FY 2008 Performance Plan Update Narrative

The enclosed FY 2008 Performance Plan has been updated to reflect any realignment and reprioritization of Agency programs and projects as a result of the FY 2007 and FY 2008 Appropriations. There are two program areas that have significantly changed performance commitments as a result of congressional redirection: Education and the Innovative Partnerships Program. Changes to the performance commitment are outlined within the individual APG. Eliminated APGs may be found at the end of this plan.

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Measure #	Description	Contributing Program (s)	Contributing Theme (s)
Strategic Goal 1	**Fly the Shuttle as safely as possible until its retirement, not later than 2010.**		
Outcome 1.1	**Assure the safety and integrity of the Space Shuttle workforce, systems and processes, while flying the manifest.**		
APG 8SSP01	Achieve zero Type-A (damage to property at least $1 million or death) or Type-B (damage to property at least $250 thousand or permanent disability or hospitalization of three or more persons) mishaps in FY2008.	Space Shuttle Program	Space Shuttle
APG 8SSP02	Complete 100 percent of all mission objectives for all Space Shuttle missions in FY2008 as specified in the Flight Requirements Document for each mission.	Space Shuttle Program	Space Shuttle
Outcome 1.2	**By September 30, 2010, retire the Space Shuttle.**		
APG 8SSP03	Develop a detailed schedule of last-need dates for all significant Space Shuttle program element capabilities.	Space Shuttle Program	Space Shuttle
APG 8SSP04	A 9 percent reduction (over FY2007 values) in the annual value of Shuttle production contracts for Orbiter, External Tank, Solid Rocket Boosters, Reusable Solid Rocket Motor, Space Shuttle Main Engine and Launch & Landing, while maintaining safe flight.	Space Shuttle Program	Space Shuttle
Strategic Goal 2	**Complete the International Space Station in a manner consistent with NASA's International partner commitments and the needs of human exploration.**		
Outcome 2.1	**By 2010, complete assembly of the U.S. On-orbit Segment; launch International Partner elements and sparing items required to be launched by the Shuttle; and provide on-orbit resources for research to support U.S. human space exploration.**		
APG 8ISS01	Based on the actual Space Shuttle flight rate, number of remaining Shuttle flights, and the discussions with the International Partners, update the agreed-to ISS assembly sequence and transportation plan as necessary.	International Space Station Program	International Space Station
APG 8ISS02	Accomplish a minimum of 90 percent of the on-orbit research objectives as established one month prior to a given increment.	International Space Station Program	International Space Station
APG 8ISS03	Per the final configuration agreed to by the International Partners, fly the ISS elements and logistics baselined for FY2008.	International Space Station Program	International Space Station
APG 8ISS04	Provide increased power capability by assembling the remaining Truss element as baselined in FY2008.	International Space Station Program	International Space Station
Outcome 2.2	**By 2009, provide the on-orbit capability to support an ISS crew of six crewmembers.**		
APG 8ISS05	Establish flight-ready status for the Water Recovery System (part of the U.S. Regenerative Environmental Control Life Support System).	International Space Station Program	International Space Station

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Measure #	Description	Contributing Program (s)	Contributing Theme (s)
APG 8ISS06	In concert with the International Partners, assure a continuous crew presence on the ISS.	International Space Station Program	International Space Station
Outcome 2.3	**Conduct basic and applied biological and physical research to advance and sustain U.S. scientific expertise.**		
APG 8AC01	Design, build, and deliver for flight two ISS experiments.	Exploration Technology Development	Advanced Capabilities
APG 8AC02	Design, build, and deliver for flight two Foton M3 experiments.	Exploration Technology Development	Advanced Capabilities
APG 8AC03	Conduct 30 ground-based investigations in the physical and biological sciences that promote the development of related microgravity research capabilities.	Exploration Technology Development	Advanced Capabilities
Strategic Goal 3	**Develop a balanced overall program of science, exploration, and aeronautics consistent with the redirection of the human spaceflight program to focus on exploration.**		
Sub Goal 3A	**Study Earth from space to advance scientific understanding and meet societal needs.**		
Outcome 3A.1	**Progress in understanding and improving predictive capability for changes in the ozone layer, climate forcing, and air quality associated with changes in atmospheric composition.**		
APG 8ES01	Demonstrate progress in understanding and improving predictive capability for changes in the ozone layer, climate forcing, and air quality associated with changes in atmospheric composition, based on measurements from presently orbiting NASA and non-NASA assets. Progress will be evaluated by external expert review.	Multiple Programs	Earth Science
Outcome 3A.2	**Progress in enabling improved predictive capability for weather and extreme weather events.**		
APG 8ES02	Demonstrate progress in enabling improved predictive capability for weather and extreme weather events. Progress will be evaluated by external expert review.	Multiple Programs	Earth Science
Outcome 3A.3	**Progress in quantifying global land cover change and terrestrial and marine productivity, and in improving carbon cycle and ecosystem models.**		
APG 8ES03	Demonstrate progress in quantifying global land cover change and terrestrial and marine productivity, and in improving carbon cycle and ecosystem models. Progress will be evaluated by external expert review.	Multiple Programs	Earth Science
APG 8ES04	Complete the Orbiting Carbon Observatory (OCO) Operational Readiness Review.	Earth System Science Pathfinder	Earth Science
Outcome 3A.4	**Progress in quantifying the key reservoirs and fluxes in the global water cycle and in improving models of water cycle change and fresh water availability.**		
APG 8ES05	Demonstrate progress in quantifying the key reservoirs and fluxes in the global water cycle and in improving models of water cycle change and fresh water availability. Progress will be evaluated by external expert review.	Multiple Programs	Earth Science
APG 8ES06	Complete Global Precipitation Measurement (GPM) Mission Spacecraft Preliminary Design Review (PDR).	Earth Systematic Missions	Earth Science
Outcome 3A.5	**Progress in understanding the role of oceans, atmosphere, and ice in the climate system and in improving predictive capability for its future evolution.**		

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Measure #	Description	Contributing Program (s)	Contributing Theme (s)
APG 8ES07	Demonstrate progress in understanding the role of oceans, atmosphere, and ice in the climate system and in improving predictive capability for its future evolution. Progress will be evaluated by external expert review.	Multiple Programs	Earth Science
APG 8ES08	Launch the Ocean Surface Topography Mission (OSTM).	Earth Systematic Missions	Earth Science
APG 8ES09	Complete the Glory mission Operational Readiness Review (ORR).	Earth Systematic Missions	Earth Science
APG 8ES10	Complete the Aquarius Instrument Pre-ship Review.	Earth System Science Pathfinder	Earth Science
Outcome 3A.6	**Progress in characterizing and understanding Earth surface changes and variability of Earth's gravitational and magnetic fields.**		
APG 8ES11	Demonstrate progress in characterizing and understanding Earth surface changes and variability of Earth's gravitational and magnetic fields. Progress will be evaluated by external expert review.	Multiple Programs	Earth Science
Outcome 3A.7	**Progress in expanding and accelerating the realization of societal benefits from Earth system science.**		
APG 8ES12	Issue twelve reports with partnering organizations that validate using NASA research capabilities (e.g., observations and/or forecast products) could improve their operational decision support systems.	Applied Sciences	Earth Science
APG 8ES13	Increase the number of distinct users of NASA data and services.	Earth Science Research	Earth Science
APG 8ES14	Maintain a high level of customer satisfaction, as measured by exceeding the most recently available federal government average rating of the Customer Satisfaction Index.	Earth Science Research	Earth Science
Sub Goal 3B	**Understand the Sun and its effects on Earth and the solar system.**		
Outcome 3B.1	**Progress in understanding the fundamental physical processes of the space environment from the Sun to Earth, to other planets, and beyond to the interstellar medium.**		
APG 8HE01	Demonstrate progress in understanding the fundamental physical processes of the space environment from the Sun to Earth, to other planets, and beyond to the interstellar medium. Progress will be evaluated by external expert review.	Multiple Programs	Heliophysics
APG 8HE02	Complete Magnetospheric Multiscale (MMS) System Design Review (SDR).	Solar Terrestrial Probes	Heliophysics
Outcome 3B.2	**Progress in understanding how human society, technological systems, and the habitability of planets are affected by solar variability and planetary magnetic fields.**		
APG 8HE03	Demonstrate progress in understanding how human society, technological systems, and the habitability of planets are affected by solar variability and planetary magnetic fields. Progress will be evaluated by external expert review.	Multiple Programs	Heliophysics
APG 8HE04	Complete Phase A for the Geospace Radiation Belt Storm Probes mission.	Living with a Star	Heliophysics
Outcome 3B.3	**Progress in developing the capability to predict the extreme and dynamic conditions in space in order to maximize the safety and productivity of human and robotic explorers.**		

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Measure #	Description	Contributing Program (s)	Contributing Theme (s)
APG 8HE05	Demonstrate progress in developing the capability to predict the extreme and dynamic conditions in space in order to maximize the safety and productivity of human and robotic explorers. Progress will be evaluated by external expert review.	Multiple Programs	Heliophysics
APG 8HE06	Complete Solar Dynamics Observatory (SDO) Integrated Observatory Performance Test.	Living with a Star	Heliophysics
Sub Goal 3C	**Advance scientific knowledge of the origin and history of the solar system, the potential for life elsewhere, and the hazards and resources present as humans explore space.**		
Outcome 3C.1	**Progress in learning how the Sun's family of planets and minor bodies originated and evolved.**		
APG 8PS01	Demonstrate progress in learning how the Sun's family of planets and minor bodies originated and evolved. Progress will be evaluated by external expert review.	Multiple Programs	Planetary Science
APG 8PS02	Complete the Mercury Surface, Space Environment, Geochemisry and Ranging (MESSENGER) Mercury Flyby 1.	Discovery	Planetary Science
APG 8PS03	Begin Juno instruments detailed design.	New Frontiers	Planetary Science
Outcome 3C.2	**Progress in understanding the processes that determine the history and future of habitability in the solar system, including the origin and evolution of Earth's biosphere and the character and extent of prebiotic chemistry on Mars and other worlds.**		
APG 8PS04	Demonstrate progress in understanding the processes that determine the history and future of habitability in the solar system, including the origin and evolution of Earth's biosphere and the character and extent of prebiotic chemistry on Mars and other worlds. Progress will be evaluated by external expert review.	Multiple Programs	Planetary Science
APG 8PS05	Begin 2009 Mars Science Laboratory (MSL) Assembly, Test, Launch Operations (ATLO).	Mars Exploration	Planetary Science
Outcome 3C.3	**Progress in identifying and investigating past or present habitable environments on Mars and other worlds, and determining if there is or ever has been life elsewhere in the solar system.**		
APG 8PS06	Demonstrate progress in identifying and investigating past or present habitable environments on Mars and other worlds, and determining if there is or ever has been life elsewhere in the solar system. Progress will be evaluated by external expert review.	Multiple Programs	Planetary Science
APG 8PS07	Land the Phoenix spacecraft on the Martian surface and begin science operations.	Mars Exploration	Planetary Science
Outcome 3C.4	**Progress in exploring the space environment to discover potential hazards to humans and to search for resources that would enable human presence.**		
APG 8AC04	Develop and deliver the Radiation Assessment Detector (RAD) for the Mars Science Laboratory, scheduled to fly in 2009.	Human Research Program	Advanced Capabilities
APG 8PS08	Demonstrate progress in exploring the space environment to discover potential hazards to humans and to search for resources that would enable human presence. Progress will be evaluated by external expert review.	Multiple Programs	Planetary Science

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Measure #	Description	Contributing Program (s)	Contributing Theme (s)
Sub Goal 3D	**Discover the origin, structure, evolution, and destiny of the universe, and search for Earth-like planets.**		
Outcome 3D.1	**Progress in understanding the origin and destiny of the universe, phenomena near black holes, and the nature of gravity.**		
APG 8AS01	Demonstrate progress in understanding the origin and destiny of the universe, phenomena near black holes, and the nature of gravity. Progress will be evaluated by external expert review.	Multiple Programs	Astrophysics
APG 8AS02	Launch the Gamma-ray Large Area Space Telescope (GLAST).	Gamma-ray Large Space Telescope (GLAST) Program	Astrophysics
Outcome 3D.2	**Progress in understanding how the first stars and galaxies formed, and how they changed over time into the objects recognized in the present universe.**		
APG 8AS03	Demonstrate progress in understanding how the first stars and galaxies formed, and how they changed over time into the objects we recognize in the present universe. Progress will be evaluated by external expert review.	Multiple Programs	Astrophysics
APG 8AS04	Complete James Webb Space Telescope (JWST) Preliminary Design Review (PDR).	James Webb Space Telescope	Astrophysics
APG 8AS05	Complete Hubble Space Telescope Servicing Mission 4 (HST SM4) Pre-ship Review.	Hubble Space Telescope	Astrophysics
Outcome 3D.3	**Progress in understanding how individual stars form and how those processes ultimately affect the formation of planetary systems.**		
APG 8AS04	Complete James Webb Space Telescope (JWST) Preliminary Design Review (PDR).	James Webb Space Telescope	Astrophysics
APG 8AS05	Complete Hubble Space Telescope Servicing Mission 4 (HST SM4) Pre-ship Review.	Hubble Space Telescope	Astrophysics
APG 8AS06	Demonstrate progress in understanding how individual stars form and how those processes ultimately affect the formation of planetary systems. Progress will be evaluated by external expert review.	Multiple Programs	Astrophysics
Outcome 3D.4	**Progress in creating a census of extra-solar planets and measuring their properties.**		
APG 8AS07	Demonstrate progress in creating a census of extra-solar planets and measuring their properties. Progress will be evaluated by external expert review.	Multiple Programs	Astrophysics
APG 8AS08	Complete the Kepler spacecraft Integration and Test (I&T) phase.	Discovery	Astrophysics
Sub Goal 3E	**Advance knowledge in the fundamental disciplines of aeronautics, and develop technologies for safer aircraft and higher capacity airspace systems.**		
Outcome 3E.1	**By 2016, identify and develop tools, methods, and technologies for improving overall aircraft safety of new and legacy vehicles operating in the Next Generation Air Transportation System (projected for the year 2025).**		
APG 8AT01	Provide definition of an Integrated Resilient Aircraft Control (IRAC) architecture and capabilities, and identify technology implementation barriers for full IRAC capability.	Aviation Safety	Aeronautics Technology
APG 8AT02	Complete a feasibility study for assessment of active operator assistance in approach and landing task, including active attention management.	Aviation Safety	Aeronautics Technology

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Measure #	Description	Contributing Program (s)	Contributing Theme (s)
APG 8AT03	Develop a framework that integrates Aging Aircraft and Durability technologies to detect, predict, and mitigate aging/durability related hazards and insert current state-of-the -art methods in framework to establish a baseline.	Aviation Safety	Aeronautics Technology
APG 8AT04	Using aircraft landing gear system as a testbed, develop and validate Integrated Vehicle Health Management sensor fusion, fault detection, and isolation methods.	Aviation Safety	Aeronautics Technology
Outcome 3E.2	**By 2016, develop and demonstrate future concepts, capabilities, and technologies that will enable major increases in air traffic management effectiveness, flexibility, and efficiency, while maintaining safety, to meet capacity and mobility requirements of the Next Generation Air Transportation System.**		
APG 8AT05	Conduct service-provider-based automated separation assurance simulation.	Airspace Systems	Aeronautics Technology
APG 8AT06	Demonstrate trajectory analysis technology for automated separation assurance.	Airspace Systems	Aeronautics Technology
Outcome 3E.3	**By 2016, develop multidisciplinary analysis and design tools and new technologies, enabling better vehicle performance (e.g., efficiency, environmental, civil competitiveness, productivity, and reliability) in multiple flight regimes and within a variety of transportation system architectures.**		
APG 8AT07	Develop and test component technology concepts used in conventional aircraft configurations that establish the feasibility of achieving Stage 3 -42 EPNdb (cumulative) noise reduction.	Fundamental Aeronautics	Aeronautics Technology
APG 8AT08	Develop and test component technology concepts for unconventional aircraft configurations that establish the feasibility of achieving short take-off and landings on runways less than 3000 feet.	Fundamental Aeronautics	Aeronautics Technology
APG 8AT09	Validate model engine stall control concepts using component test data obtained in test cell CE18 in order to extend rotorcraft engine operability range.	Fundamental Aeronautics	Aeronautics Technology
APG 8AT10	Develop a rotorcraft model, validated with data from gear noise and vibration testing, to predict reductions in gear vibration transmission.	Fundamental Aeronautics	Aeronautics Technology
APG 8AT11	Demonstrate a composite supersonic engine fan blade containment system that is 20 percent lighter than the High Speed Research Program metallic containment system and validate through laboratory tests.	Fundamental Aeronautics	Aeronautics Technology
APG 8AT12	Demonstrate a high fidelity analysis technique for assessing the impact of nozzle plume effects on the off body flow field of a supersonic aircraft and validate predicted results within 5 percent of flight data.	Fundamental Aeronautics	Aeronautics Technology
APG 8AT13	Characterize multi-functional advanced ablator systems in arcjet facilities to provide a database for material degradation models for hypersonic vehicles.	Fundamental Aeronautics	Aeronautics Technology
APG 8AT14	Evaluate state-of-the-art hypersonic flight simulation tools, ablator systems, and GNC technologies using data from sub-orbital SOAREX flight 1.	Fundamental Aeronautics	Aeronautics Technology
Outcome 3E.4	**Ensure the continuous availability of a portfolio of NASA-owned wind tunnels/ground test facilities, which are strategically important to meeting national aerospace program goals and requirements.**		
APG 8AT15	Develop a maintenance and investment strategy for NASA owned wind tunnels/ground test facilities to ensure their long-term health and operational availability.	Aeronautics Test Program	Aeronautics Technology

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Measure #	Description	Contributing Program (s)	Contributing Theme (s)
APG 8AT16	Develop a long-term, flight operations/test infrastructure vision and funded plan working with all the appropriate stakeholders, to assure that the plan reflects the priorities of the long-term needs of the Nation.	Aeronautics Test Program	Aeronautics Technology
Sub Goal 3F	**Understand the effects of the space environment on human performance, and test new technologies and countermeasures for long-duration human space exploration.**		
Outcome 3F.1	**By 2008, develop and test candidate countermeasures to ensure the health of humans traveling in space.**		
APG 8AC05	Publish results of renal stone countermeasure experiments and evaluate for operational use.	Human Research Program	Advanced Capabilities
APG 8AC06	Complete study of a non-pharmacological countermeasure for bone loss in a spaceflight analog environment.	Human Research Program	Advanced Capabilities
APG 8AC07	Characterize the size distribution of lunar dust (from Apollo samples) in the inhalable size range (<10 micrometers), and begin toxicity testing with simulated lunar dust.	Human Research Program	Advanced Capabilities
APG 8AC08	Determine the stability of a controlled set of food/nutritional items and common medications, representative of the types and classes typically provided on space missions, after six months exposure to the space flight environment.	Human Research Program	Advanced Capabilities
Outcome 3F.2	**By 2010, identify and test technologies to reduce total mission resource requirements for life support systems.**		
APG 8AC09	Deliver two prototype life support systems: the Carbon Dioxide and Moisture Removal Amine System (CAMRAS); and the Sorbent Based Air Revitalization (SBAR) System.	Human Research Program	Advanced Capabilities
Outcome 3F.3	**By 2010, develop reliable spacecraft technologies for advanced environmental monitoring and control and fire safety.**		
APG 8AC10	Deliver the Vehicle Cabin Atmosphere Monitoring (VCAM) flight hardware in preparation for launch to ISS.	Exploration Technology Development	Advanced Capabilities
APG 8AC11	Deliver the Electronic Nose (E-Nose) flight hardware in preparation for launch to ISS	Exploration Technology Development	Advanced Capabilities
APG 8AC12	Launch the Smoke Aerosol Measurement Experiment (SAME) to ISS and initiate testing.	Exploration Technology Development	Advanced Capabilities
APG 8AC13	Deliver the Combustion Integrated Rack (CIR) and its insert, the Flame Extinguishment Experiment in preparation for launch to ISS.	Exploration Technology Development	Advanced Capabilities
Strategic Goal 4	**Bring a new Crew Exploration Vehicle into service as soon as possible after Shuttle retirement.**		
Outcome 4.1	**No later than 2014, and as early as 2010, transport three crewmembers to the International Space Station and return them safely to earth, demonstrating an operational capability to support human exploration missions.**		
APG 8CS01	Complete the Preliminary Design Review (PDR) for the Orion/Crew Exploration Vehicle (CEV).	Constellation Systems Program	Constellation Systems
APG 8CS02	Complete Critical Design Review (CDR) for the Ares I-1 flight demonstration test.	Constellation Systems Program	Constellation Systems
APG 8CS03	Complete the Preliminary Design Review (PDR) for Ares-I/Crew Launch Vehicle.	Constellation Systems Program	Constellation Systems
APG 8CS04	Complete the Critical Design Review (CDR) for the ground infrastructure/systems at the launch site.	Constellation Systems Program	Constellation Systems

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Measure #	Description	Contributing Program (s)	Contributing Theme (s)
APG 8CS05	Complete the System Design Review (SDR) for mission operations infrastructure and systems.	Constellation Systems Program	Constellation Systems
APG 8CS06	Complete the Preliminary Design Review (PDR) for the Extravehicular Activity (EVA) Systems.	Constellation Systems Program	Constellation Systems
Outcome 4.2	**By 2010, successfully transition applicable Shuttle components, infrastructure, and workforce to the Constellation Systems program.**		
APG 8CS07	Demonstrate progress towards the transition of Space Shuttle and International Space Station Infrastructure for utilization in Constellation Systems, including transfer of Mobile Launch Platform 1.	Constellation Systems Program	Constellation Systems
Strategic Goal 5	**Encourage the pursuit of appropriate partnerships with the emerging commercial space sector.**		
Outcome 5.1	**Develop and demonstrate a means for NASA to purchase launch services from emerging launch providers.**		
APG 8IPP05	Demonstrate purchase of services from the emerging commercial space sector for microgravity research and training. (Purchase of services will be at a 40% reduced level from planned per the FY08 budget request.)	Innovative Partnerships Program	Innovative Partnerships Program
APG 8SFS01	Realize competitive rates from emerging U.S. launch providers and open the bidding process to a larger number of launch providers.	Launch Services	Space and Flight Support (SFS)
Outcome 5.2	**By 2010, demonstrate one or more commercial space services for ISS cargo and/or crew transport.**		
APG 8CS08	Complete the Flight Demonstration 1 Readiness Review leading up to demonstration flights in FY2009.	Constellation Systems Program	Constellation Systems
APG 8CS09	Complete the Flight Demonstration 2 Preliminary Design Review (PDR) leading up to demonstration flights in FY2009.	Constellation Systems Program	Constellation Systems
APG 8CS10	Complete the Flight Demonstration 3 System Requirements Review (SRR) leading up to demonstration flights in FY2009.	Constellation Systems Program	Constellation Systems
Outcome 5.3	**By 2012, complete one or more prize competitions for independently designed, developed, launched, and operated missions related to space science or space exploration.**		
APG 8IPP06	Demonstrate benefits of prize competitions by awarding at least one prize and communicating the resulting technology advancements.	Innovative Partnerships Program	Innovative Partnerships Program
Strategic Goal 6	**Establish a lunar return program having the maximum possible utility for later missions to Mars and other destinations.**		
Outcome 6.1	**By 2008, launch a Lunar Reconnaissance Orbiter (LRO) that will provide information about potential human exploration sites.**		
APG 8AC14	Complete the Critical Design Review (CDR), Mission Readiness Review (MRR), and Payload Engineering Review (PER) for the Lunar Reconnaissance Orbiter.	Lunar Precursor Robotic Program	Advanced Capabilities
APG 8AC15	Complete the Critical Design Review (CDR) and Mission Readiness Review (MRR) for the Lunar Crater Observation and Sensing Satellite.	Lunar Precursor Robotic Program	Advanced Capabilities
Outcome 6.2	**By 2012, develop and test technologies for in situ resource utilization, power generation, and autonomous systems that reduce consumables launched from Earth and moderate mission risk.**		
APG 8AC16	Achieve authority to proceed for a medium lander mission to be launched in the 2010-2011 timeframe that would characterize the lunar surface environment.	Lunar Precursor Robotic Program	Advanced Capabilities

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Measure #	Description	Contributing Program (s)	Contributing Theme (s)
Outcome 6.3	**By 2013, sufficiently develop and test technologies for nuclear power systems to enable an informed selection of systems for flight development to provide power to a lunar outpost.**		
APG 8AC17	By 2008, demonstrate high efficiency power conversion systems in the laboratory at power levels in excess of 10 kilowatts that are relevant to future fission surface power systems.	Exploration Technology Development	Advanced Capabilities
Outcome 6.4	**Implement the space communications and navigation architecture responsive to science and exploration mission requirements.**		
APG 8CS11	Provide the Command, Control, Communication and Information (C3I) standards, validation processes and test systems designs, and demonstrate life cycle feasibility at the Ground Operations and Mission Operations Preliminary Design Reviews (PDRs).	Constellation Systems Program	Constellation Systems
APG 8SFS02	Implement technology initiatives consistent with approved baseline space communications and navigation architecture.	Space Communications	Space and Flight Support (SFS)
APG 8SFS03	Complete the Exploration Communications and Navigation System (ECANS) Preliminary Design Review (PDR).	Space Communications	Space and Flight Support (SFS)
Outcome 6.5	**No later than 2020, demonstrate the capability to conduct an extended human expedition to the lunar surface and lay the foundation for extending human presence across the solar system.**		
APG 8CS12	Develop and annually refine a lunar return architecture that has the maximum possible utility for later missions to Mars and other destinations.	Extended Lunar Stay Capability	Constellation Systems
APG 8CS13	Demonstrate progress towards the refinement of initial cargo launch vehicle conceptual designs to establish preliminary cargo launch vehicle system requirements.	Extended Lunar Stay Capability	Constellation Systems

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Cross-Agency Support Programs

Measure #	Description	Contributing Program (s)
Education Theme		
Outcome ED-1	**Contribute to the development of the Science, Technology, Engineering and Math (STEM) workforce in disciplines needed to achieve NASA's strategic goals, through a portfolio of programs.**	
APG 8ED01	Provide 100 NASA-supported courses offered at institutions of higher education targeted at the STEM skills needed by NASA.	Education
APG 8ED02	Serve 250 students, 150 faculty, and 40 institutions in designated EPSCoR states.	Education
APG 8ED03	Support 125 Minority Institutions and 4,500 underserved students in STEM education programs.	Education
Outcome ED-2	**Attract and retain students in STEM disciplines through a progression of educational opportunities for students, teachers and faculty.**	
APG 8ED04	Maintain at FY07 levels (updated from "increase by 5%" which was planned per the FY08 budget request) the number of elementary and secondary student participants in NASA instruction and enrichment activities.	Education
APG 8ED05	Increase by 3 percent (updated from "5 percent" which was planned per the FY08 budget request) elementary and secondary educators' use of NASA resources in their classroom instruction.	Education
Outcome ED-3	**Build strategic partnerships and linkages between STEM formal and informal education providers that promote STEM literacy and awareness of NASA's mission.**	
APG 8ED06	Provide support to 100 museums and science centers across the country to actively engage the public in NASA events and activities.	Education
Advanced Business Systems (IEMP) Theme		
Outcome IEM-1	**By 2009, implement Agency business systems that provide timely, consistent and reliable business information for management decisions.**	
APG 8IEM01	Implement the Property, Plant and Equipment (PP&E) module of the Integrated Asset Management Project to provide integration between functional and financial processes for accountable personal property.	Integrated Enterprise Management Program
APG 8IEM02	Implement the Human Capital Information Environment to strategically plan and manage NASA's Human Capital resulting in the elimination of redundant systems and integrating the remaining Human Capital processes and systems.	Integrated Enterprise Management Program
APG 8IEM03	Implement Phase 2 of the Aircraft Management Module, including the Aircraft Logistics System, Aircraft Financial System Interface to NASA's Core Financial system and the Maintenance Management module to ensure safety of ground and flight operations and improve visibility into aircraft operations processes.	Integrated Enterprise Management Program
Outcome IEM-2	**By 2009, increase efficiency by implementing new business systems and reengineering Agency business processes.**	
APG 8IEM04	Reduce the number of quarterly corrective adjustments to financial statements from the 2006 baseline of 5948 steps to the 2008 goal of 3345 steps (a 44 percent reduction).	Integrated Enterprise Management Program
APG 8IEM05	Increase percentage of total travel booking completed on-line, from the 2006 baseline of 1.8 percent to the 2008 goal of 50 percent.	Integrated Enterprise Management Program

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Cross-Agency Support Programs

Measure #	Description	Contributing Program (s)
Innovative Partnerships Program Theme		
Outcome IPP-1	**Promote and develop innovative technology partnerships among NASA, U.S. industry, and other sectors for the benefit of Agency programs and projects.**	
APG 8IPP01	Develop 12 (updated from "20" which was planned per the FY08 budget request) technology-related significant partnerships that create value for NASA's programs and projects. Track both quantitative dollar value and qualitative benefits to NASA (e.g., reduced volume or mass, improved safety).	Innovative Partnerships Program
APG 8IPP02	Complete 30 (updated from "50" which was planned per the FY08 budget request) technology transfer agreements with the commercial and academic community through mechanisms like licenses, software use agreements, facility use agreements, and Space Act Agreements.	Innovative Partnerships Program
APG 8IPP03	Fully implement an annual portfolio licensing approach that targets licensing goals of greatest value/benefit to NASA. Examples include licensing royalties and new technology products available to NASA. Royalties should be $2.4 million (updated from "$4 million" which was planned per the FY08 budget request) per year or greater.	Innovative Partnerships Program
APG 8IPP04	Complete and institutionalize an enhanced Intellectual Property (IP) management process that enables stronger use of NASA's IP to support NASA's strategies. Implement such IP management together with at least one (updated from "two" which was planned per the FY08 budget request) significant NASA programs or projects.	Innovative Partnerships Program
Shared Capability Assets Program Theme		
Outcome SC-1	**Establish and maintain selected Agency level shared capabilities, across multiple classes of assets (e.g., wind tunnels, vacuum chambers, etc.), to ensure that they will continue to be available to support the missions that require them.**	
APG 8SC01	Prioritize funding requirements and select classes of assets for inclusion in the Shared Capability Assets Program.	Shared Capability Assets Program
APG 8SC02	Identify re-investment/re-capitalization opportunities within and among classes of assets and execute the approved changes (e.g., reallocate funds, upgrade facilities, etc.).	Shared Capability Assets Program
APG 8SC03	Assets identified in FY2007 that no longer have requirements for use by NASA will be dispositioned (decision made on whether to place on standby, be mothballed, be demolished, etc).	Shared Capability Assets Program

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Uniform and Efficiency Measures

Measure #	Description
Advanced Capabilities Theme	
8AC18	Complete all development projects within 110% of the cost and schedule baseline.
8AC19	Increase the relative amount technology products transferred to Constellation Systems developers for mission application compared to the total budget.
8AC20	Reduce time within which NRA research grants are awarded, from proposal due date to selection, by 2.5% per year, with a goal of 135 days.
Astrophysics Theme	
8AS09	Complete all development projects within 110% of the cost and schedule baseline.
8AS10	Deliver at least 90% of scheduled operating hours for all operations and research facilities.
8AS11	Peer-review and competitively award at least 90%, by budget, of research projects.
8AS12	Reduce time within which 80% of NRA research grants are awarded, from proposal due date to selection, by 5% per year, with a goal of 130 days.
Aeronautics Technology Theme	
8AT17	Deliver at least 90% of scheduled operating hours for all operations and research facilities.
8AT18	Increase the annual percentage of research funding awarded to Aeronautics University Partnerships.
Constellation Systems Theme	
8CS14	Complete all development projects within 110% of the cost and schedule baseline.
8CS15	Reduction in ground operations cost (through 2012) of the Constellation Systems based on comparison with the Space Shuttle Program.
Earth Science Theme	
8ES15	Complete all development projects within 110% of the cost and schedule baseline.
8ES16	Deliver at least 90% of scheduled operating hours for all operations and research facilities.
8ES17	Peer-review and competitively award at least 90%, by budget, of research projects.
8ES18	Reduce time within which 80% of NRA research grants are awarded, from proposal due date to selection, by 5% per year, with a goal of 130 days.
Heliophysics Theme	
8HE07	Complete all development projects within 110% of the cost and schedule baseline.
8HE08	Deliver at least 90% of scheduled operating hours for all operations and research facilities.
8HE09	Peer-review and competitively award at least 90%, by budget, of research projects.
8HE10	Reduce time within which 80% of NRA research grants are awarded, from proposal due date to selection, by 5% per year, with a goal of 130 days.
Advanced Business Systems (IEMP) Theme	
8IEM06	Complete all development projects within 110% of the cost and schedule baseline.
8IEM07	Reduce the number of financial processing steps/time to perform year end closing from the 2005 baseline of 120 steps to the 2008 goal of 20 steps (an 83% reduction).
International Space Station Theme	
8ISS07	Deliver at least 90% of scheduled operating hours for all operations and research facilities.

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Uniform and Efficiency Measures

Measure #	Description
8ISS08	Achieve an Annual Cost Performance Index (CPI), the ratio of the value of the work accomplished versus the actual cost of the work accomplished, of greater than or equal to one.
Planetary Science Theme	
8PS09	Complete all development projects within 110% of the cost and schedule baseline.
8PS10	Deliver at least 90% of scheduled operating hours for all operations and research facilities.
8PS11	Peer-review and competitively award at least 90%, by budget, of research projects.
8PS12	Reduce time within which 80% of NRA research grants are awarded, from proposal due date to selection, by 5% per year, with a goal of 130 days.
Space and Flight Support (SFS) Theme	
8SFS04	Achieve at least 98% Space Network proficiency for delivery of Space Communications services.
8SFS05	Achieve less than 3% of lost operating time on the NASA Integrated Services Network (NISN) available services.
8SFS06	Complete all development projects within 110% of the cost and schedule baseline.
Space Shuttle Theme	
8SSP05	Annually reduce the Space Shuttle sustaining engineering workforce for flight hardware and software, while maintaining safe flight.
8SSP06	Deliver at least 90% of scheduled operating hours for all operations and research facilities.

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Annual Performance Goals Eliminated For FY 2008

Measure #	Description	Contributing Program (s)	Contributing Theme (s)
APG 8ED07	Reduce turn around time by 10% from submission of supplementary curriculum products for formal review to online distribution.		Education
APG 8ED08	Reduce the cost per program participant by 5%.		Education