

Commercial Space Transportation

QUARTERLY LAUNCH REPORT

Special Report:

FAA's Third Annual Commercial Space Transportation Forecast Conference



2nd Quarter 2000

United States Department of Transportation • Federal Aviation Administration
Associate Administrator for Commercial Space Transportation
800 Independence Ave. SW Room 331
Washington, D.C. 20591

Special Report

SR-1

FAA'S THIRD ANNUAL COMMERCIAL SPACE TRANSPORTATION FORECAST CONFERENCE (FEBRUARY 8-9 2000)

INTRODUCTION

The Third Annual Federal Aviation Administration (FAA) Commercial Space Transportation Forecast Conference took place in Arlington, Virginia at the Sheraton National Hotel. The year 2000 conference featured seven panels and several special presentations by top-level government and industry guests, including the Honorable Rodney E. Slater, Secretary, U.S. Department of Transportation, Dr. Neal Lane, Assistant to the President for Science and Technology and Director of the Office of Science and Technology Policy (OSTP), and Representative Dana Rohrabacher, Chairman, Subcommittee on Space and Aeronautics, House Committee on Science.

The first day kicked off with opening remarks by FAA Associate Administrator for Commercial Space Transportation, Patricia G. Smith. Ms. Smith highlighted three strategic projects for the FAA in commercial space transportation: 1) Space Transportation Vehicle Safety, a project which will establish an FAA process to address all aspects of space flight operations; 2) the continuation of work on the Space and Air Traffic Management System (SATMS), the program for the future integration of commercial space launch operations into the existing air traffic management system; and 3) the continuation of work with the Air Force on the development of national safety standards for commercial launch operations.

Ms. Smith expressed appreciation for the work and accomplishments of the U.S. commercial launch and commercial spaceport industries for the past year. She also expressed confidence that commercial launch operations would be stronger and more successful for 2000 and beyond.

Featured Speakers

On Tuesday, February 8, Former Chairman of the House Science Committee, Robert Walker, delivered the conference luncheon address. Mr. Walker is currently the Chairman and Chief Executive Officer for the Wexler Group. He discussed the "Three Es" for the future of the U.S. space sector—exploration, the opportunity to develop new knowledge through space travel and applications; exploitation, the utilization of space to meet specific commercial and military needs; and entrepreneurship, innovative ideas and activities that would create more investment in space operations.

Also on Tuesday, there was a special presentation by Dr. Neal Lane, who reported on the findings from the OSTP/National Security Council (NSC) *Interagency Review on the Future Management and Use of U.S. Space Launch Bases and Ranges*. Dr. Lane outlined key recommendations from the review including, alternative management processes to allow U.S. commercial and government users to have a greater voice in improving operational flexibility and efficiency of the ranges; use of non-Federal funding where appropriate for the maintenance and modernization of launch

Special Report

SR-2

bases and ranges to meet national needs; and options for replacing excess capacity construct in current law to allow a more complete Federal-state-industry partnership to develop. Lt. Col. Vic Villhard, Assistant Director for Space and Aeronautics in OSTP, provided details on the OSTP/NSC Review and answered questions from the conference audience.

Art Stephenson, Director, NASA Marshall Space Flight Center, provided an in-depth presentation on the NASA Space Launch Initiative, Space Shuttle upgrades, and third-generation technologies. He pointed out that in addition to NASA's goal for safe, reliable and affordable space transportation, there is the goal to transition NASA's space transportation needs to commercial launch vehicles.

Mr. Stephenson outlined the three-point strategy to support NASA's goals: 1) investment in technical and programmatic risk reduction activities driven by industry need to enable full scale development of commercially competitive, privately-owned and operated earth-to-orbit RLVs by 2005; 2) development of an integrated architecture with systems that build on commercial earth-to-orbit launch vehicles to meet NASA unique requirements that cannot be economically served by commercial vehicles alone; and 3) enabling procurements of near-term, path-finding launch services for select space station needs on commercial launch vehicles.

On Wednesday, February 9, Representative Dana Rohrabacher discussed a wide range of issues including, the President's budget proposal for 2001; NASA's strategic plans for replacing the Shuttle with commercial launch vehicles in 2005 and plans for buying alternative access to the international space

station; and results of the OSTP/NSC Review. Congressman Rohrabacher expressed his desires that NASA increase its promotion of new industries in space, especially space tourism; that the private sector increase its investments in new and innovative ways which would foster more opportunity in space operations; and that the private sector and government work cooperatively to reduce the high costs of access to space.

The highlight of the year 2000 conference was the address by Transportation Secretary Rodney Slater. Secretary Slater also discussed the results of the OSTP/NSC Review and reiterated some of the recommendations discussed the previous day by Dr. Lane. He noted that the Department of Transportation and the FAA were committed to supporting the recommendations and working with industry to develop common range safety requirements for all space sectors for Federal and non-Federal launch sites.

Secretary Slater reported that DOT is requesting a doubling of resources (from \$6.2 million to \$12.6 million) to ensure that FAA resources will be adequate to meet current and future work for commercial space transportation and commercial spaceports. He also announced the upcoming International Transportation Symposium that will take place in October 2000 and urged participation from the commercial space transportation industry.

Secretary Slater emphasized the Administration's commitment to the growth, both technologically and economically, of the U.S. commercial space transportation. He told conference participants "...that there is no part of the transportation enterprise that forces us to cast our sights to higher

Special Report

SR-3

heights any more than this sector; without your role and without your vision...we cannot have a transportation system that is truly a transportation system of the 21st century.”

Conference Panels

PANEL 1: THE SPACE EXPERIENCE: WHO, WHEN, AND HOW?

The first panel focused on the various types of human experience in space. Marguerite Broadwell, Commercial Development Manager of Operations and Services, International Space Station for NASA, discussed the development of the Space Station and its current status. Roger Crouch, NASA Shuttle Astronaut, provided personal accounts of the space experience as a Payload Specialist aboard the NASA Shuttle. He focused on the physiological effects of extended stays in space, as well as efforts by NASA to try to alleviate some of the negative physiological side effects.

Tom Rogers, Chief Scientist, Space Transportation Association, provided an overview of the human space flight experience, starting with a historical context from 1957 with the launch of the former Soviet Union’s Sputnik through his vision of the future wherein space will be opened to the general public.

PANEL 2: SO YOU WANT TO LAUNCH ROCKETS?: THE EVOLVING LAUNCH SITES

This panel explored the various stages of evolution for U.S. launch sites, including non-Federal or commercial spaceports for launch and reentry and existing sites. Pat Ladner, Executive Director, Alaska Aerospace Development Corporation, discussed the challenges of operating and

facility construction for the Kodiak Launch Complex, one of four FAA-licensed commercial spaceports. Robert Triplett, Chairman of the Oklahoma Aeronautics & Space Commission and Tom Moser, Executive Director for the Texas Aerospace Commission, discussed their efforts to development non-Federal sites in their states. Loren Shriver, Deputy Director, Kennedy Space Center, Florida, discussed the operation of the traditional Federal launch site and the changing environment for Federal sites.

PANEL 3: ENVIRONMENTAL CASE STUDIES: OVERCOMING THE OBSTACLES

This was the first panel for the annual Commercial Space Transportation Forecast Conference to focus on environmental issues for commercial launch operations and commercial spaceport development. Panelists included Will Ernst, Environmental Specialist for the Boeing Company, Hanson Scott, Executive Director, Southwest Regional Spaceport, New Mexico Office of Space Commercialization, Sal V. Cuccarese, Director, Environment & Natural Resource Institute, University of Alaska, and Daphne Fuller, Manager, Environment Law Branch for the FAA.

PANEL 4: OF RISKS AND RIGHTS: RISK ASSESSMENT AND MANAGEMENT

The fourth panel examined the types of information needed to assess risks in order to make informed decisions, the types of decisions about risk that should be left to personal choice, what the government’s role should be in assessing and managing personal and societal risk, and whether risk management is a business or a marketplace-driven decision. Panelists included John

Special Report

SR-4

Ross, Senior Editor of Smithsonian Magazine, who discussed the overall nature of risk and how individuals evaluate and deal with risk on a daily basis; Peter Diamandis, Chairman of the X-Prize Foundation, who discussed his views on risk acceptance and its relationship to progress; and John Vinter, President, International Space Brokers, Inc., who provided an overview of the state of the space insurance market and space risk.

Panel 5: Kicking the Tires and Getting Under the Hood: RLV Operation and Maintenance

Panelists Robert Davis, Chief Executive Officer, Kelly Space & Technology, Inc., Carl Meade, X-33 Deputy Program Manager, Lockheed Martin Skunk Works, and Hugo Delgado, Chief Engineer for Advanced Development and Shuttle Upgrades, Kennedy Space Center, discussed the challenges of RLV operation and maintenance. Perspectives ranged from the new concepts for RLV development, including Kelly's proposal for a two-stage launch vehicle and Venture Star operations, to the processing and upgrades for the Space Shuttle.

Panel 6: In the Footsteps of Walter Cronkite: Space Journalism

Panel six included two distinguished space journalists from the Washington, DC area, who discussed the state of coverage of space programs and commercial space transportation. Rick Barnard, Vice President and Executive Editor for *Space News*, provided a historical discussion of space coverage from the beginning of the manned program to the present, and a look at the future prospects for coverage of space activities. Paul Hoversten, Washington

Bureau Chief for Space.com, presented information on space media coverage using the vastness of electronic media.

Panel 7: Customized and the Right Price: Optimizing Payloads for RLVs

The final panel presented representatives from three companies developing new RLV concepts to explore the benefits that fully reusable launch vehicles can bring when they become operational and available to a wide range of customers in various markets, whether customers will gain flexibility through RLV utilization, how the RLV will help to improve the business case of its customers. Panelists were Michael Kelly, Chairman, Kelly Space & Technology, Inc., Gary Hudson, President, Rotary Rocket Company, and Charles Lauer, Vice president of Business Development, Pioneer Rocketplane.