NOAA Satellites and Information Service

Geostationary Operational Environmental Satellites-R Series (GOES-R)

The National Requirement: The Nation requires continuous availability of highly accurate, timely and reliable data to monitor events that may adversely affect U.S. lives and property, and the Nation's environmental, national, homeland and economic security.

NOAA's Response: NOAA has operated Geostationary Operational Environmental Satellites (GOES) for over 25 years, providing continuous monitoring to determine the development and track of severe weather and hurricanes that may affect lives and property. Users are now demanding greater spatial (geographical), spectral (type of information), and temporal (time) resolutions. NOAA is currently designing the next series of geostationary satellites (GOES-R) that will fulfill many of these validated user requirements. In addition to meeting the needs to monitor severe weather, GOES-R will improve characterization of the atmosphere, enhance space weather capabilities, and increase resolution to monitor valuable coastal regions. GOES-R will provide improved understanding of climate variability and change through long-term trending. In addition, GOES-R environmental information will enable safe and efficient transportation. Using lessons learned from earlier GOES development activities, NOAA is developing requirements and acquisition strategies for GOES-R instruments, spacecraft, and associated ground systems. The FY 2005 request emphasizes the end-to-end System Architecture, allowing industry to participate in NOAA's future definition of architecture and infrastructure. In FY 2005, NOAA will continue design and risk reduction activities through design and cost trade studies. Activities for the space segment will verify that the planned instruments can be built and integrated with the satellite bus. NOAA is also determining requirements for the ground segments to ensure that they will be able to support all future geostationary systems. NOAA plans to launch the first GOES-R series satellite in 2012. GOES-R will enhance NOAA's contribution to the President's priority to protect U.S. lives and property domestically, and safeguard U.S. interests abroad. GOES-R supports NOAA's strategic goals: ecosystems, climate, weather and water, and commerce and transportation.

Partners and Customers: NOAA has fostered partnerships with NASA, U.S. Navy, U.S. Air Force, and other civil agencies such as: the Federal Aviation Administration, U.S. Department s of Agriculture, Energy, Interior, and Homeland Security to develop the GOES-R series. NOAA has also developed strong industry partnerships. NOAA continues to sponsor multiple meetings and conferences with customers and users to refine and verify their needs and requirements. NOAA's on-going dialogue with key GOES users such as forecasters in NOAA Weather, other NOAA Offices, U.S. Department of Defense, other federal agencies, state and local governments, private sector weather organizations, academia, and the general public is a vital aspect of the GOES-R design process.

Financing: The FY 2005 Budget Request includes **$157.5 million** to continue GOES-R risk reduction and systems engineering and integration efforts. The risk reduction efforts will address advance development and demonstration of high-risk remote sensing instruments prior to integration into the satellite bus. Second, the spacecraft will initiate design/risk reduction efforts to accommodate remote sensing instruments and unique GOES communication services. Third, NOAA's investment will support acquisition of ground system elements to process the data from precursor research missions for early use by NOAA Weather and other users prior to launching and operating GOES-R series of satellites.

For additional information: www.osd.noaa.gov and www.nesdis.noaa.gov