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Statement of

Dr. Woodrow Whitlow, Jr.
Associate Administrator
Mission Support Directorate
National Aeronautics and Space Administration

before the

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Committee on Science, Space, and Technology
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Chairman Broun, Ranking Member Maffei, and Members of the Subcommittee, thank you for the opportunity to appear today to discuss NASA's use of Energy Savings Performance Contracts (ESPCs). I will summarize NASA's use of ESPCs as part of the Agency's energy management and conservation effort, address how this procurement mechanism supports NASA's mission, and provide an overview of our success with ESPC implementation and continual improvement actions underway.

Federal ESPC Authority: Consistent with and in support of the requirements of the National Energy Conservation Policy Act (NECPA), as amended by the Energy Policy Act of 1992, and a body of executive orders that mandate the improvement of energy efficiency in Federal facilities, NASA has established policies and procedures to improve energy efficiency through the reduction of energy use and implementation of sustainable energy practices. These efforts to strengthen NASA's environmental stewardship of its physical assets reduce energy and water risk to the Agency's missions. The use of performance contracting vehicles such as ESPCs enables NASA to protect and leverage the value of its appropriated facilities funding while providing a guaranteed return on investment in conservation measures that help the Agency to achieve Federal energy and water reduction and renewable energy goals.

Authorization for Federal agencies to implement energy efficiency improvements through the use of ESPCs is provided under the NECPA (codified at 42 U.S.C. § 8287 et seq.) The ESPC mechanism establishes a partnership between a Federal agency and an energy service company (ESCO). The ESCO conducts a comprehensive energy audit for the Federal facility and identifies improvements to save energy and water. In consultation with the Federal agency, the ESCO designs and constructs a project that meets the agency's needs and then arranges the necessary funding through competitive means. The ESCO guarantees that the improvements will generate energy and water cost savings sufficient to pay for the project over the term of the contract. After the contract ends, all additional cost savings accrue to the agency. To streamline

the procurement process, the Department of Energy (DOE), Federal Energy Management Program (FEMP), developed master indefinite delivery indefinite quantity contracts that provide Federal agencies the opportunity to implement projects by awarding individual task orders under these umbrella contracts. Further, the FEMP provides a support system that includes legal and funding guidance, project facilitators, and expertise and training to support agencies' implementation of ESPCs.

Mission Benefit: NASA relies on the performance and efficiency of its facility and utility infrastructure in order to safely conduct the Agency's mission. NASA Field Centers actively consider and pursue the use of energy savings contracts such as ESPCs and Utility Energy Services Contracts (UESCs) in order to repair and renew our infrastructure in alignment with NASA master planning goals. ESPCs contribute to better facility operational conditions such as temperature, humidity, ventilation, and lighting levels by upgrading facility systems. Advances in technology enable improved operational performance while simultaneously reducing utility consumption. Reducing our utility consumption ultimately decreases energy and water risk to NASA's mission associated with regional utility capacity, regional air quality, local and national energy security vulnerability, and utility price volatility.

NASA ESPC Implementation and Success: NASA Field Centers have awarded over \$174 million in ESPC contract value across twenty projects since NASA began using ESPCs in 1999. Together, these projects enabled infrastructure energy efficiency improvements resulting in NASA energy consumption reductions of approximately 495 billion British thermal units and \$8.5 million annually.

NASA ESPC projects successfully contributed to the \$2 billion Federal investment in energy savings projects directed by President Barack Obama in his December 2011 Memorandum for the Heads of Executive Departments and Agencies. NASA pledged to award \$19.6 million of investment value in ESPCs and UESCs before the end of 2013. NASA Field Centers awarded \$28 million of investment value by November 2012, \$24.5 million of this via ESPCs, which resulted in NASA becoming the first Federal agency to fulfill its pledged investment amount.

Regarding the success of a specific project, Goddard Space Flight Center's Wallops Flight Facility (WFF) in Virginia continues to conduct a particularly noteworthy ESPC project with a total contract value of nearly \$36 million. The first phase of this project replaced oil-fired boilers with high-efficiency liquefied petroleum gas-fired boilers; replaced over ten thousand interior and exterior light fixtures; and upgraded heating, ventilating, and air conditioning (HVAC) controls in thirteen buildings. These infrastructure energy efficiency improvements produce a 35 percent reduction in WFF's energy intensity, an eight percent reduction in water intensity, and a 26 percent reduction in greenhouse gas emissions. Currently underway, the second phase of this project upgrades HVAC systems on Wallops Island to ground-source heat pump technology. This technology presents a maintenance advantage over the previous air-source heat exchangers, which repeatedly experienced premature failure due to the island's corrosive ocean salt air environment. Virginia recognized the first phase of this project among the Gold Medal winners of the 2012 Governor's Environmental Excellence Award. The Department of Energy featured this project on the following energy action campaign poster:

Leadership

NASA's Wallops Flight Facility in Virginia implemented a Super Energy Savings Performance Contract delivery order that dramatically improves facility energy and water performance. The \$14.2 million investment value project will save an average of \$2 million a year over its 15-year term. The project replaced oil-fired boilers with high-efficiency LP-gas fired boilers; replaced over 10,000 interior and exterior light fixtures; and upgraded HVAC controls in 13 buildings. Together, these improvements will reduce facility energy intensity by 35 percent, water intensity by 8 percent, and greenhouse gas emissions by 26 percent.

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National Aeronautics and Space Administration
Federal Energy Management Program

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Continual Improvement: In April 2013, the NASA Office of Inspector General (OIG) issued an audit report on NASA’s Management of Energy Savings Contracts. The OIG review included controls and management of active ESPCs at five NASA facilities, and in particular, an examination of the procurement that represented NASA’s first foray into the use of ESPCs, a DOE contract task order awarded by the Johnson Space Center, Texas, in 1999. The OIG identified shortcomings in the administration of this first contract, and provided recommendations for management actions to reduce the risk of error in management of ongoing and future ESPCs, both at the outset of an award and in continued monitoring and oversight to assure a correct return on investment over time. Accordingly, NASA has undertaken actions to ensure that sound management practices are applied to the implementation of ESPCs. The Agency has initiated updates to official procedural requirements to include requirements for comprehensive training, such as that provided by DOE’s FEMP, to be completed by ESPC request originators and contracting personnel, and for ESPC projects to be implemented in accordance with DOE guidance and contract management tools. Updated procedures also include improved requirements for monitoring factors that affect the consistency of annual energy savings over the life of the contract, such as site conditions, building renovation or demolition. NASA has issued interim direction for the immediate implementation of these requirements as its Agency-level procedural requirements are finalized.

In conclusion, ESPCs represent an important tool available to NASA Field Centers in the ongoing effort to repair and renew Agency facility and utility infrastructure in order to improve energy and water efficiency and security. NASA expects to continue to actively utilize this tool to support our mission in the years ahead.