



NPP

NPP
NPOESS PREPARATORY PROJECT



**Ball Aerospace
& Technologies Corp.**

Agility to innovate, Strength to deliver

Overview

The NPP satellite is the nation's next generation Earth observing satellite. NPP will continue critical environmental measurements by flying a suite of advanced technology remote sensing instruments. This suite will measure the Earth's atmospheric and sea surface temperatures, humidity sounding, land and ocean biological activity and cloud and aerosol properties. It will also provide critical data on short-term weather conditions.

Slated to launch October 27, 2011, NPP will bridge critical climate data collection requirements as it awaits launch of the Joint Polar Satellite System (JPSS) later this decade. JPSS is already in development at Ball Aerospace.

Our Role

Under contract to NASA's Goddard Space Flight Center, Ball Aerospace is providing its BCP 2000 spacecraft bus under fixed-price terms and the Ozone Mapping and Profiler Suite (OMPS) instrument.

The NPP spacecraft is a member of the Ball Configurable Platform (BCP) family of spacecraft designed for cost-effective, remote sensing applications. Its proven design accommodates a wide range of payloads, including optical applications with sub-meter resolutions and synthetic aperture radar. The NPP spacecraft bus is the eighth of 11 spacecraft built by Ball Aerospace on the same BCP core architecture. In all, this architecture has more than 50 years of successful on-orbit operations. The BCP was designed to accommodate a wide variety of Earth-observing payloads that require precision pointing control, flexible high-data throughput and downlinks, and controlled re-entry. Ball Aerospace is also responsible for integrating the instruments and for performing satellite-level testing and launch support.

NPP Instruments

The five instruments manifested for flight on the NPP spacecraft trace their heritage to instruments on NASA's Terra, Aqua and Aura missions, on NOAA's Polar Operational Environmental Satellite spacecraft, and on DoD's Defense Meteorological Satellite Program. The five instruments are:

- The Visible/Infrared Imager Radiometer Suite (VIIRS)
- The Cross-track Infrared Sounder (CrIS)
- The Advanced Technology Microwave Sounder (ATMS)
- The Ozone Mapping and Profiler Suite (OMPS)
- The Clouds and the Earth Radiant Energy System (CERES)

Quick Facts

- Orbit: Sun-synchronous
- Altitude: 512 miles (824 km)
- Orbits per day: 16 orbits/day, producing coverage of nearly the entire Earth
- Spacecraft Bus: Ball Configurable Platform (BCP 2000)
- Dimensions: 4.028 m x 2.610 m x 2.206 m
- Weight: 4,600 pounds (2,100 kilograms)
- Design Life: 5 years
- Data Network: 1553 and FireWire networks support high payload data rates
- Launch Date: October 27, 2011
- Launch Vehicle: United Launch Alliance Delta II
- Launch Site: Vandenberg Air Force Base, California



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