (OMV) Request for Proposal (RFP)	November 1985
	User's Guide for OMV	December 1986
	User's Guide for OMV	June 1989
	NSTS-18474 OMV Project Development Integration Plan (Basic)	March 1989
	OMV Design, Development, Test, & Evaluation (DDTE)	n/d
	OMV Baseline Operations Plan Review Draft	November 4, 1987
	JSC-22909 OMV Baseline Operations Plan Final	June 13, 1988

	OMV Operations Document (OOD) Preliminary	May 20, 1987
	OMV Operations Support Center Level A Requirements (Preliminary)	May 22, 1987
	NSTS-21090 OMV Operations Requirements Document	November 18, 1987
	Mission Operations Directorate- OMV Operations Office Space Shuttle/OMV Performance	March 1, 1990
SubHeading:	**Box Number: 02**	
	1st OMV Operations Working Group (OWG) Agenda, Systems Development (TRW), personal notes (Gerstenmaier file)	January 12-13, 1987
	2nd OMV OWG Agenda, Action Items, Development of Operations Requirements Document (ORD), personal notes (Gerstenmaier file)	February 23-25, 1987
	3rd OMV OWG Agenda, Action Items, ORD Document-First Draft, OMV Full-Up Training Simulator, personal notes (Gerstenmaier file)	April 7-9, 1987
	4th OMV OWG Agenda, Action Items, Program Requirements Review (PRR), OOD Preliminary, OMV Ground Control Console, Level A Training Requirements (Gerstenmaier file)	May 5-7, 1987
SubHeading:	**Box Number: 03**	
	5th OMV OWG Agenda, Action Items, OMV ORD Rationale, OMV Training Simulator Capabilities, OMV ORD, personal notes (Gerstenmaier file)	July 14-17, 1987
	6th OMV OWG Agenda, Action Items, OMV Commands, Minutes of Meeting, DRM Guidelines and Analysis, Facility Interface Issues, OMV Potential Missions, personal notes (Gerstenmaier file)	September 15-17, 1987
	7th OMV OWG Minutes of Meeting, Level A Training Requirements, OMV Commanding Operations, OMV Operations Support Center (OSC) and Training Facility-Data System Architecture, personal notes (Gerstenmaier file)	December 10-11, 1987
	8th OMV OWG (File #1) Minutes, OMV Baseline Operations Plan (Preliminary), OMV Level A Training Requirements (Final), GCC Prototype Status, OMV Trajectory Splinter Group, personal notes (Gerstenmaier file)	April 14-15, 1988
	8th OMV OWG (File #2) Space Station Presentation, OMV DDT&E/PDP Mission, System and Subsytem Analyses (Gerstenmaier file)	April 14-15, 1988
SubHeading:	**Box Number: 04**	
	9th OMV OWG Agenda, OMV Collision Avoidance Maneuver (CAM) Documents, Guidance and Navigation Simulation, Trajectory Concerns, personal notes Gerstenmaier file)	December 13-14, 1988
	OFP Command/Data Request Generation, Revision 1 (McDede file)	April 13, 1988
	Agenda for OMV Redundancy Review (McDede file)	December 8, 1988
	Preparation Materials for Redundancy Management Telecon of 1/20/89 (McDede file)	October 31, 1988- January
	Redundancy Management Telecon	January 20, 1989

Summary, Minutes (McDede file)	
Redundancy Management Telecon Summary, Minutes, Various Faxes (McDede file)	February 23, 1989
Redundancy Management Telecon Summary, Agenda, Minutes, Various Faxes, Action Items, RD S.E.T. Telecon Materials of March 28, 1989 (McDede file)	April 12, 1989
EED Review Telecon (Notes), Special RM Telecon, Accelerometer Sensor Data Processing Algorithm Design (McDede file)	April 13-15, 1989
Personal Notes-Telecon with C. Shortwell, Fax from W. Finnel, Conversation with W. Finnel (McDede file)	April 13-June 30, 1989
RM Miscellaneous Action Items (McDede file)	May 10-December 6, 1989
Redundancy Management Telecon Summary, personal notes, Agenda (McDede file)	May 15, 1989
Fault Correlation Logic (McDede file)	May 26, 1989
Redundancy Management Telecon Minutes, personal notes (McDede file)	June 15, 1989
RM S.E.T. Task #3, Switching Time Analysis Summary (McDede file)	June 16, 1989
RM Telecons Minutes, Summaries, Faxes, personal notes (McDede file)	July 3-September 21, 1989
RM Telecon (Agenda), Alternative Configurations for a More Autonomous SBM, CU/RU Failure Monitor (personal notes) (McDede file)	September 19-November 2,
RM Telecon Minutes, personal notes, Action Items (McDede file)	November 2, 1989
RM Telecon (Agenda), VRU Cross-Strap in the GCC (McDede file)	January 15-23, 1990
Onboard RM Response to Multiple Failures (McDede file)	March 13, 1990

SubHeading:	**Box Number: 05**	
	RM Review-Memo from J. McDede Timeline for Completion (McDede file)	April 30, 1989
	RM Review-Data Systems (RU/OBC) (McDede file)	May 31-September 27, 1989
	RM Review-Communications Systems (McDede file)	May 31-June 9, 1989
	RM Review-Radar/HGA (McDede file)	June 13-16, 1989
	RM Review-Propulsion Module (McDede file)	June 15-November 14, 1989
	RM Review-PTZ Mech. (McDede file)	June 15-16, 1989
	RM Review-Docking and PTZ Cameras/Lights (McDede file)	June 21-July 11, 1989
	RM Review-Electrical (McDede file)	June 27-November 7, 1989
	RM Review-RGDM (McDede file)	June 27, 1989
	RM Review-GCC (McDede file)	June 29, 1989
	RM Review-TPDM Mech. (McDede file)	July 6, 1989
	RM Review-PMU (McDede file)	July 6, 1989
	RM Review-LGA Boom Mech. (McDede file)	July 6, 1989
	RM Review-RCS (McDede file)	July 12, 1989
	RM Review-VCU (McDede file)	July 18, 1989

RM Review-GEA (McDede file)		July 18-19, 1989
RM Review-MCE (McDede file)		July 18-19, 1989
RM Review-IMU and Thermal (McDede file)		August 3, 1989
OMV PDR Structure, RID Question Summary, RID Cost Summary, OMV Software Board PDR pre-board, OFP RIDs with costs (McDede file)		November 2, 1989-May 9, 1
Software PDR RID Closure Agreements (RID No. 0-001 to 0-044) (McDede file)		1989-1990
Software PDR RID Closure Agreements (RID No. 0-045 to 0-077) (McDede file)		1989-1990
Software PDR RID Closure Agreements (RID No. 0-079 to 0-105) (McDede file)		1989-1990
Software PDR RID Closure Agreements (RID No. 0-107 to 0-141) (McDede file)		1989-1990
Software PDR RID Closure Agreements (RID No. 0-142 to 0-147) (McDede file)		1989-1990
SubHeading:	**Box Number: 06**	
OFP RIDs never assigned number (McDede file)		October-November 1989
Editorial RIDs (McDede file)		October 1989
Introductory Material for MOS-RIDs (McDede file)		October 31, 1989-May 9, 1
Software PDR RID Closure Agreements (RID No. M-001 to M-034) (McDede file)		1989-1990
Software PDR RID Closure Agreements (RID No. M-035 to M-082) (McDede file)		1989-1990
Software PDR RID Closure Agreements (RID No. M-083 to M-107) (McDede file)		1989-1990
MOS RIDs without M-numbers (McDede file)		October-November 1989
MOS RID Editorials (McDede file)		October-November 1989
S/W PDR Question and Answer Table of Contents (typed), personal comments by various personnel (McDede file)		October-November 1989
Prototype Ground Control Console (PGCC), User's Guide Revision 1.0 (McDede file)		March 21, 1989
OMV GCC Requirements for the Systems Engineering Simulator (SES), Preliminary (McDede file)		May 31, 1989
MICB Change Requests/Directives Log Sheet (typed) (Gerstenmaier)		1989-1990
SubHeading:	**Box Number: 07**	
SES Simulation Runs (Veres file)		1988-1989
OMV Man-Machine Interface (MMI) evaluation of the PGCC, 1st trip (Veres file)		February 25, 1989
OMV MMI evaluation of the PGCC, 2nd trip (Veres file)		April-May 1989
OMV MMI evaluation, 3rd trip (Veres file)		July-August 1989
OMV MMI evaluation, 4th trip (Veres file)		October 1989-February 199
OMV MMI evaluation, 5th trip (Veres		February 17-April 27, 199

	file)	
	PGCC User's Guide, MMI review (Veres file)	March 5, 1990
	OMV Operational Concerns (Veres file)	April 10, 1990
	Development of the MMI for the OMV Pilot Station, Preliminary Report (Veres file)	April 26, 1990
	Weekly Activity Report (Veres file)	January 20, 1989
	Weekly Activity Report (Veres file)	May 4, 1990
	OMV Crew Procedures (Various documents) (Veres file)	1989
	OMV Piloting Mode Priorities, Revised (Veres file)	May 18, 1987
	OMV Crew Procedures (Various documents) (Veres file)	1990
	OMV Docking (Various documents) (Veres file)	1989-1990
	OMV Piloting (Various documents) (Veres file)	1987-1990
	OMV Navigation System (Various documents) (Veres file)	1987-1989
SubHeading:	**Box Number: 08**	
	OMV Rendezvous (various documents) (Veres file)	1987-1989
	OMV Safety Document (Veres file)	December 1988
	OMV-STS-SSF (various documents) (Veres file)	1989-1990
	OMV DAP (Veres file)	1989
	OMV Flight Data File (FDF) Requirements (Veres file)	1989
	OMV Collision Avoidance Maneuver (CAM) (various documents) (Veres file)	1987-1989
	OMV Simulators/Requirements (various documents)(Veres file)	1987-1990
	OMV Performance (various documents) (Veres file)	1989-1990
	OMV DDT&E Mission (OMV First Flight) (Veres file)	May 1989
	OTF Level B System Descriptions (various documents)(Veres file)	January-March 1989
	OMV SES Upgrade (Veres file)	1989
	OMV Mate/Demate/SPDS (various documents)(Veres file)	February-May 1989
	Software PDR RIDs (various documents) (Veres file)	1989-1990
	OMV Quarterly Review (various documents) (Veres file)	April 1990
	ADF/GCC materials (Veres file)	May 1990
	PGCC to JSC (various documents) (Veres file)	May 1990
SubHeading:	**Box Number: 09**	
	OMV R/R Sensor ECR (various documents) (Veres file)	1988-1990
	OMV/HST Lighting Test (various documents) (numerous color photographs) (Veres file)	1989-1990
	GCC "RM" Pitch (Veres file)	1989
	Video "RM" Pitch (Veres file)	1988-1989
	GCC Switches (Veres file)	1989

	SMARTS (various documents) (Veres file)	1989-1990
	SES IC's (Veres file)	March-April 1989
	External Delta V (various documents) (Veres file)	1989
	Auto Inertial Stationkeeping (Veres file)	1989
	DM/FM OMV Trajectory Splinter Group (papers) (Veres file)	1988-1989
	Test to Determine Optical Magnification Required To Discern Pin Within Ring of OMV Docking Target at Range of 10 Ft. (videocassette) (Veres file)	July 9, 1989
	OMV/STS Integration Approach (Veres file)	December 11, 1986
	OMV First Flight Symposium (Veres file)	April 26, 1990
	OMV Communications Security (COMSEC) (Veres file)	1987-1988
	OMV Commanding Operations and OMV Operations Office-Responsibilities and Tasks (Veres file)	1987-1990
	Descope of J. McDede (joke) (Veres file)	November 7, 1989
	OMV Level A Training Requirements, Final	April 14, 1988
	OMV Training Facility (OTF)/Spacelab Simulator (SLS) Upgrade-System Requirements Review	November 14, 1988
	JSC-23102 System Analysis Plan for the OMV OTF	December 19, 1988
SubHeading:	**Box Number: 10**	
	JSC 34240 OMV Training Facility Level B- Requirements (Preliminary)	March 13, 1989
	JSC 34240 OMV Training Facility Level B- Requirements (Final)	May 1, 1989
	JSC 22976 (Revision A) System Functional Requirements for the OMV OTF	October 13, 1989
	OMV OTF-System/Subsystem Functional Design Review (Part 1)	May 3-4, 1990
	OMV OTF-System/Subsystem Functional Design Review (Part 2)	May 3-4, 1990
	OTF SFDR Attachment I-Command List	n/d
SubHeading:	**Box Number: 11**	
	JSC 22976 (Appendix II) Subsystem Functional Requirements for the OMV OTF - Host Computer Subsystem	September 20, 1989
	JSC 22976 (Appendix II) Subsystem Functional Requirements for the OMV OTF - Host Computer Subsystem	December 20, 1989
	JSC 22976 (Appendix III) Subsystem Functional Requirements for the OMV OTF - Visual Generation Subsystem	September 5, 1989
	JSC 22976 (Appendix III) Subsystem Functional Requirements for the OMV OTF - Visual Generation Subsystem	November 28, 1989
	JSC 22976 (Appendix IV) Subsystem Functional Requirements for the OMV OTF - Student Console Subsystem	September 8, 1989
	JSC 22976 (Appendix V) Subsystem Functional Requirements for the OMV OTF - Instructor/Operator Station (IOS) Subsystem	November 16, 1989
	JSC 22976 (Appendix VI) Subsystem	November 28, 1989

	Functional Requirements for the OMV OTF - Data Acquisition System (DAS) Subsystem	
	JSC 22976 (Appendix VII) Subsystem Functional Requirements for the OMV OTF - Onboard Computer (OBC) Subsystem	September 9, 1989
	JSC 22976 (Appendix VII) Subsystem Functional Requirements for the OMV OTF - Onboard Computer (OBC) Subsystem	November 28, 1989
	JSC 22976 (Appendix VIII) Subsystem Functional Requirements for the OMV OTF - OMV Full-up Network Subsystem	September 5, 1989
	JSC 22976 (Appendix IX) Subsystem Functional Requirements for the OMV OTF - Development/Reconfiguration Subsystem	November 30, 1989
	JSC 23430 Study Analysis Report for the OMV OTF- Environment/OBS Simulation Implementation, SMS I/F Implementation, and CMIS Impact	April 17, 1989
SubHeading:	**Box Number: 12**	
	JSC 23431 Study Analysis Report for the OMV OTF- Onboard Computer Implementation	April 17, 1989
	JSC 23433 Study Analysis Report for the OMV OTF- Visual System Selection and Implementation	April 1, 1989
	JSC 23434 Study Analysis Report for the OMV OTF- Student Pilot Console Selection and Implementation	April 4, 1989
	CAE-LINK/JSC/MSFC/CDC Technical Interchange Meeting	November 17, 1989
	Meeting Minutes for the OTF Subsystem Functional Requirements (SSFR) documents RID Review	November 2, 1989
	OMV/TDRSS Requirements	January 3, 1990
	TDRSS Navigation Alternatives- OMV Quarterly Review	April 24, 1990
	JSC 23432 Study Analysis Report for the Multiprogram Training Facility (MPTF) - Host Selection and Implementation	July 15, 1989
	JSC 22992 Development Plan for the MPTF OMV OTF Development Project and Spacelab Simulator (SLS) Upgrade Project	August 18, 1989
	JSC 24041 Test Report for the MPTF SLS Input/Output (I/O) Switch Evaluation for the Signal Conversion Equipment (SCE)	October 27, 1989
	JSC 23421 (Volume 0) System Functional Design Specification (SFDS) for the MPTF, MPTF Concept	December 18, 1989
	JSC 22992 Development Plan for the MPTF OMV OTF Development Project and SLS Upgrade Project	January 17, 1990
	JSC 22992 Development Plan for the MPTF OMV OTF Development Project and SLS Upgrade Project	February 14, 1990
SubHeading:	**Box Number: 13**	
	JSC 23435 Study Analysis Report for the OMV OTF Multiprogram Control Center (MPCC) Interface Network Simulation Implementation	April 14, 1989
	JSC 11534, Volume VIII GCC/MPCC Interface Control Document for OMV	July 1989

Missions (Preliminary)

JSC 12490 MPCC System Specification Delivery 2 (Preliminary)	May 1990
JSC 13186 MPCC Integration Plan for Delivery 2	May 1990
MPCC Delivery 2-System Design Review	May 24-25, 1990
JSC 11534, Vol. VIII JSC/GCC/MPCC Operational Communications ICD for OMV Missions	n/d
JSC 12490 MPCC System Design Specification Delivery 2 (Preliminary)	n/d