ABSTRACT AND BIOGRAPHY

Systems Engineering and Integration Challenges on GOES-R

The Geostationary Observational Environment Satellites (GOES)-R is a $7 billion system of satellites, sensors and data processing and distribution, which will make major contributions in understanding weather and other environmental processes. GOES-R is a collaborative development and acquisition effort between the National Oceanographic and Atmospheric Administration (NOAA) and the National Aeronautics and Space Administration (NASA). Program activities occur at the co-located Program and Project Offices at Goddard Space Flight Center. The GOES-R program acquisition and management strategy was restructured at the end of the Formulation Phase from a single-system prime NOAA contract acquisition to an inter-agency dual-contract acquisition for the Acquisition and Operations Phase of the Program. Under a dual-contract acquisition strategy, NASA will procure the Space Segment and NOAA will procure the Ground Segment. A Program Systems Engineering Group was created, led by NASA with strong NOAA participation, to ensure the overall system engineering and integration is accomplished. This group is responsible for end-to-end systems integration, planning, coordination, and adjudication of the space and ground segments. One of the group's challenges is to tailor procedures to apply to the GOES-R program to meet the unique demands of this joint inter-agency acquisition -- safeguarding NOAA's oversight of the GOES-R program while also safeguarding NASA's effective exercise of its expertise over the Flight Project. This and the many other challenges facing the group will be discussed, along with solutions currently being implemented. Program Systems Engineering is key to integrating the strengths of two agencies to create the best system possible.

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Ms. Pfarr is currently the NASA Lead of the GOES-R Program Systems Engineering Organization. Her career began in satellite ground systems, supporting the Hubble Space Telescope, the International Halley Watch, and the Ultraviolet Imaging Telescope. As a NASA civil servant for 17 years, she has held line management positions in software and systems engineering, leading the Real-Time Software Engineering Branch, the Earth Science Mission Systems Branch, and serving as the Associate Chief of the Software Engineering Division.

She served as the Program Chair for the AAS Goddard Memorial Symposium in March 2005. She supported the Workshop on Parallel and Distributed Real Time Systems (WPDRTS) as a Session Chair in 2001, and a program chair in 2002. She chaired the INCOSE Systems Engineering Management Working Group during 2003. She received Goddard's Outstanding Management Award in 1999 and again in 2003. She received

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NASA's Spaceflight Awareness Award and Goddard's Exceptional Achievement Award for support to the Hubble Space Telescope Project.

She received a B.A. in mathematics and astronomy from Smith College, a M.S in Computer Science (concentration: Artificial Intelligence) from Johns Hopkins, and a M.S. in Computer Science (concentration: Graphics) from George Washington University. She has been a member of INCOSE, the Society of Women Engineers, and the American Astronautical Society and is currently a member of the Sigma Xi Research Society and the American Meteorological Society.