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George C. Marshall Space Flight Center
Marshall Space Flight Center, Alabama 35812

Marshall Space Flight Center 1989 Annual Chronology of Events

Compiled by
Management Operations Office

FOREWORD

This is the "Marshall Space Flight Center 1989 Annual Chronology of Events" covering the period January 1, 1989 to December 31, 1989. It records the Center's most important activities in support of the National Aeronautics and Space Administration during the period. Readers who want to trace the chronological progression of specific programs or topics may consult the detailed index that follows the text of the chronology.

The MSFC Historian, Management Operations Office, compiled the chronology from various sources. The historian also gathered supplemental information from the major MSFC organizations. Readers who want to know more about any of the events that are listed may consult the historian, the appropriate MSFC organization, or the sources that follow the description of events.

C. D. Bean
Director
Human Resources & Administrative Support

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1989 ANNUAL CHRONOLOGY OF EVENTS

January 2

The January 2, 1989, issue of Aviation Week & Space Technology recognized MSFC Director J. R. Thompson and Assistant to the Director John Thomas. Thompson was honored for his "frank contributions to the Rogers Commission on the Challenger accident and later for inspired and enthusiastic leadership at Marshall that boosted the entire space program..." Thomas was recognized for leading the Solid Rocket Motor Design Team which worked to improve the motor prior to the Shuttle's return to flight. (Aviation Week & Space Technology, January 2, 1989)

January 3

Aerospace Daily reported that MSFC had awarded Micro Craft Inc., Tullahoma, Tennessee, a 3-year, $4.7 million contract for test model hardware design and support. (Aerospace Daily, January 3, 1989)

January 3

E. Ray Tanner, Manager of the Space Station Projects Office at MSFC, became Director of the Space Station Freedom Program Office in Reston, Virginia. The international space station was expected to permit establishment of a permanent human presence in Earth orbit including unmanned scientific platforms in polar orbits. (Aviation Week & Space Technology, January 2, 1989; Aerospace Daily, January 3, 1989; Marshall Star, January 4, 1989)

January 5

Alabama Governor Guy Hunt and MSFC Director J. R. Thompson signed a memorandum of understanding to promote the transfer of technology derived from America's efforts in space to Alabama's private sector. (1989 Historical Chronology for MSFC Technology Utilization Office)

January 6

Robert J. Schwinghamer was appointed Deputy Director for Space Transportation Systems in MSFC's Science and Engineering Directorate. (Management Announcement, January 6, 1989)

January 9

The NASA Administrator outlined a $13.3 billion FY90 budget request for the Agency, including $2.1 billion for Space Station Freedom. Approximately 23 percent of the overall agency budget was proposed for MSFC. This would mean about $3.1 billion for MSFC. (Marshall Star, January 18, 1989; JSC Roundup, January 13, 1989)

January 11

The Marshall Star announced that MSFC and the USBI Company had finalized the restructuring of USBI's Space Shuttle solid rocket booster assembly and refurbishment contract, including extending the period of performance from September 30, 1989, to September 30, 1994, and adding $1 billion to the total contract value. This brought the total contract value to $1.6 billion. (Aerospace Daily, January 3, 1989; Marshall Star, January 11, 1989)

January 11

Roger Crouch of NASA and Ulf Merbold of the European Space Agency were appointed by NASA as two candidate payload specialists for the first flight of the MSFC-managed International Microgravity Laboratory aboard the Space Shuttle Columbia. The mission would be the first of a series of microgravity missions using the Spacelab module and focusing on materials and life sciences. (Aerospace Daily, January 17, 1989; Marshall Star, January 18, 1989; JSC Roundup, January 13, 1989)

January 13

The Research on Orbital Plasma Electrodynamics experiment engineering units were shipped to Italy. (MSFC History Office Microfiche #2282, "Notable MSFC Events During 1989," January 30, 1989)

January 17

An Orbital Maneuvering Vehicle (OMV) restructured program plan was presented by the OMV Program Office to Associate Administrator for Space Flight Richard Truly on January 6 and to NASA Administrator Dr. James C. Fletcher and NASA Deputy Administrator Dale Myers on January 17. Fletcher and Myers accepted a December 1993 launch date and reconfirmed the Level I requirements including a need for long-term space-basing. Early missions were discussed including WISP/Spartan as the DDT&E mission and Hubble Space Telescope revisits in March 1994 and possibly late 1995. Admiral Truly stated that reboost with the Shuttle Orbiter was inefficient and that the OMV was desirable. (See MSFC History Office Microfiche #2282, "Notable MSFC Events During 1989," January 23, 1989)

January 17-18

A comprehensive program review of the Combined Release and Radiation Effects Satellite Project was held at Ball Space Systems Division. Representatives from MSFC, NASA Headquarters, and the Air Force attended. (See MSFC History Office Microfiche #2282, "Notable MSFC Events During 1989," January 23, 1989)

January 18

Six German scientists/astronauts, members of Germany's Astronaut Cadre Team, a pool of scientists/astronauts formed by the German Space Agency, DFR, visited MSFC, including the Space Station Freedom mockup. The MSFC tour was one of several tours of NASA facilities that the team made prior to beginning formal training for the German Spacelab mission designated D-2. (Marshall Star, January 25, 1989)

January 18

The Marshall Star announced that NASA had released a new Space Shuttle manifest showing 61 Shuttle missions by September 1994. (Marshall Star, January 18, 1989)

January 20

The sixth and final full-scale static firing of NASA's redesigned Space Shuttle Solid Rocket Motor was successful. Qualification Motor-8 was chilled to a propellant temperature of 40 degrees Fahrenheit in Morton Thiokol's T-97 test cell near Brigham City, Utah. (See MSFC History Office Microfiche #2282, "Notable MSFC Events During 1989," January 23, 1989; Aviation Week & Space Technology, January 30, 1989)

January 20

MSFC awarded a letter contract to TRW for the Advanced X-Ray Astrophysics Facility. This permitted contractor go-ahead on a FY89-FY91 phased-development new-start covering systems requirements definition and long-lead optics technology development. (MSFC Observatory Projects Office Input for Marshall Space Flight Center 1989 Annual Chronology of Events)

January 20

The Associate Administrator for the Office of Space Science and Applications selected three focal plane science instruments (SIs) and two non-focal plane instrument gratings as the initial flight complement for launch with the Advanced X-Ray Astrophysics Facility (AXAF) in 1997. One SI bay on AXAF was intentionally left empty for economic reasons, although NASA planned to reconsider the situation at a later date. (MSFC Observatory Projects Office Input for Marshall Space Flight Center 1989 Annual Chronology of Events)

January 21

The Research on Orbital Plasma Electrodynamics experiment flight and ground support equipment was hand-carried to Italy by Southwest Research Institute personnel. (See MSFC History Office Microfiche #2282, "Notable MSFC Events During 1989," January 30, 1989)

January 23

In preparation for STS-29, Discovery was moved from the Orbiter Processing Facility at Kennedy Space Center to the Vehicle Assembly Building for mating with the External Tank and Solid Rocket Boosters. (JSC Roundup, January 27, 1989)

January 24

MSFC published a notice in Commerce Business Daily saying that a request for proposals would be issued on or about February 10 for preliminary design of the Space Transportation Main Engine and Booster Engines for the Advanced Launch System. The notice also said that an industry briefing would be held at MSFC on February 7. (Commerce Business Daily, January 24, 1989)

January 25

MSFC announced the award of contracts to TRW for the Lightning Mapper Sensor definition phase and an option for the sensor's hardware development phase. (MSFC Annual Procurement Report for 1989; MSFC News Release, January 25, 1989)

January 26

The NASA Administrator announced that the Agency would begin implementing a comprehensive drug prevention program in accordance with Executive Order 12564, entitled, "Drug Free Workplace." (Memorandum from Frank Bynum, MSFC Director of Personnel, to All Employees, December 7, 1989)

January 27

NASA announced that the two winners of the Laser Atmospheric Wind Sounder (LAWS) definition contracts were Lockheed in Huntsville and General Electric. LAWS was described as a detector and ranging system for measuring low altitude wind velocities from orbit. The instrument would be designed to improve wind speed measurements at low altitude and would be a major Earth Observing System payload. (MSFC Program Development Directorate Input for Marshall Space Flight Center 1989 Annual Chronology of Events)

January 29

Harold W. Hallisey was appointed MSFC Comptroller. (Management Announcement, January 13, 1989)

January 31-February 2

The Flight Operations Review for STS-30 was conducted at Johnson Space Center. Personnel representing the Inertial Upper Stage contractors, the Magellan contractors, MSFC, and the Jet Propulsion Laboratory participated. (See MSFC History Office Microfiche #2282, "Notable MSFC Events During 1989," February 13, 1990)

February 1

Shuttle program officials decided to remove and replace all three high-pressure oxidizer turbopumps prior to the launch of STS-29. Officials decided to replace the pumps in light of the discovery of a cracked bearing race in one of the pumps which flew on STS-27. (Marshall Star, February 8, 1989)

February 3

Space Shuttle Discovery rolled out to Launch Pad 39B at the Kennedy Space Center in preparation for STS-29. (Spaceport News, February 10, 1989)

February 3

NASA conducted the STS-29 Flight Readiness Review. (Spaceport News, March 10, 1989)

February 6

Engineers began removing the first two oxidizer turbopumps on Orbiter Discovery. The plan called for using procedures that were previously tested in a dry run. (Marshall Star, February 8, 1989)

February 6

Aerospace Daily reported that TRW, under a contract being negotiated with MSFC, would build a lightning mapper sensor to fly on the Geostationary Operational Environmental Satellite-M to provide data on lightning storms as they move around Earth. The article said that phase one of the contract would be a 1-year $500,000 sensor definition study. The sensor would be built during a 33-month, $12-million second phase. (Aerospace Daily, February 6, 1989)

February 6

A Terminal Countdown Demonstration Test for STS-29 began at at Kennedy Space Center at 7 a.m. The test concluded on February 7. (JSC Roundup, February 10, 1989)

February 7

An Advanced Launch System Propulsion Space Transportation Engine Program Phase B Industry Briefing was held at MSFC. Representatives from nine propulsion and vehicle companies attended. (See MSFC History Office Microfiche #2282, "Notable MSFC Events During 1989," February 13, 1989)

February 8

NASA officials announced the selection of scientific investigations for the EOS program, a multi-mission observation system of the 1990s to study global changes taking place in the Earth's environment. Marshall's Laser Atmospheric Wind Sounder represents one of the instruments for EOS. The sounder will provide real-time, global-scale wind profiles for the lowest weather producing layer of the Earth's atmosphere. (JSC Roundup, February 10, 1989; Marshall Star, July 27, 1988)

February 8-9

The kickoff meeting for the Atlas I (Atlas/Centaur) Combined Release and Radiation Effects integration was held at General Dynamics Space Systems (GDSS) in San Diego, California. Representatives from GDSS, Ball Aerospace, NASA Headquarters, Lewis Research Center, the Air Force, and MSFC attended. (MSFC History Office Microfiche #2282, "Notable MSFC Events During 1989," February 13, 1989)

February 9

Approximately 39 state leaders from Alabama and Tennessee participated in a day-long technology transfer orientation meeting at MSFC. (Marshall Star, February 15, 1989)

February 9

MSFC announced the award of a contract to General Dynamics for a study entitled, "Space Transportation Infrastructure." (MSFC Annual Procurement Report for 1989; MSFC News Release, February 9, 1989)

February 15

Maryland Senator Barbara Mikulski, Chairman of the Housing and Urban Development -- Independent Agencies Subcommittee, and Michigan Representative Bob Traxler, Chairman of a subcommittee by the same name in the House, visited MSFC. Their visit was intended to help them prepare for completion of the NASA FY90 budget appropriations process. (Marshall Star, February 15, 1989)

February 17

As part of Black History Month at MSFC, 10 black employees were honored for their career-long contributions to NASA. The ten were: James C. Rice, Jr.; Victoria J. Crawford; Delano R. Hyter; Earnest C. Smith; Tereasa H. Washington; Sandra O. Dickerson; Charles H. Scales; Gloria Hullet-Smith; and James E. Wyckoff. (Marshall Star, February 22, 1989)

February 21

Inertial Upper Stage-18 was mated with the Magellan spacecraft in the Vertical Processing Facility at the Kennedy Space Center. (MSFC History Office Microfiche #2282, "Notable MSFC Events During 1989," February 27, 1989)

February 22

Engineers completed work on replacing two oxidizer turbopumps on Orbiter Discovery. (Marshall Star, March 1, 1989)

February 25

MSFC test engineers successfully tested Space Shuttle Main Engine 0208 for 45 seconds in MSFC's West Test Area. The test was the fourth in the Technology Test Bed. (MSFC History Office Microfiche #2282, "Notable MSFC Events During 1989," March 6, 1989; Aerospace Daily, February 28, 1989; Marshall Star, March 1, 1989)

February 26

TRW was awarded a two-part definition contract for the Advanced X-Ray Astrophysics Facility (AXAF). Part One was for a $162 million contract for High Resolution Mirror Assembly Optics Technology and Mirror Development through October 1991. Part Two was for a $716 million option to include AXAF design, development, delivery, and operations support through launch in April 1997, plus one year. (MSFC Program Development Directorate Input for Marshall Space Flight Center 1989 Annual Chronology of Events)

February 27

MSFC announced that a modified Air Force C-5 Galaxy would be used to transport the Hubble Space Telescope from its assembly contractor in California to its launch site at the Kennedy Space Center. (MSFC News Release, February 27, 1989)

February 27

The first of two Shuttle-C mockup engines was delivered to MSFC. (MSFC History Office Microfiche #2282, "Notable MSFC Events During 1989," March 6, 1989)

March 1

President Bush announced the establishment of a National Space Council that will be the "principal forum for coordination" of commercial, scientific, and military activities in space. Vice President Quayle was named Chairman of the council. (The Huntsville Times, March 2, 1989)

March 2

MSFC selected Aerojet General Corporation, Rockwell International and United Technology Corporation to develop efforts for demonstrating mature new propulsion technologies for the Nation's Advanced Launch System. (NASA News Release, December 22, 1989)

March 5

Astro-1 crew training was conducted in the MSFC Payload Crew Training Complex during the week of March 5-11. (MSFC History Office Microfiche #2282, "Notable MSFC Events During 1989," March 20, 1989)

March 5

A symposium entitled, "Space Commercialization -- Roles of Developing Countries," was held in Nashville on March 5-9. It was sponsored by the University of Tennessee Space Institute. (MSFC History Office Microfiche #2282, "Notable MSFC Events During 1989," March 21, 1989)

March 8

The Marshall Star reported that the National Space Club had selected John W. Thomas, Assistant to the MSFC Director, and Keith D. Coates, Chief Engineer in the Space Shuttle Solid Rocket Motor Engineering Office, as recipients of its Eagle Manned Mission Success Award. They were selected based on their work in returning the Space Shuttle to flight following the Challenger accident. (Marshall Star, March 8, 1989)

March 13

Relying on MSFC-provided propulsion elements, Space Shuttle Discovery soared into space to begin the STS-29 mission. STS-29 carried the Inertial Upper Stage-9/Tracking and Data Relay Satellite-D. The mission also included a Marshall-managed middeck payload consisting of a protein crystal growth experiment. (Aerospace Daily, March 14, 1989; Marshall Star, March 15, 1989)

March 13

The IUS/TDRS-D payload was deployed as part of STS-29. The IUS and its related airborne support equipment performed successfully. The TDRS-D spacecraft was placed in its geosynchronous orbit well within all specification requirements. (MSFC History Office Microfiche #2282, "Notable MSFC Events During 1989," March 20, 1989)

March 14

NASA Administrator Dr. James C. Fletcher and Japanese Ambassador H. E. Nobuo Matsunaga signed a memorandum of understanding for cooperation in the detailed design, development, operation, and utilization of the permanently manned civil space station. Japan will provide the Japanese Experiment Module (JEM) to the space station. The JEM, to be permanently attached to the station base, consists of a pressurized module, at least two experiment logistics modules and an exposed facility, which will allow experiments to be exposed to the space environment. (JSC Roundup, March 17, 1989)

March 15

In support of MSFC's Huntsville Operations Support Center, a new all digital voice system was placed in operation. (MSFC Institutional and Program Support Directorate Input for Marshall Space Flight Center 1989 Annual Chronology of Events)

March 17

The Inertial Upper Stage-18/Magellan Flight Certification Review for STS-30 was successfully completed at Kennedy Space Center. (MSFC History Office Microfiche #2282, "Notable MSFC Events During 1989," March 20, 1989)

March 18

MSFC Director J. R. Thompson, speaking at an Employee Update, expressed confidence that NASA would receive most, if not all, of its FY90 budget request. Thompson also noted that more than 1,000 new employees had come to MSFC during the previous 3 years and personnel officials were expected to hire approximately 400 more. (Marshall Star, March 22, 1989)

March 18

Space Shuttle Discovery and its five-man crew landed at Edwards Air Force Base, ending the 5-day, STS-29 mission. (Marshall Star, March 22, 1989)

March 20

President Bush selected "Endeavour" as the name for the replacement Space Shuttle Orbiter. The name resulted from a nationwide competition supported by educational projects created by student teams in elementary and secondary schools. (NASA News Release, December 22, 1989)

March 21

Dr. James C. Fletcher, the longest serving NASA Administrator, submitted his resignation effective April 8. Fletcher first served as NASA Administrator from April 1971 to May 1977. President Reagan asked Fletcher to return to the position in May 1986. With the successful conclusion of the third post-Challenger Shuttle mission, Fletcher said he felt he could retire. (Aerospace Daily, March 22, 1989; NASA News Release, March 21, 1989)

March 21

NASA announced that it had issued the final environmental impact statement for the planned Advanced Solid Rocket Motor project, an approximately 5-year-long program to design, develop, test, and evaluate the next generation of Space Shuttle Solid Rocket Motors. (MSFC News Release, March 21, 1989)

March 22-23

The 1989 NASA Historically Black Colleges and Universities Space Science and Engineering Research Forum was hosted by Alabama A&M University. (MSFC Equal Opportunity Office Input for Marshall Space Flight Center 1989 Annual Chronology of Events)

March 23

U.S. Senator Robert C. Byrd, West Virginia Governor Gaston Carpenter, the Directors of MSFC, the Goddard Space Flight Center, and the Langley Research Center signed a memorandum of understanding to promote the transfer of technology derived from America's efforts in space to West Virginia's private sector. (1989 Historical Chronology for MSFC Technology Utilization Office)

March 27

MSFC officials reported that the Combined Release and Radiation Effects Satellite/Payload Adapter Modal Survey Test had been completed at Ball Space Systems Division. (MSFC History Office Microfiche #2282, "Notable MSFC Events During 1989," March 27, 1989)

March 28

Following a March 28 hearing in which the Aerospace Safety Advisory Panel presented a report to NASA, Aviation Week & Space Technology published an article saying that "NASA last week was advised by its top outside safety panel to drop the multi-billion dollar program to develop a new space shuttle solid rocket motor and spend the money instead on other shuttle safety concerns." (Aviation Week & Space Technology, April 3, 1989)

March 29

Consort 1, a package of materials science investigations was launched atop a commercially-provided rocket at White Sands Missile Range in New Mexico. The mission was conceived and managed by the Consortium for Materials Development in Space at the University of Alabama in Huntsville. The mission represented a pilot project in which $1.4 million in NASA grant monies, provided to the UAH Center for Commercial Development, financed the purchase of commercial launch services and payload integration. The mission processed more than 100 experiment samples. (NASA News Release, April 21, 1989)

March 29

NASA Administrator Dr. James C. Fletcher visited MSFC to bid farewell to employees. (Marshall Star, April 5, 1989)

March 29

The orientation meeting for the Earth Sensing Geostationary Platform definition (Phase A) instrument studies was held at MSFC. Teams representing the eight Phase A studies came from MSFC, the Jet Propulsion Laboratory, Langley Research Center, the National Oceanic and Atmospheric Administration, and the University of Wisconsin. (MSFC Program Development Directorate Input for Marshall Space Flight Center 1989 Annual Chronology of Events)

March 29

Aerospace Daily reported that MSFC had awarded contracts for phase one studies of hybrid propulsion technology to four companies. Contracts were awarded to United Technologies, Chemical Systems Division, $583,496; Aerojet General Corporation, $500,992; Atlantic Research Corporation, $487,632; and General Dynamics Corporation, Space Systems Division, $526,466. (Aerospace Daily, March 29, 1989)

March 31

A request for proposals for the Advanced Launch System Space Transportation Engine Program (STEP) was released to industry. (MSFC History Office Microfiche #2282, "Notable MSFC Events During 1989," April 3, 1989)

April 6

MSFC engineers successfully tested an advanced Space Shuttle Main Engine for 2 minutes in the West Test Area. The test was the fifth in NASA's new Technology Test Bed and the longest test of any advanced Shuttle engine at Marshall since testing started in the facility in September 1988. (Marshall Star, April 12, 1989)

April 12

The Marshall Star reported that MSFC was initiating a program to share the scientific and engineering data from flight experiments with American colleges and universities. The pilot program, called the NASA/University Joint Venture Initiative, was designed to make available scientific and engineering data generated from space missions in exchange for analysis and interpretation by faculty members and students. Auburn University, Northwestern State University of Louisiana, and West Virginia University were among those who had agreed to participate. (Marshall Star, April 12, 1989)

April 12

The White House announced the selection of NASA Associate Administrator for Space Flight Rear Admiral Richard H. Truly as the new NASA Administrator and the selection of MSFC Center Director J. R. Thompson as NASA Deputy Administrator. (Marshall Star, April 19, 1989)

April 13

The Subcommittee on Space Science and Applications of the U.S. House of Representatives Committee on Science, Space, and Technology held a hearing on various reapplications of technologies originally developed by NASA. MSFC's Jewell Belcher and Jim Carden, a retired MSFC employee, were invited by the subcommittee to present the project entitled, "Below the Elbow Prosthesis End Effectors/Terminal Devices for Unilateral Amputees." (MSFC History Office Microfiche #2282, "Notable MSFC Events During 1989," April 17, 1989)

April 17

The Hubble Space Telescope marked a major milestone with the installation of the first of two solar array wings to supply electrical power to the telescope. The second wing was installed April 18. The work was performed at Lockheed Missile and Space Company in Sunnyvale, California. (MSFC History Office Microfiche #2282, "Notable MSFC Events During 1989," April 24, 1989; Marshall Star, April 26, 1989)

April 18

General Pierre Betin, Executive Vice President of the Societe Europeenne de Propulsion, visited Huntsville to brief officials from MSFC and from the Army Missile Command on the European Space Agency's Ariane launch vehicle program. (MSFC History Office Microfiche #2282, "Notable MSFC Events During 1989," April 24, 1989)

April 19

MSFC Director J. R. Thompson and Arlen R. Moss, President of the American Federation of Government Employees Local 3434, signed a new 3-year collective bargaining agreement. (Marshall Star, May 3, 1989)

April 21

NASA announced support for a series of commercial sounding rocket flights that will provide opportunities for the exploration of industrial space applications by NASA-sponsored Centers for Commercial Development of Space (CCDS). The announcement followed the successful flight of Consort 1, a package of materials science investigations launched on March 29. (NASA News Release, April 21, 1989)

April 21

NASA selected Lockheed Missile Systems Division and its principal subcontractor, Aerojet Space Booster Company, for final negotiations leading to the award of a contract to design, develop, test, and evaluate a Space Shuttle Advanced Solid Rocket Motor (ASRM) and a contract for construction of facilities for production and testing of the ASRM hardware. (MSFC Annual Procurement Report for 1989; NASA News Release, December 22, 1989)

April 21

The Ground Operations Review for the Galileo mission (Inertial Upper Stage-19/STS-34) was held at the Kennedy Space Center. (MSFC History Office Microfiche #2282, "Notable MSFC Events During 1989," April 24, 1989)

April 25

The seventh Space Shuttle Main Engine Computational Fluid Dynamics Workshop was held April 25-27 at MSFC. (MSFC History Office Microfiche #2282, "Notable MSFC Events During 1989," May 8, 1989)

April 26

The Marshall Star reported that a full-sized Shuttle-C Engineering Development Unit had been built at MSFC to assist MSFC's Shuttle-C Task Team in studying such areas as systems design and integration, subsystems packaging concepts, development testing, and payload interfaces. (Marshall Star, April 26, 1989)

April 26

MSFC engineers successfully tested an advanced Space Shuttle Main Engine for 140 seconds in Marshall's Technology Test Bed Facility. (Marshall Star, May 3, 1989)

April 26

Richard A. Marmann, Manager, Mission Management Office in the Payload Projects Office, was appointed Deputy Manager, Payload Projects Office, replacing Harry G. Craft. (Management Announcement, April 26, 1989)

May 1

Five contractors began Phase A Systems Definition studies for the Advanced Launch System Solid Rocket Booster. The contractors were Aerojet Solid Propulsion, Chemical Systems Division, Morton Thiokol, Hercules, and Atlantic Research. (MSFC History Office Microfiche #2282, "Notable MSFC Events During 1989," May 8, 1989)

May 2

A Combined Release and Radiation Effects Satellite Quarterly Review was held at Ball Space Systems Division. (MSFC History Office Microfiche #2282, "Notable MSFC Events During 1989," May 8, 1989)

May 3

Harry G. Craft, Deputy Manager of the MSFC Payload Projects Office, was named Manager of the Payload Projects Office, replacing James A. Downey who retired from federal service. (Management Announcement, May 3, 1989)

May 4

The Space Shuttle Atlantis astronauts successfully deployed the Magellan spacecraft using the Marshall-managed Inertial Upper Stage. STS-30 astronauts David Walker, Ronald Grabe, Norman Thagard, Mary Cleave, and Mark Lee landed May 8. (NASA News Release, December 22, 1989)

May 7

Frank W. Bynum assumed duties as Director of the MSFC Personnel Office. (Management Announcement, May 7, 1989)

May 9

Astro-1 crew members, Jeff Hoffman, Ron Parise, Mike Lounge, and Guy Gardner, visited MSFC for payload crew training for the Astro-1 Spacelab mission. (Marshall Star, May 17, 1989)

May 9

An MSFC/Harvard balloon payload was successfully launched from Alice Springs, Australia. Several targets, including Supernova 1987A, were observed. (MSFC History Office Microfiche #2282, "Notable MSFC Events During 1989," May 22, 1989)

May 11

Robert L. Morris became Manager of the Aeroassist Flight Experiment in MSFC's Payload Projects Office. (Management Announcement, May 11, 1989)

May 11

Robert P. Baker was appointed appointed Manager of the Combined Release and Radiation Effects Satellite Project in MSFC's Space Systems Projects Office. (Management Announcement, May 11, 1989)

May 18

Acting NASA Administrator Richard Truly named Dr. William Lenoir, a former astronaut, to be Associate Administrator for Space Station and directed him to develop a plan for consolidating NASA's Office of Space Flight and Office of Space Station. (Aerospace Daily, May 19, 1989)

May 18

MSFC employees, Rose Ann Goss and Dennis Keim, joined MSFC Deputy Director Jack Lee in unveiling a monument dedicating the Space Shuttle Park at the Space and Rocket Center to the crew of the Space Shuttle Challenger. The marker was donated by Center employees through the MSFC Exchange. (Marshall Star, May 24, 1989)

May 18

The NASA Management Council met May 18-19 to review technical changes recommended following an audit by the Space Station Project Office in Reston, Virginia. (Aviation Week & Space Technology, May 29, 1989)

May 18

G. Porter Bridwell, Director of the Institutional and Program Support Directorate at MSFC, was appointed Manager of MSFC's Shuttle Projects Office, succeeding William R. Marshall, who retired. In addition, Robert G. Sheppard had been named Director of MSFC's Institutional and Program Support Directorate, replacing Bridwell. (Management Announcement, May 18, 1989; Marshall Star, May 24, 1989)

May 19

MSFC announced that Sverdrup Technology, Inc., of Tullahoma, Tennessee, had been selected for final negotiations leading to the award of a contract for engineering support services for MSFC's Science and Engineering Directorate. (MSFC Annual Procurement Report for 1989; Marshall Star, May 24, 1989)

May 24

Space Station Freedom representatives from MSFC and the Johnson Space Center met to discuss man-systems, environmental control and life support, medical support, associate contractor management strategies, preliminary design review plans, and audio/video systems. (MSFC History Office Microfiche #2282, "Notable MSFC Events During 1989," June 5, 1989)

May 25

MSFC Director J. R. Thompson conducted his 14th Center Employee Update. Thompson said NASA would aggressively pursue Space Station Freedom despite budget uncertainties. (Marshall Star, May 31, 1989)

May 25

Approximately 350 people from industry, government, and other organizations began a 2-day Shuttle-C users conference at MSFC. (MSFC History Office Microfiche #2282, "Notable MSFC Events During 1989," June 5, 1989)

May 26

In response to a NASA Headquarters request, MSFC submitted a management proposal to the Office of Space Science and Applications for the purpose of acquiring the Space Infrared Telescope Facility (SIRTF) preliminary design and development responsibility. In addition to MSFC's proposal, three other Centers (Ames Research Center, Goddard Space Flight Center and the Jet Propulsion Laboratory) submitted SIRTF proposals. (MSFC Program Development Directorate Input for Marshall Space Flight Center 1989 Annual Chronology of Events)

May 30

MSFC officials reported that a study of the feasibility of stabilizing and reboosting elements of the Space Station between Shuttle assembly missions had been completed. (MSFC History Office Microfiche #2282, "Notable MSFC Events During 1989," May 30, 1989)

May 31

An Astro-1 Payload Operations Working Group met at Johnson Space Center on May 31-June 1 to discuss the mission and plans for a simulation. (MSFC History Office Microfiche #2282, "Notable MSFC Events During 1989," June 5, 1989)

June 2

MSFC Deputy Director Jack Lee accepted a President's Council on Management Improvement Award in Vienna, Virginia. The award recognized MSFC's Productivity Enhancement Complex for developing new materials, processes, and assembly techniques to enhance the space program. (Marshall Star, June 7, 1989)

June 2

NASA announced that the University of Alabama in Huntsville and Auburn University were among 36 universities selected as recipients of 3-year grants to design advanced aeronautics and space mission concepts as topics for senior engineering design courses. (MSFC News Release, June 2, 1989)

June 3

Engineers test fired a 26-foot long, 100,000-pound thrust Solid Rocket Motor in Marshall's East Test Area. Engineers fired the modified motor to learn more about Solid Rocket Motor insulation and to provide recently hired Marshall engineers with direct experience in Solid Rocket Motor technology. (Marshall Star, June 7, 1989)

June 6

The MSFC Information Systems Office's Huntsville Operations Support Center (HOSC) Team began 4 days of participation in an around-the-clock Hubble Space Telescope HOSC familiarization and simulation training exercise. (MSFC History Office Microfiche #2282, "Notable MSFC Events During 1989," June 12, 1989)

June 7

MSFC mission operations controllers and science crew members for Astro-1 participated in a dry run of a 24-hour portion of the ultraviolet and x-ray astronomy mission. (MSFC History Office Microfiche #2282, "Notable MSFC Events During 1989," June 12, 1989; Marshall Star, June 14, 1989)

June 8

A Quarterly Review was held at Martin Marietta Astronautics Group in Denver for the Transfer Orbit Stage. (MSFC History Office Microfiche #2282, "Notable MSFC Events During 1989," June 8, 1989)

June 9

Paul H. Schuerer was appointed Director of Marshall's Materials and Processes Laboratory. (Management Announcement, June 9, 1989)

June 13

The MSFC Director's Third Annual NASA Employee Team (NET) Recognition Program was held. The program honored 17 teams and presented a special award to Center Director J. R. Thompson for his support and commitment to the NET program. (Marshall Star, June 28, 1989)

June 14

The Marshall Star reported the first Astro-1 simulation in the new MSFC Payload Operations Control Center. (Marshall Star, June 14, 1989)

June 15

MSFC distributed a proposed NASA policy regarding the vulnerability of NASA's Computer Systems to software contamination. (Memorandum from John Lynn to Distribution, June 15, 1989)

June 15

The first and largest of 12 mirror blanks for the Advanced X-Ray Astrophysics Facility was delivered to Perkin-Elmer from Schott Industries of West Germany. The 1.2-meter diameter blank, identified as P-1, was delivered in order to initiate the AXAF mirror grinding and polishing process. This will lead to testing at MSFC in August 1991 of the largest mirror pair for AXAF. (MSFC Observatory Projects Office Input for Marshall Space Flight Center 1989 Annual Chronology of Events)

June 17

MSFC's Gerald Smith assumed duties as Deputy Director of NASA's John C. Stennis Space Center. Since 1986, Smith had managed the Solid Rocket Booster Project in MSFC's Shuttle Projects Office. (MSFC Release, June 17, 1989)

June 18-25

Twenty-five math and science teachers representing a variety of states began taking part at Marshall on June 18 in NASA's Educational Workshop for Math and Science Teachers (NEWMAST). The program was initiated in 1984 to provide honors teachers with opportunities to receive indepth hands-on experience with many facets of space research and exploration. (Marshall Star, June 14, 1989)

June 20

Jerry W. Smelser was appointed Manager of MSFC's Space Shuttle Main Engine Projects Office. Lowell Zoller was appointed head of the Advanced Solid Rocket Motor Project Office at Marshall. (Management Announcement, June 20, 1989)

June 20

AIAA and NASA sponsored a major Space Station Freedom Symposium June 20-22 in Vienna, Virginia. Marshall's George Hopson and Boeing's Bob Hager presented overviews of the U.S. Habitability and Laboratory Modules. (MSFC History Office Microfiche #2282, "Notable MSFC Events During 1989," June 26, 1989)

June 22

MSFC Director J. R. Thompson and Tennessee Governor Ned Ray McWherter signed an agreement to make space-age technology available for use by Tennessee industry. The agreement promoted the transfer of technology derived from the space program to the Tennessee business and industrial community. (1989 Historical Chronology for MSFC Technology Utilization Office)

June 22

An Inertial Upper Stage Quarterly Review was held and included a full review of the Payload Assist Module-3 third stage for the Ulysses mission. (MSFC History Office Microfiche #2282, "Notable MSFC Events During 1989," June 26, 1989)

June 22

An Advanced Launch Systems Conference was in progress at MSFC. (Marshall Star, June 28, 1989)

June 22

George Rodney, Associate Administrator for Safety, Reliability, Maintainability, and Quality Assurance, visited MSFC for a comprehensive briefing regarding Space Station Freedom. (MSFC History Office Microfiche #2282, "Notable MSFC Events During 1989," June 26, 1989)

June 28

Massachusetts Senator John Kerry, a member of the Senate Commerce, Science, and Transportation Committee, visited MSFC for a briefing on Space Station Freedom and on MSFC's involvement in other NASA programs. (Marshall Star, July 5, 1989)

June 28

Jack J. Nichols was appointed Chief Engineer for the Advanced Solid Rocket Motor Project. Myron A. Pessin was appointed Chief Engineer for the External Tank/Shuttle Systems. (Management Announcement, June 28, 1989)

June 30

A review of the Tumbling Satellite Retrieval System (TSRS), including a system simulation and demonstration, was conducted at Grumman in Bethpage, New York. Following the formal review of the concept design, a real-time demonstration of a three-finger capture device, capturing a rotating spacecraft at 4 revolutions per minute was demonstrated. Simulations were expected to continue in order to investigate tactics, hardware concepts, and man/systems interfaces for capturing satellites that are disabled or ones that are not specifically designed to be recovered. (MSFC Program Development Directorate Input for Marshall Space Flight Center 1989 Annual Chronology of Events)

June 30

NASA selected Boeing and Martin Marietta for negotiations leading to award of contracts to study future Space Transfer Vehicle concepts. (NASA News Release, December 22, 1989; MSFC Annual Procurement Report for 1989)

During June

Science Magazine featured the work of a MSFC Protein Crystallography Group headed by Dr. Daniel Carter. The group was recognized for successfully determining the three-dimensional structure of human serum albumin, the most abundant plasma protein in the human circulatory system. (Science Magazine, June 1989)

July 1

Richard Truly became NASA's eighth administrator. A former Navy Vice Admiral and astronaut, Truly headed NASA's Office of Space Flight for almost 3 1/2 years. (NASA News Release, December 22, 1989)

July 5

The Marshall Star reported that NASA had announced the selection of 23 scientific investigations and their principal investigators for definition studies that could lead to Space Shuttle flights on microgravity science missions being managed by MSFC's Payload Projects Office. Three of the 23 investigations were from research conducted in Marshall's Space Science Laboratory. (Marshall Star, July 5, 1989)

July 5

The Marshall Star reported that NASA's Office of Space Science and Applications had announced the selection of 27 flight experiments or concept studies leading to experiments for Space Station Freedom. Three of the experiments would be managed by MSFC scientists. (Marshall Star, July 5, 1989)

July 5

Astronaut Richard Mullane presented General of the Army and Secretary of State George C. Marshall's Five Star insignia to MSFC officials. The insignia was flown on Space Shuttle Atlantis in December 1988. (Flyer, "Presentation of George C. Marshall's Five Star Insignia," July 5, 1989)

July 6

NASA Administrator Richard Truly appointed Jack Lee as Director of MSFC. Lee succeeded J. R. Thompson who was selected by President Bush to be NASA Deputy Administrator. (NASA News Release, July 6, 1989)

July 7

NASA announced that the Canadian Space Administration had agreed to a proposal to fly a Canadian radio waves experiment during the demonstration flight of the Orbital Maneuvering Vehicle, managed by MSFC. The experiment would measure the behavior of radio waves in space and properties of the ionosphere. (MSFC News Release, July 7, 1989)

July 10

Marshall Center officials reported that MSFC had been requested by NASA Headquarters to proceed with plans for the sole source procurement of two Inertial Upper Stage vehicles for launching of the Tracking and Data Relay Satellite-G and H missions in March 1994 and October 1994, respectively. (MSFC History Office Microfiche #2282, "Notable MSFC Events During 1989," July 10, 1989)

July 11-13

The Atlas I/Combined Release and Radiation Effects Satellite mission Critical Design Review was held. (MSFC History Office Microfiche #2282, "Notable MSFC Events During 1989," July 17, 1989)

July 14

Dr. J. Wayne Littles was appointed Deputy Director of MSFC, and Dr. George F. McDonough was appointed Director of the Science and Engineering Directorate. (MSFC Management Announcement, July 14, 1989)

July 14

Two parallel Phase B contracts for definition and preliminary design of the Controls, Astrophysics, and Structures Experiment in Space flight experiment were awarded to Teledyne Brown Engineering of Huntsville and Lockheed Missiles and Space Company of Sunnyvale, California. The period of performance was for 9 months. (MSFC Program Development Directorate input for Marshall Space Flight Center 1989 Annual Chronology of Events)

July 15

Approximately 7,000 people attended an Open House at the Marshall Center, the first held since 1969. The day-long event included tours of the Space Station mockups, Payload Crew Training Complex, East Test Area, and the Shuttle-C Engineering Development Unit. The highlight of the event was the successful test firing of a Space Shuttle Main Engine in the Technology Test Bed Facility. (Marshall Star, July 19, 1989)

July 17

The 1989 Missile and Space Oldtimers Reunion was held at the Von Braun Civic Center. The reunion was in celebration of the 40th anniversary of the decision to relocate the Von Braun rocket team in Huntsville. (Marshall Star, July 26, 1989)

July 18

"Exploration of Space through the Apollo Program," was the theme for a Von Braun Exploration Forum held in Huntsville. (Marshall Star, July 19, 1989)

July 18-19

The STS-34/Galileo Flight Operations Review was conducted at the Johnson Space Center. A Board Review was held July 20. (MSFC History Office Microfiche #2282, "Notable MSFC Events During 1989," July 24, 1989)

July 19

Dr. J. Wayne Littles was appointed Manager of the Heavy Lift Launch Vehicle Definition Office in addition to his duties as Deputy Director of MSFC. Ralph M. Hoodless was appointed Deputy Manager for the Advanced Launch System Program in the Heavy Lift Launch Vehicle Office. (Management Announcement, July 19, 1989)

July 19-21

The Tethered Satellite System Phase II Flight Safety Review was conducted before the Safety Panel at Johnson Space Center. The review was supported by Italian representatives from Aeritalia, Piaggio, the Italian Space Agency, Martin Marietta Astronautics Group, and MSFC. (MSFC History Office Microfiche #2282, "Notable MSFC Events During 1989," July 31, 1989)

July 20

MSFC completed negotiations with Martin Marietta Manned Space Systems for the manufacture, assembly, test, and delivery of 60 External Tanks. (MSFC History Office Microfiche #2282, "Notable MSFC Events During 1989," July 24, 1989; MSFC Annual Procurement Report for 1989)

July 20

President Bush announced a national commitment to an evolutionary program to complete Space Station Freedom, establish a manned lunar outpost, and begin the exploration of Mars. (Remarks by the President at the 20th Anniversary of the Apollo Moon Landing, July 20, 1989)

July 21

In a letter to Office of Management and Budget Director Richard Darman, NASA Deputy Administrator J. R. Thompson addressed NASA policy and concerns regarding government management and integrity. (J. R. Thompson to Richard Darman, July 21, 1989)

July 21

A completely new MSFC Mobile Communications system became operational. The van-based communications system was designed to enhance the ability to provide emergency communications in the event of any disaster within driving range of the van. (MSFC Institutional and Program Support Directorate Input for Marshall Space Flight Center 1989 Annual Chronology of Events)

July 22

More than 8,000 persons, including employees, onsite contractors, and their families, participated in the 1989 MSFC picnic. (Marshall Star, August 2, 1989)

July 24

The STS-32 astronauts visited MSFC to study procedures for conducting protein crystal growth experiments and the mesoscale lightning experiments. (MSFC History Office Microfiche #2282, "Notable MSFC Events During 1989," July 31, 1989)

July 26

The Marshall Star reported that six current and former employees had been selected to receive Presidential Rank Awards. Selected were Joseph Lombardo, Robert Schwinghamer, Porter Bridwell, Don Bean, Susan Smith, and Gerald Smith. (Marshall Star, July 26, 1989)

July 26

The Marshall Star reported that NASA Deputy Administrator J. R. Thompson, the late Dr. Wernher von Braun, and the Marshall-managed Lunar Roving Vehicle had been chosen for induction into the State of Alabama Engineering Hall of Fame. (Marshall Star, July 26, 1989)

August 1

Three parallel contracts were awarded to Aerojet, Pratt & Whitney, and Rocketdyne for definition and preliminary design studies of the Space Transportation Engine Program. (MSFC Annual Procurement Report for 1989; See MSFC History Office Microfiche #2282 "Notable MSFC Events During 1989," August 7, 1989)

August 2

Vice President Dan Quayle visited Huntsville to tour MSFC and the U.S. Space Camp at the Space and Rocket Center. (Huntsville Times, August 3, 1989; Marshall Star, August 2, 1989)

August 2

The Boy Scouts of America were featuring space exploration at their 1989 National Boy Scout Jamboree being held at Fort A.P. Hill, Virginia. The Marshall Center was managing NASA activities at the Jamboree with assistance from Langley Research Center and was providing many of the exhibits. Major NASA support included displays, demonstrations, and educational activities that emphasized space as a key element of the 1989 Scout Jamboree's overall theme. (Marshall Star, August 2, 1989)

August 3

A 160.03-second firing was successfully conducted in MSFC's Technology Test Bed. (Huntsville Times, August 4, 1989; See MSFC Microfiche #2282, "Notable MSFC Events During 1989," July 31, 1989)

August 7 & 10

The Air Force Space Systems Division Mission Readiness Review for the Inertial Upper Stage-19/Galileo mission was held. The MSFC Center Board Flight Readiness Review was held on August 10. (MSFC History Office Microfiche #2282, "Notable MSFC Events During 1989," August 14, 1989)

August 8

STS-28 Astronauts Brewster Shaw, Richard Richards, David Leetsma, James Adamson, and Mark Brown began STS-28, a dedicated DOD mission. The Space Shuttle Atlantis landed August 13. (NASA News Release, December 22, 1989)

August 9

Byron Goodwin, Director for North Alabama's Blind and Deaf Services, presented MSFC Director Jack Lee with an award recognizing Marshall's efforts to assist the visually impaired. (Marshall Star, August 16, 1989)

August 9

Two members of the House Appropriations Committee Survey and Investigative Staff visited MSFC to review Space Station costs and budgets. (MSFC History Office Microfiche #2282, "Notable MSFC Events During 1989," August 14, 1989)

August 14

MSFC officials reported that the integration of the Research on Orbital Plasma Electrodynamics (ROPE) experiment flight hardware into the Tethered Satellite System had been completed. (MSFC History Office Microfiche #2282, "Notable MSFC Events During 1989," August 14, 1989)

August 15

A 0.6-second ignition test firing of the Transient Pressure Test Article was conducted at Marshall. The purpose of the test, one of a series, was to better understand performance of the Shuttle's redesigned Solid Rocket Motor and Solid Rocket Booster Aft Skirt. (MSFC History Office Microfiche #2282, "Notable MSFC Events During 1989," August 21, 1989; Marshall Star, August 16, 1989)

August 15

MSFC representatives participated in a Space Station Freedom Program Review Board at Reston, Virginia. (MSFC History Office Microfiche #2282, "Notable MSFC Events During 1989," August 28, 1989)

August 16

A Space Station crew review was held at MSFC on August 16-17. The main areas of interest were storage requirements in the Habitation Module, galley/wardroom options, and crew quarters options. (MSFC History Office Microfiche #2282, "Notable MSFC Events During 1989," August 21, 1989)

August 17

Engineers successfully tested an advanced Space Shuttle Main Engine for 145 seconds at MSFC. It was the 11th firing at the Technology Test Bed Facility. (Marshall Star, August 23, 1989)

August 21

The Dr. Wernher von Braun Space Flight Award was presented to J. R. Thompson at a dinner in his honor in Huntsville. The dinner recognized Thompson's work as Director of the Marshall Space Flight Center and his promotion to Deputy Administrator of NASA. (Huntsville Times, August 22, 1989)

August 22

Briefings on the Orbital Maneuvering Vehicle were given to Dr. William Lenoir at NASA Headquarters on August 22 and to the NASA Administrator and Deputy Administrator on August 23. (MSFC History Office Microfiche #2282, "Notable MSFC Events During 1989," August 28, 1989)

August 22

Perkin-Elmer received the second largest of 12 mirror elements for the Advanced X-Ray Astrophysics Facility. The blank, identified as "H-1," was delivered from Schott Industries in West Germany. The H-1 also represents the largest hyperbolic mirror element for AXAF. The P-1/H-1 mirror technology readiness demonstrations at MSFC planned for August 1991 must be successfully completed before Congress will approve the AXAF FY92 development budget. (MSFC Observatory Projects Office Input for Marshall Space Flight Center 1989 Annual Chronology of Events)

August 24

MSFC awarded a $1.797 billion contract modification to the Martin Marietta Corporation to produce 60 additional Space Shuttle External Tanks for delivery during the 1990s. (MSFC Annual Procurement Report for 1989; Marshall Star, August 30, 1989)

August 25

The Federal Women's Program managers of the Huntsville Area jointly sponsored a luncheon program observing Women's Equality Day. The speaker for the event was Wilma L. Vaught, Brigadier General, USAF, Retired. (Flyer Announcing Women's Equality Day)

August 29

In preparation for STS-34, Space Shuttle Atlantis was rolled to Launch Pad 39B. (Huntsville Times, August 29, 1989; Spaceport News, September 8, 1989)

August 29

MSFC honored approximately 60 NASA and contractor employees during MSFC's Annual Honors Awards Ceremony. Samuel W. Keller, NASA Associate Deputy Administrator, and Center Director Jack Lee presented the awards. (Marshall Star, August 30, 1989)

August 29

A complete review of the Hubble Space Telescope was presented at Lockheed on August 29-30 to assure that all requirements for the payload had been met and that the Hubble Space Telescope was ready for shipment to the Kennedy Space Center for launch. (MSFC History Office Microfiche #2282, "Notable MSFC Events During 1989," August 28, 1989)

August 30

Space Shuttle Atlantis was loaded with the Galileo interplanetary spacecraft. (JSC Roundup, September 1, 1989)

September 1

Dr. William Lenoir, Acting Associate Administrator for Space Flight and Associate Administrator for Space Station, addressed MSFC employees as part of a day-and-a-half visit to MSFC. (Marshall Star, September 6, 1989)

September 6

The Marshall Star reported that NASA had announced the selection of 17 universities and consortia as Designated Space Grant Colleges/Consortia in the first element of NASA's new National Space Grant College and Fellowship Program. Among the selections was the Alabama Space Grant Consortium including the University of Alabama in Huntsville, the University of Alabama in Birmingham, Alabama A&M University, and Auburn University. (Marshall Star, September 6, 1989)

September 6

Technicians at the Kennedy Space Center conducted a payload interface verification test to check connections between Space Shuttle Atlantis and Galileo and its two-stage solid-fueled Inertial Upper Stage. (JSC Roundup, September 8, 1989)

September 6

The Marshall Star reported that a Marshall-based NASA pilot program aimed at increasing a desire to study math, science, and engineering in students in all grade levels was becoming a reality. The program, named Project LASER (Learning About Science, Engineering and Research), would consist of seven to eight components designed to be implemented throughout the school year within the Madison County and Huntsville City school systems. (Marshall Star, September 6, 1989)

September 12-14

The Phase I Safety Review for the Orbital Maneuvering Vehicle was conducted at the Johnson Space Center. (MSFC History Office Microfiche #2282, "Notable MSFC Events During 1989," September 18, 1989)

September 14-15

Tethered Satellite System Science Operations Technical Interchange meetings were held in Italy. (MSFC History Office Microfiche #2282, "Notable MSFC Events During 1989," September 25, 1989)

September 20

The Marshall Star reported that teams from MSFC, Goddard Space Flight Center, the European Space Agency, and the Hubble Space Telescope prime contractors had assembled at Marshall and at Goddard for a 2-day, round-the-clock training exercise. (Marshall Star, September 20, 1989)

September 25

MSFC Director Jack Lee and Georgia Governor Frank Harris signed a memorandum of understanding to promote the transfer of technology derived from America's efforts in space to Georgia's private sector. (MSFC Technology Utilization Program 1989 Historical Chronology)

September 25

The last Atlas Centaur in NASA's inventory lifted off Launch Complex 36 at the Kennedy Space Center. (Spaceport News, October 6, 1989)

September 27

A briefing regarding the Advanced Solid Rocket Motor was provided to the Aerospace Safety Advisory Panel. (MSFC History Office Microfiche #2282, "Notable MSFC Events During 1989," October 2, 1989)

October 1

A new innovation in the area of technology transfer was established with the issuance of a task order to Contract NAS8-36200, designed to provide a Marshall Center prime contractor with the opportunity to establish a technology transfer activity. The task order enabled Martin Marietta at the Michoud Assembly Facility in New Orleans to promote the transfer of Shuttle External Tank technology to the private sector. The NASA/Contractor team approach was expected to be expanded into other prime contracts. (MSFC Institutional and Program Support Directorate Input for Marshall Space Flight Center 1989 Annual Chronology of Events)

October 2

Alabama Governor Guy Hunt and MSFC Deputy Director J. Wayne Littles addressed employees as part of the kickoff for MSFC's Combined Federal Campaign at Marshall. (Marshall Star, October 4, 1989)

October 2

According to an article in the Huntsville Times, the Supreme Court refused on October 2 to hear a case involving Robert Paetz, one of the original members of the Von Braun rocket team. The newspaper reported that Paetz had charged that he suffered from age discrimination from the United States government in 1971. (Huntsville Times, October 3, 1989)

October 4

The Marshall Star reported that astronaut crew assignments had been made for five Space Shuttle missions and included the selection of Dr. Jan Davis and Decatur native Dr. Mae Jemison, the first black woman to be selected for space flight. Davis formerly worked at the Marshall Center before she was selected for the Astronaut Corps. (Marshall Star, October 4, 1989.

October 4

The Marshall Star reported that NASA had selected 248 research proposals for immediate negotiation of Phase I contracts in NASA's 1989 Small Business Innovation Research Program. MSFC was selected to manage 36 of the 248 proposals. (Marshall Star, October 4, 1989)

October 10

A federal judge announced his decision to disallow a court challenge to the planned launch of the Atlantis and Galileo. A coalition of three anti-nuclear groups had sought a restraining order on the grounds that NASA had underestimated the chances of a launch accident exposing humans to plutonium from Galileo's radioisotope thermoelectric generators (RTGS). (Order On Plaintiff Motion for Temporary Restraining Order, United States District Court for the District of Columbia, Civil Action No. 89-2682-OG, Filed October 10, 1989; JSC Roundup, October 13, 1989)

October 11

The Marshall Star reported that NASA had moved the Hubble Space Telescope from Lockheed Missiles and Space Company in Sunnyvale, California, to the Kennedy Space Center in Florida. (Marshall Star, October 11, 1989)

October 16

William G. Huber was named Associate Director for Advanced Planning in Marshall's Program Development Directorate. Harold Coldwater was named Manager of the Orbital Maneuvering Vehicle Project in the Space Systems Projects Office. (Management Announcement, October 16, 1989)

October 17

NASA Administrator Richard H. Truly announced two key appointments that would become effective following the completion of the STS-34 mission. Arnold D. Aldrich would become Associate Administrator for the Office of Aeronautics and Space Technology. Robert Crippen would become Director of the Space Shuttle Program. (Marshall Star, October 18, 1989)

October 18

Space Shuttle Atlantis was launched with STS-34 Astronauts Donald Williams, Michael McCulley, Ellen Baker, Franklin Chang-Diaz, and Shannon Lucid. The Marshall-managed Inertial Upper Stage functioned successfully in boosting the Galileo spacecraft toward a rendezvous with Jupiter. Atlantis landed October 23. STS-34 also included the first flight of the 3M Polymer Morphology Experiment under a Joint Endeavor Agreement between NASA and 3M. NASA planned about 60 flights over a 10-year period under the agreement. (NASA News Release, December 22, 1989)

October 20

The Inertial Upper Stage/Payload Assist Module-S (PAM) Quarterly Review was held at MSFC. Most of the review was devoted to PAM-S. (MSFC History Office Microfiche #2282, "Notable MSFC Events During 1989," October 23, 1989)

October 23

A Tethered Satellite System-1 Program Review was held at the Aeritalia Facility in Italy. (MSFC History Office Microfiche #2282, "Notable MSFC Events During 1989," October 30, 1989)

October 25

The third Von Braun Exploration Forum was held. As part of the event, NASA Administrator Richard Truly accepted the Dr. Wernher von Braun Space Flight Award. (Marshall Star, November 1, 1989)

October 26

In preparation for STS-33, Space Shuttle Discovery was rolled from the Vehicle Assembly Building at Kennedy Space Center to Launch Pad 39B. (Spaceport News, November 3, 1989)

October 27

MSFC Director Jack Lee, Stennis Space Center Director Roy Estess, and Louisiana Governor Buddy Roemer signed a memorandum of understanding to promote the transfer of technology derived from America's efforts in space to Louisiana's private sector. (MSFC Technology Utilization Office 1989 Historical Chronology)

October 28

The Hubble Space Telescope passed a significant milestone toward launch with the first "power up" of the spacecraft at the Kennedy Space Center in Florida. (MSFC History Office Microfiche #2282, "Notable MSFC Events During 1989," October 30, 1989)

October 28

The Transfer Orbit Stage systems test and thermal vacuum testing of the Space Shuttle configured upper stage was completed. (Program Schedules, MSFC Upper Stage Projects Office)

October 30

The last of three construction of facilities contracts for MSFC's X-ray Calibration Facility (XRCF) was awarded to Universal Construction for overall facility development needed to modify MSFC's XRCF in time to support AXAF mirror testing planned for August 1991. Related contracts for the 1700-foot guide tube were awarded on October 19. The vacuum chamber contract was awarded to PDM on September 8. (MSFC Observatory Projects Office Input for Marshall Space Flight Center 1989 Annual Chronology of Events)

October 31

A NASA Contractors Conference was in progress at the Von Braun Civic Center in Huntsville. NASA Deputy Administrator J. R. Thompson gave the keynote address. The conference also included the announcement that Lockheed Engineering and Sciences in Houston was the recipient of the NASA Excellence Award for Quality and Productivity. (Marshall Star, November 8, 1989)

October 31

Dr. Lues Reimer, Director of the European Space Agency, toured MSFC. (Huntsville News, November 1, 1989)

November 1

MSFC Director Jack Lee announced the realignment of MSFC's Heavy Lift Launch Vehicle Definition Office. Marshall managers involved in the realignment included Ralph M. Hoodless Jr., Craig E. Sumner, Saverio F. "Sonny" Morea, Lawrence O. Wear, and Jan C. Monk. (Management Announcement, November 1, 1989; Marshall Star, November 8, 1989)

November 3

An article describing the results of the protein crystal growth experiments on STS-26 appeared in Science Magazine. (MSFC History Office Microfiche #2282, "Notable MSFC Events During 1989," November 13, 1989)

November 8

Dr. Lennard A. Fisk, NASA Associate Administrator for Space Science and Applications, announced the appointment of two Spacelab payload specialists. Dr. Millie Hughes-Fulford was appointed primary payload specialist for the Spacelab Life Sciences-1 mission, and Dr. Stanley N. Koszelak was designated as backup payload specialist for the Spacelab-J mission. (Marshall Star, November 8, 1989)

November 8

A workshop on welding in space was in progress at MSFC. The workshop was sponsored by MSFC's Materials and Processes Laboratory, the Greater Huntsville Section of the American Welding Society, and the Huntsville Chapter of the Society for the Advancement of Materials and Processes Engineering. (Marshall Star, November 8, 1989)

November 8

A 160-second full duration test firing was conducted at MSFC's Technology Test Bed. (MSFC History Office Microfiche #2282, "Notable MSFC Events During 1989," November 13, 1989)

November 9

In order to enhance the ability to relay messages to key MSFC managers without disturbing any meetings they might be attending, a new "silent" digital paging system began operations at the Marshall Center. (MSFC Institutional and Program Support Directorate Input for Marshall Space Flight Center 1989 Annual Chronology of Events)

November 14

Nine researchers in a broad spectrum of scientific fields were recognized as part of MSFC's first annual Research and Technology Day. The researchers included: Dan Carter, Archie D. Coleman, Donald O. Frazier, James E. Lee, George L. von Pragenau, Michael Robinson, Roy Spencer, Vincent Verderaime, and Henry Burton Waites. (Marshall Star, November 15, 1989)

November 15

McDonnell Space Systems was awarded the contract for the Aeroassist Flight Experiment Carrier Development and Spacecraft Integration. (NASA News Release, November 15, 1989)

November 15

Eighteen persons were killed and more than 500 were injured when a tornado struck Huntsville. Three of those who lost their lives were employed at MSFC. They were James Summerour of the Structures and Dynamics Laboratory, and Thomas Fry and Allen Cruse of Boeing Computer Support Services. The employees were killed as they were returning home from work. (Memorandum from C. D. Bean, Director of Administrative Operations, to All Employees, "Impact of Tornado on MSFC Team," November 17, 1989; Marshall Star, November 22, 1989)

November 16

Proposals were received by NASA from two industry teams for the performance of definition studies for a new vehicle -- the Assured Crew Return Vehicle -- to serve as a lifeboat for Space Station Freedom astronauts. (NASA News Release, December 22, 1989)

November 17

The NASA Administrator briefed the National Security Council on the results of the study that NASA prepared in response to the Human Exploration Initiative that President Bush announced on July 20. (MSFC History Office Microfiche #2282, "Notable MSFC Events During 1989," November 20, 1989)

November 17

The fourth Space Station Quarterly Review was held at MSFC. The review covered Boeing's key accomplishments and the status of several major ongoing activities. (MSFC History Office Microfiche #2282, "Notable MSFC Events During 1989," November 20, 1989)

November 17

The Hubble Space Telescope marked another major milestone with the completion of the electrical systems functional checkout. (MSFC History Office Microfiche #2282, "Notable MSFC Events During 1989," November 27, 1989)

November 18

The Formal Qualification Test for the Tethered Satellite System flight software verification was initiated. The test was completed November 21. (MSFC History Office Microfiche #2282, "Notable MSFC Events During 1989," November 27, 1989)

November 18

NASA successfully launched its Cosmic Background Explorer spacecraft from Vandenberg Air Force Base, California, aboard the final NASA-owned Delta launch vehicle. (NASA News Release, December 22, 1989)

November 22

Space Shuttle Discovery was launched with STS-33 Astronauts Frederick Gregory, John Blaha, F. Story Musgrave, Kathryn Thornton, and Manely Carter aboard the dedicated DOD mission. Landing was November 27. (NASA News Release, December 22, 1989)

December 1

According to an article in the Huntsville Times, a federal grand jury in Birmingham ended a session on December 1 without returning any indictments in connection with Space Shuttle equipment inspections that an engineer had described as inadequate. The newspaper reported that Dan Joos, a veteran employee of the Thiokol Corp. at Ogden, Utah, had questioned the effectiveness of shuttle equipment inspections since the 1986 Challenger explosion that killed seven astronauts. (Huntsville Times, December 2, 1989)

December 2

NASA's Solar Max -- the first satellite to be repaired while in orbit -- reentered the Earth's atmosphere over the Indian Ocean. (JSC Roundup, December 8, 1989)

December 3

Susan L. Cloud assumed duties as Assistant Director for Policy and Review at MSFC. (MSFC Management Announcement, December 3, 1989)

December 4

A series of camera lighting tests were completed at the MSFC Flat Floor Facility during the week of November 27. The tests utilized a full-scale mockup of the Orbital Maneuvering Vehicle mounted in an overhead movable crane and a mockup of the aft end of the Hubble Space Telescope mounted on the periphery of the Flat Floor. The tests were conducted to help evaluate TV camera selection, location of docking lights, and optimum piloting approach profiles. (MSFC History Office Microfiche #2282, "Notable MSFC Events During 1989," December 4, 1989)

December 5

The Combined Release and Radiation Effects Satellite Quarterly Review was held at Ball Space Systems Division. The review showed the satellite to be on the schedule for a June 7, 1990, launch with approximately 6 weeks of positive slack. (MSFC History Office Microfiche #2282, "Notable MSFC Events During 1989," December 11, 1989)

December 7

A 160-second Technology Test Bed firing was successfully conducted. (MSFC History Office Microfiche #2282, "Notable MSFC Events During 1989," December 11, 1989)

December 8

Mississippi Governor Ray Mabus, MSFC Director Jack Lee, and Stennis Center Director Roy S. Estess signed a Memorandum of Understanding for the transfer of technology. (MSFC Institutional and Program Support Directorate Input for Marshall Space Flight Center 1989 Annual Chronology of Events)

December 14

Eight current and former employees of MSFC were honored -- three of them posthumously -- at a presentation of the largest Space Act awarded in NASA's history, an award valued at $40,000. Checks were presented to Max Sharpe, William E. Hill, Paul Schuerer, David Webb, and William Simpson. Checks were also presented to the beneficiaries of James Carter, Harry King, and Edwin Brown. The award was presented for the group's development of a sprayable, low-density ablator and application process for the Space Shuttle Solid Rocket Boosters. (Marshall Star, December 20, 1989)

December 14

The crew of Space Shuttle mission STS-33 visited MSFC to speak to employees and to present 41 Silver Snoopy Awards to Marshall and onsite contractor employees. (Marshall Star, December 20, 1989)

December 20

The Marshall Star reported that MSFC had released a request for proposal for a payload mission integration contract. (Marshall Star, December 20, 1989)

During December

Space Act Tech Brief awards presented to MSFC and contractor employees for new technology disclosures reached a 5-year high in 1989. A total of 179 awards were presented. This compared with 135 presentations in 1988. (MSFC Institutional and Program Support Directorate Input for Marshall Space Flight Center 1989 Annual Chronology of Events)

During December

During the year, Huntsville's Channel 48 broadcast the NASA/MSFC Lightning Location and Protection (LLP) real-time data on lightning strikes in the viewing area. Bob Baron, President of Baron Services, worked during the year on software and a carrier to enable offering the lightning strike data to other customers. (MSFC Institutional and Program Support Directorate Input for Marshall Space Flight Center 1989 Annual Chronology of Events)

During 1989

MSFC started Multi-Cultural Training for Center Management and first-line supervisors. (MSFC Historian Telephone Conversation with Mr. Charles Hester, CM21, MSFC, August 10, 1989)

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This document provides a chronological listing of the major events for the Marshall Space Flight Center for the calendar year 1989.

The MSFC Historian, Management Operations Office, compiled the chronology from various sources and from supplemental information provided by the major MSFC organizations.

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